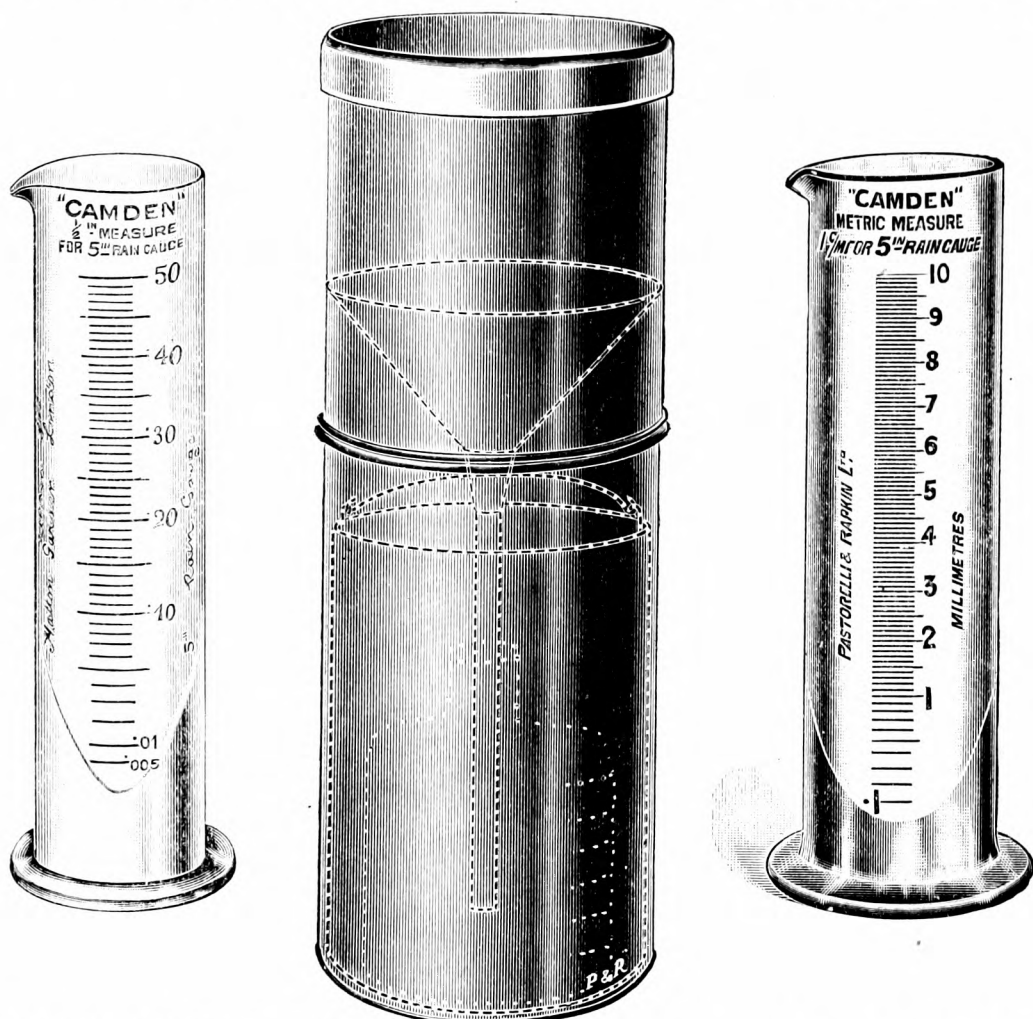


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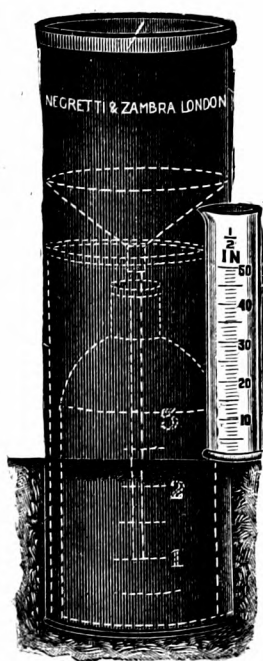
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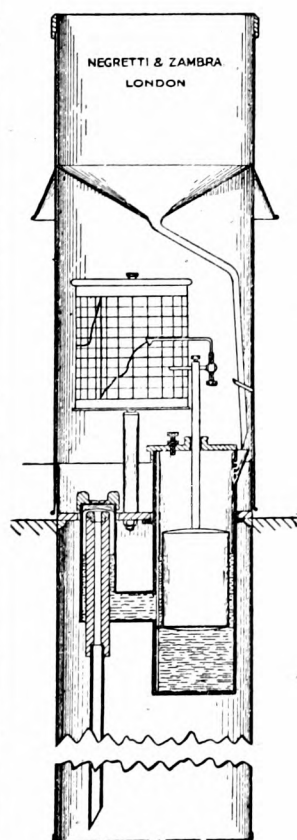
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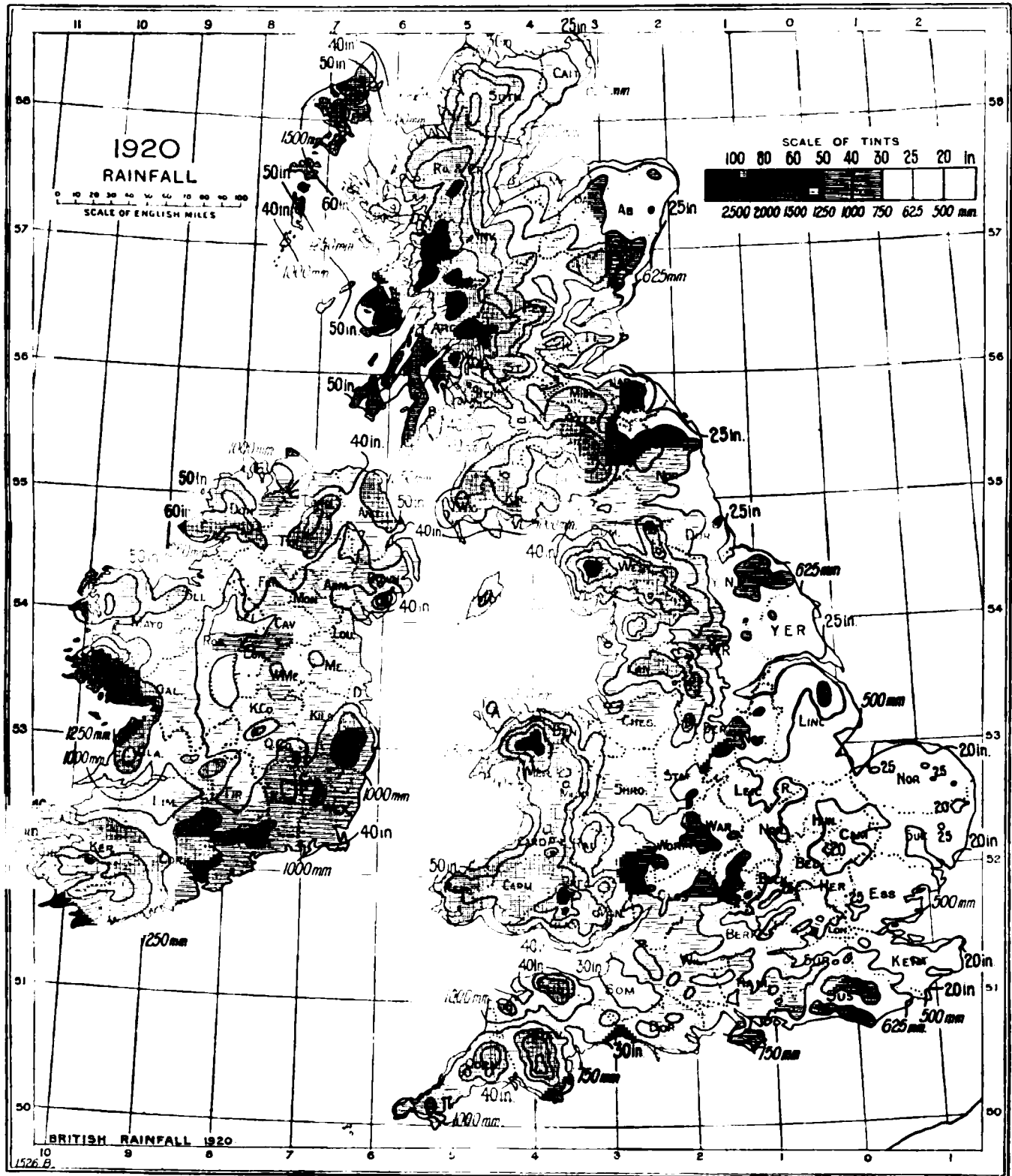






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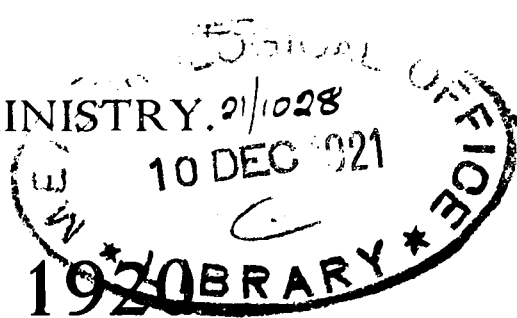
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METEOROLOGICAL OFFICE—AIR MINISTRY. 21/1028



# BRITISH RAINFALL, 1920

THE SIXTIETH ANNUAL VOLUME OF THE  
BRITISH RAINFALL ORGANIZATION.

## REPORT ON THE DISTRIBUTION OF RAIN IN SPACE AND TIME OVER THE BRITISH ISLES

DURING THE YEAR

# 1920

AS RECORDED BY ABOUT 5,000 OBSERVERS  
IN GREAT BRITAIN AND IRELAND.

*WITH MAPS AND ILLUSTRATIONS.*

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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## ERRATA IN "BRITISH RAINFALL, 1913 to 1919."

Anglesey, *for* Holyhead (Sailors' Home) *read* Holyhead (Salt Island).

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Sussex, 1, *for* Petersfield (Compton House) Miss K. B. Langdale *read* Compton (Compton House) Kenneth M. Langdale, Esq.

## ERRATA IN "BRITISH RAINFALL, 1918."

- p. [92], line 8 of table, Killarney (District Asylum) December *for* 138 *read* 140.  
 p. [100], line 7 of table, Killarney (District Asylum) December and Total, *for* 9·56 and 62·30 *read* 9·72 and 62·46.  
 p. [167], Shropshire, 3, Wistanstow Rectory *for* 27·57 *read* 27·68.  
 p. [234], Kerry, 3, Killarney (District Asylum) *for* 1,582, 62·30, 260 *read* 1,586, 62·46, 261.

## ERRATA IN "BRITISH RAINFALL, 1919."

- p. 6, Evaporation table, 1919 Total *for* 15·92 *read* 15·02 and last line of table *for* —·04 *read* —·49.  
 p. 151, Kent, 1, Dover (Water Works) number of days *should be* 165.  
 p. 201, York, W.R., 10, Oughtershaw Hall diameter of gauge and total rainfall, *for* 8 in.\* and 1,450, 57·07 *read* 5 in. and 1,727, 68·00.  
 p. 205, Northumberland, 5, Morpeth (Bolthalhaugh Garden) two records, Height above Sea, *for* 130 *read* 35.  
 p. 225, Stirling, 1, Polmont (Vellore) *delete* (R).

\* This error appears also in previous volumes.

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## BRITISH RAINFALL, 1920.

### Part I.

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#### SECOND ANNUAL REPORT OF THE SUPERINTENDENT OF THE BRITISH RAINFALL ORGANIZATION TO THE DIRECTOR OF THE METEOROLOGICAL OFFICE.

**General.**—The second year's working of the British Rainfall Organization as a Department of the Meteorological Office has confirmed the view implied in the report of July 29th, 1920, that so far as the retention of the goodwill of the Observers is concerned the transfer of the rainfall work from private to public control may now be regarded as having been successfully accomplished. In addition to the internal reorganization necessitated by the remodelling of the staff, much time has necessarily been occupied during the past year in re-adjusting the technical work of the department in order to bring it into line with Headquarters organization, and the simultaneous absorption of the Meteorological Office by the Air Ministry has not added to the simplicity of the task. Whilst a good many problems still await settlement, great progress has been made.

The general work of the Organization has been facilitated by the assistance of the special Sub-committee appointed by the Meteorological Committee in May, 1920. This Sub-committee has met twice during the past year, under the chairmanship of the Director of the Meteorological Office. In October, 1920, the Superintendent was appointed Secretary to the Sub-committee.

**The Staff of Observers.**—The diminution in numbers caused by the War and circumstances arising therefrom appears now to have been checked. The total number of complete records published in the present volume is 4952, or 54 more than in *British Rainfall*, 1919. A satisfactory aspect is given to the recovery by the fact that numerous records of which we had not been able to obtain any information have now come in again. Whilst the representation of the greater part of England is good, there is still room for great improvement in parts of Wales and Scotland and in nearly all districts of Ireland. With regard to Scotland, we have reason to hope that the recent establishment of a branch of the Meteorological Office in Edinburgh, with the greatly increased facilities for local work which it affords, will prove a stimulus. The unhappy conditions obtaining in Ireland have naturally been reflected in the rainfall work, and we must again express our indebtedness to Mr. E. W. M. Murphy, the Secretary of the Irish



Rainfall Association, for the indefatigable zeal and great success with which he has laboured to keep rainfall-observing together. It is greatly to be regretted that by the closing down of a Dublin newspaper the publication of the useful meteorological summaries for Irish stations contributed by Sir John Moore has ceased. Thanks to Sir John Moore's courtesy, we have been able to get into direct touch with the Observers.

On February 1st, 1921, arrangements came into force by which all official correspondence in connection with the rainfall work can be forwarded free of postage, if marked "O.H.M.S." and addressed to the Superintendent at 62, Camden Square. This includes all transmission of returns and matter relating thereto, and it is hoped that the extended use of this facility will enable the records to be collected more expeditiously than heretofore.

Every opportunity has been taken during the year to inspect rainfall stations. This work not only affords a means of obtaining valuable information as to the details of the gauges and their exposure, and of getting into communication with new Observers, but is extremely useful in enabling the staff of the Organization to study the physical features of the country at first hand, a necessary adjunct to scientific rainfall research. The number of gauges inspected during the past twelve months was 138, distributed as follows :—

|                     |    |                       |    |
|---------------------|----|-----------------------|----|
| London .....        | 8  | Cumberland .....      | 15 |
| Kent .....          | 6  | Westmorland .....     | 8  |
| Middlesex .....     | 1  | Cardiganshire .....   | 5  |
| Hertfordshire ..... | 2  | Breconshire .....     | 10 |
| Essex .....         | 9  | Radnorshire .....     | 18 |
| Cornwall .....      | 2  | Montgomeryshire ..... | 1  |
| Derbyshire .....    | 14 | Carnarvonshire .....  | 19 |
| Lancashire .....    | 14 | Inverness-shire ..... | 6  |

In addition, 19 gauge sites were selected or inspected.

|                     |   |                   |   |
|---------------------|---|-------------------|---|
| London .....        | 1 | Breconshire ..... | 3 |
| Lancashire .....    | 5 | Radnorshire ..... | 7 |
| Cardiganshire ..... | 3 |                   |   |

In this work assistance has been rendered by the Metropolitan Water Board, the Birmingham Corporation, the Derwent Valley Water Board, the British Aluminium Co., Miss C. Marshall, and others, by the loan of motor cars and the extension of other facilities. The inspections which are of greatest scientific utility are as a rule those in mountain and moorland districts, such as the gathering grounds appropriated by the great municipal water undertakings, and the Superintendent is always glad to endeavour to arrange for a visit to be made to any such area and to give all the assistance in his power by making suggestions for improving the exposure of the gauges.

**Standardization of Rainfall Records.**—On the initiative of the Rainfall Sub-committee a specification of the standard rain gauge has been drawn up for publication. An article on the subject accordingly appeared in the *Meteorological Magazine* for July, 1921 (pp. 142–145), from which the following excerpt is reprinted.

“ The prototype of the approved gauge is the Snowdon rain gauge. The Meteorological Office pattern gauge, the Bradford gauge, and the Seathwaite gauge are variants of this type which embody the essential features of the Snowdon gauge and are therefore also satisfactory. Most other gauges are unsatisfactory, in that they do not contain the essential features which may be stated as follows :—

(1) The stout brass turned ring terminating upwards in a knife-edge, exactly 5 or 8 in. in diameter, which forms the rim of the gauge.

(2) The vertical cylinder 4 to 6 in. deep, extending from the rim to the upper edge of the funnel, which is intended to retain snow and hail, to prevent the outsplashing of rain which has fallen upon the funnel, and to reduce to a minimum the risk of loss due to wind eddies.

(3) An inner collecting vessel, which can be removed for measuring the fall without disturbing the body of the gauge. Taps for drawing off water are extremely objectionable.

(4) Provision for a depth of at least 6 in. of the body to be firmly fixed in the ground.

(5) Simplicity of construction and the avoidance of the use of rivets.

(6) Strength and durability.

(7) A capacity of not less than 10 in. of rain for a daily gauge. Gauges for monthly readings should be larger according to the district in which they are used.

\* \* \* \* \*

The above conditions, with the exception of that numbered (3), apply generally also to self-recording rain gauges, it being noted, however, that the diameter of the rim of modern British recording gauges is usually either 6, 8, or 11 in. Condition (5) is most important, and the following further desiderata apply :—

(8) The scale values of the chart must conform accurately with the indications of the instrument.

(9) It is desirable that the hour lines on the chart should be straight and not curved.

(10) It is desirable that the scale value for rainfall should be not less than 6 times the natural scale, and that the drum should make a complete revolution in 24 hours.

(11) Dial gauges, Tipping-bucket gauges, and electrical recording rain gauges are not in general suited to modern requirements.

(12) Should the mechanism of the gauge include an automatic syphon, the design and construction of the syphon require special care; the liability to failure of syphons is a serious drawback.

(13) Space should be available inside the case of the instrument for the insertion of a small oil lamp or a night-light to warm the gauge in frosty weather.”

Intending Observers would avoid the risk of being misled by price-lists advertising non-standard instruments if they would insist upon official certificates of accuracy. These certificates are only issued by

the Meteorological Office (British Rainfall Organization), and by the National Physical Laboratory for gauges conforming with the above conditions.

It has also been decided that in the interests of meteorology and of Observers, no advertisements of instruments will be accepted for publication in the *Meteorological Magazine*, or in *British Rainfall*, when in the opinion of the Director of the Meteorological Office the instruments are defective in design.

Another step in standardization is the decision taken in respect of the measurement of rainfall duration, some account of which is given on pp. 34-47. It is hoped that this will lead to a greatly improved accuracy in these records.

Experiments are now being put in hand for introducing a standardized design of the Nipher rain gauge shield, suitable for use in this country. Some account of the preliminaries is given on pp. 278-285.

**British Rainfall, 1920.**—The modification in the method of pagination adopted in 1919 has been adhered to in the present volume. The tentative examination of the "wet day," or day of  $\cdot 04$  in. (1.0 mm.) as a substitute for the rain day ( $\cdot 01$  in.) in computing rainfall frequency and in defining dry and wet spells, has been continued as contemplated last year, and the number of wet days has been printed in Part III, in addition to the number of "rain days." In order to enable this to be done an additional space was provided on the forms sent out for the purpose of the 1920 returns. The request for this additional information met with a favourable response. The advantages which the new method appeared to offer are confirmed, but it seems to be wise not to discontinue the old method for a year or two, pending a more complete test.

The article on Heavy Rains on Rainfall Days contains an account, from the point of view of the rainfall, of the disastrous storm at Louth, on May 29th, 1920. With this exception the daily rainfalls of the year were not of outstanding interest.

The sections devoted to the monthly and annual rainfall are greatly improved by the use for the first time of the new standard average values for the period 1881-1915. The computation of these averages, which are now identical with those used in the *Monthly Weather Report*, enables the number of records used in the comparative tables to be considerably increased and their distribution to be improved, so that the maps based upon them and also the general values worked from them should be of greater accuracy. The publication of a map of the distribution of annual rainfall during the year under review, introduced into "*British Rainfall, 1919*," for the first time, has been continued, and this appears on the scale of about 80 miles to the inch as a frontispiece to the present volume.

In Part IV is printed an article on the distribution of average monthly rainfall, based upon the new set of average values for 1881–1915, and the recently constructed series of maps of average monthly rainfall. Mr. Wilfred Irwin contributes an account of observations as to the salt-content of rain which appear to give information of great scientific interest, and of considerable utility from an agricultural point of view. A short account is also given of the development of the Nipher Rain Gauge Shield with some observations on the possibility of re-adapting it for use in this country.

**The Meteorological Magazine** has appeared regularly throughout the year and has been increased considerably in size and scope. An important feature has been the series of articles on the weather of each month, published during the succeeding month. These have included, besides an extended survey of the conditions in Western Europe, a considerable amount of information from other parts of the World. Whilst the growth during the War of a large body of professional meteorologists has made necessary publication of a good deal of technical matter, every endeavour is made to maintain the traditional character of *Symons's Meteorological Magazine* as the medium for the exchange of views among the great body of amateur meteorologists of the country.

**Scientific Work and Advice.**—The large-scale Rainfall Survey Map of the British Isles has been revised or extended during the year in parts of Northamptonshire, Essex, Shropshire, Warwickshire, Leicestershire, Lancashire, Yorkshire, Montgomery, Denbigh, Merioneth, and Inverness-shire. In connection with the preparation of the new series of monthly average maps the survey map of average annual rainfall was extended on a small scale to the whole of the British Isles and a reduced copy is published in this volume. The most important piece of scientific work carried out during the year was the preparation of the monthly average maps in question. Full details of the method employed were given in a paper read by me before the Royal Meteorological Society in February, 1921, and a résumé of the results is given in Part IV of this volume. A standard set of the maps, and of the Isomeric rainfall maps, for each month, on the scale of 20 miles to 1 in., is preserved in the Office for reference, and tracings of the average maps have been made for the purpose of reproducing copies when required. The extraction of the data necessary for this work places at our disposal a valuable set of averages which it is intended to regard as standards for some time to come. It further enables us to compute authoritative general average values for the larger divisions of the British Isles.

The provisional completion of the average annual map enabled a copy to be supplied to the Board of Agriculture for publication in the forthcoming "Atlas of Crops and Live Stock." Copies of portions of

the map have also been supplied to the West Riding Rivers Board, to the Forestry Commission for England and Wales, and others. A copy was sent for exhibition at the Royal Agricultural Society's show, at Derby in June, 1921.

A detailed examination of the rainfall in the Thames Valley and Estuary during certain periods was carried out in connection with the Oyster Mortality Investigation by the Marine Biological Laboratory. Data or advice have been supplied to the Department of Technical Instruction in Ireland, the East Anglian Institute of Agriculture, the Imperial College of Science and Technology, the Leeds University, the Thames Conservancy, the Registrar-General of England and Wales, the Westmorland County Agricultural Committee, and numerous other public and private bodies. There has been a great demand for the assistance of the Organization in connection with Weather Insurance, and certificates have been supplied at a small charge whenever practicable.

I have prepared reports on the rainfall of certain areas in various parts of Great Britain in connection with schemes for Water Supply and Hydro-Electric development, on the Rainfall of the Thames and Lea Valleys, and reports have been sent regularly to the Metropolitan Water Board. Evidence has also been given in two law-suits.

The meteorological observations at Camden Square have been continued without any break throughout the year. These records are now sent to Headquarters in full detail instead of in summary as has been the case during the war. A special investigation has been carried out into the relative results obtained for Rainfall and Temperature at the three official stations in London, viz., Greenwich, Kew, and Camden Square.

CARLE SALTER,

*Superintendent.*

British Rainfall Organization,  
62, Camden Square, N.W.1.

*2nd August, 1921.*

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| Cardiff Corporation .....    | 1 | 1  | 0  | Southport Corporation ....   | 1 | 1  | 6  |
| Crewe Corporation (2 years)  | 1 | 2  | 6  | Torquay Corporation .....    | 1 | 1  | 0  |
| Gosport Water Works Co. ...  | 1 | 1  | 0  | Weaver Navigation Trust ..   | 5 | 5  | 0  |
| Hornsey Corporation .....    | 1 | 1  | 0  | Yorkshire Fisheries Board..  | 1 | 1  | 0  |
| Hull Corporation .....       | 2 | 3  | 0  | Yorkshire (W. Riding) Rivers |   |    |    |
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The following tables summarize the changes in the numbers of published records for 1920, and show how they were distributed between the countries. The tables of course refer only to complete

*British Rainfall, 1920, compared with 1919.*

*Number of Records Published.*

|               |    |    | Total Gain. | Total Loss. | Difference. | Per cent. change<br>in year. |
|---------------|----|----|-------------|-------------|-------------|------------------------------|
| England       | .. | .. | 270         | .. 229      | .. +41      | .. +1·2                      |
| Wales         | .. | .. | 43          | .. 26       | .. +17      | .. +3·9                      |
| Scotland      | .. | .. | 36          | .. 44       | .. - 8      | .. -1·2                      |
| Ireland       | .. | .. | 20          | .. 16       | .. + 4      | .. +1·4                      |
| <hr/>         |    |    |             |             |             |                              |
| British Isles | .. | .. | 369         | .. 315      | .. +54      | .. +1·1                      |

*Number of Rainfall Records Published in the Volumes of  
"British Rainfall" for the undermentioned Years.*

| Years.                      | England.                              | Wales, etc. | Scotland. | Ireland. | British<br>Isles. | Change<br>from<br>previous<br>year. | No. of<br>Stations<br>per 100<br>sq. mi. |
|-----------------------------|---------------------------------------|-------------|-----------|----------|-------------------|-------------------------------------|--|
| 1861                        | .. 333                                | .. 9        | .. 109    | .. 20    | .. 471            | ..+ 47                              | .. 0·4                                   |
| 1871                        | .. 1038                               | .. 88       | .. 311    | .. 67    | .. 1504           | ..+ 5                               | .. 1·2                                   |
| 1881                        | .. 1548                               | .. 131      | .. 313    | .. 153   | .. 2145           | ..+ 41                              | .. 1·8                                   |
| 1891                        | .. 2091                               | .. 168      | .. 359    | .. 181   | .. 2799           | ..+ 23                              | .. 2·3                                   |
| 1901                        | .. 2616                               | .. 253      | .. 442    | .. 195   | .. 3506           | ..+ 13                              | .. 2·9                                   |
| 1911                        | .. 3705                               | .. 397      | .. 701    | .. 271   | .. 5074           | ..+198                              | .. 4·2                                   |
| 1912                        | .. 3834                               | .. 429      | .. 732    | .. 277   | .. 5272           | ..+198                              | .. 4·4                                   |
| 1913                        | .. 3902                               | .. 440      | .. 749    | .. 279   | .. 5370           | ..+ 98                              | .. 4·4                                   |
| 1914                        | .. 3962                               | .. 450      | .. 753    | .. 288   | .. 5453           | ..+ 83                              | .. 4·5                                   |
| 1915                        | .. 3882                               | .. 448      | .. 794    | .. 288   | .. 5412           | ..- 41                              | .. 4·5                                   |
| 1916                        | .. 3711                               | .. 440      | .. 772    | .. 269   | .. 5192           | ..-220                              | .. 4·3                                   |
| 1917                        | .. 3591                               | .. 446      | .. 778    | .. 270   | .. 5085           | ..-107                              | .. 4·2                                   |
| 1918                        | .. 3532                               | .. 429      | .. 770    | .. 268   | .. 4999           | ..- 86                              | .. 4·1                                   |
| 1919                        | .. 3419                               | .. 436      | .. 766    | .. 277   | .. 4898           | ..-101                              | .. 4·1                                   |
| 1920                        | .. 3460                               | .. 453      | .. 758    | .. 281   | .. 4952           | ..+ 54                              | .. 4·1                                   |
| Difference<br>from<br>1919: | } +41 .. +17 .. -8 .. +4 .. +54 .. .. |             |           |          |                   |                                     | 0·0                                      |

records received in time for publication. Every year several hundred incomplete records come in and a considerable number are received too late for publication. These are of course carefully filed so that they are equally available for future reference.

We do not propose this year to consider in detail the changes in the observing staff, but to devote a few words to considering its degree of adequacy in general terms. The policy of the British Rainfall Organization since its foundation sixty years ago has remained unchanged. It has been the aim of the successive directors to preserve permanently *every* trustworthy record of rainfall kept within the limits of the British Isles; to encourage by every possible means the continuation of existing records and the establishment of new

stations. These objects have been pursued independently of geographical considerations, the only recognition of the fact that the observing staff is very irregularly distributed over the country being an increased attention to propaganda work in respect of thinly represented areas, and in a very small number of instances the establishment of subsidized stations where they could be obtained by no other means. The present observing staff may be roughly divided into three classes:—

- (i) Stations either completely maintained or subsidized by the Meteorological Office on behalf of the Government.
- (ii) Stations maintained at the expense of municipal authorities and other public bodies. These include a large number of stations at watering-places and numerous important records kept in connection with waterworks, hydro-electric works, canals, railways, lighthouses, etc.
- (iii) Private stations maintained by voluntary Observers.

In the case of the first class almost complete control of the distribution is possible, the limitations being imposed only by cost and the suitability of the site. In establishing an observatory for general meteorological work it is of course not always practicable to subordinate other requirements to securing a perfect rain gauge exposure, but in the great majority of cases circumstances allow of obtaining a rainfall record of the highest accuracy. The second class of stations provides a very large volume of data from districts in which it would otherwise be impossible to establish stations. This is especially the case in regard to water authorities. The great municipal water supplies are for the most part drawn from remote mountain or moorland areas, usually at considerable elevation and nearly always practically uninhabited. In order to obtain the necessary information as to the yield of these areas the better organized of these waterworks invariably establish a number of rain gauges, and their records are in nearly every case freely sent to the British Rainfall Organization for publication. It is to this source that we look for the bulk of our information as to the rainfall of thinly populated districts and of mountain areas—information of the greatest possible importance in the scientific study of the control exercised over rainfall by configuration.

The third, and numerically largest class of stations, namely those maintained by private Observers, is grouped in a manner which admits of little control. It depends largely, but not altogether, upon the distribution of population. In the great industrial centres of the north of England and South Wales the number of voluntary observers is, however, strikingly fewer than in the agricultural and residential districts of the Midlands and south of England. On the other hand, there is a tendency for groups of stations to lie in the vicinity of the larger cities and towns, and, but for the great number of country houses, where the head-gardener's duties include recording rainfall as a

matter of course, many large rural areas might be entirely unrepresented. In some hilly districts the pronounced tendency for residences to be situated in the sheltered valleys leads to the rainfall records being almost entirely taken at comparatively low altitudes. A case in point is the English Lake District. Only one or two of the more elevated of the valleys in this great water-bearing area are impounded for water-supply purposes, and, consequently, only in a few spots are moorland or hill records available. A similar remark applies to parts of the Western Highlands.

In attempting any systematic study of the geographical distribution of rainfall a reasonably well-distributed set of stations is in the highest degree desirable. The basis of the work is the construction of rainfall maps, and in constructing any rainfall map the number of records available should not only be sufficient to enable the detail of the isohyetal lines to be laid down with meticulous detail, but should also allow of the detection of any erroneous record by its want of harmony with others. If the stations were distributed with mathematical nicety at equal distances one from another the difficulty of drawing lines over blank areas might disappear, but the detection of errors would be often less easy than it is when, as at present, the stations fall into little groups of three or four.

The distribution of rainfall over mountain areas is now in some measure understood, and it is known that, except in unusual circumstances, it is far more constant to type than is the distribution over plains. This is probably true in general terms, whether we deal with a long period such as a year or a short period like a day, and therefore we do as a matter of fact require more stations in the plains than in the hills in order to enable us to define the distribution satisfactorily. From this point of view the present order of things, which gives a disproportionately large number of stations in the lowlands, is not altogether without its advantages. The disproportion is, however, too great and is enhanced by the fact that the risk of erroneous records is far greater at mountain stations than in more sheltered places owing to the difficulty of obtaining suitable sites. Short of a complete change in the method of obtaining records it appears unlikely that the pendulum will swing too far in the direction of giving an undue proportion of mountain stations, and in order to bring about any improvement we therefore feel justified in concentrating our efforts to get new stations established principally on the hilly areas. An exception may be made in the respect of Ireland, where the number of rainfall stations is everywhere so inadequate that new stations at almost any elevation are badly wanted. Special attention may, however, be drawn to the counties of Kerry, Clare, Galway, Mayo, Sligo, and Donegal, where thousands of square miles are completely without rainfall stations and where the physical conditions and open exposure to Atlantic winds would give the highest scientific interest to records. We may mention

in this connection the very interesting and valuable series of records being kept by the Marquis of Sligo at his estates in West Connaught, an example which we hope may be followed by others. The counties of Fermanagh, Leitrim, Roscommon, the centre of Limerick, the north of Cork, the north of Antrim, most of Tyrone, Cavan, and Kildare, as well as large areas in Wicklow, Kilkenny, Wexford, and Waterford, present almost insuperable difficulties in drawing rainfall maps owing to the paucity of observing stations. Few people make better rainfall observers than the Irish, as the constancy of the Irish records in the tables testifies, and the geographical position of Ireland gives an interest to the rainfall which makes it difficult to understand the apparent indifference to the subject among a population so largely engaged in agricultural pursuits. We are hopeful that the recent establishment of an Irish Rainfall Association, under the able secretaryship of Mr. E. W. M. Murphy, of Cashel, will eventually lead to a great improvement in respect of Irish rainfall observing generally.

In Scotland the distribution of rainfall stations is clearly largely dependent on the distribution of population. Over the industrial area of the lower Clyde and eastward to the Firth of Forth it is as good as in most parts of England, and along the east coast, south of the Moray Firth it is reasonably adequate. The hilly districts of Scotland are, however, of course, exceptionally extensive and compared to those in England and Wales the portions which have been utilized for water supply or similar purposes are small. Apart, therefore, from the fine groups of stations maintained by the water departments of Edinburgh, Glasgow, Greenock, Dundee and Aberdeen, some valuable gauges on the areas utilized by the British Aluminium Company in the central Highlands, and the lighthouse records on the coast, we are dependent to a very large extent on private initiative. New records would be extremely welcome in almost any part of Perthshire, particularly the north and west, the centre of Aberdeenshire, the south of Banffshire, Elgin, and Nairn, and all parts of Inverness-shire, Ross-shire, Sutherland, and Caithness. These districts include the most prolific rain-bearing areas in the country and in numerous places this great natural asset must in the process of time be turned to direct economic uses. Moreover a single rain gauge properly looked after in the remoter regions is of more scientific value than a score in the parts already fairly fully represented. It is therefore of the utmost importance that an effort should be made to establish rainfall stations in the places mentioned. During a recent tour of inspection in the Highlands we had occasion to set up a number of gauges at shooting-lodges under the charge of the resident keepers, and the very excellent way in which the records in question have been made encourages the conviction that the work of making observations could be in many cases safely entrusted to those whose duties compel them to live permanently in the great deer forests



which cover so great a part of the country. We hope that if any of the readers of *British Rainfall* can use their influence in this direction they will not fail to do so.

The number of observing stations per 100 square miles of area is pronouncedly larger in Wales than in Scotland, but the great sparsely populated mountain areas present a problem almost equally difficult to that of the Highlands. A considerable part of the country is taken up for water supply purposes, and the splendid records kept by the Liverpool, Birmingham, Swansea, Cardiff, Merthyr Tydvil, Newport, and other corporations, as well as the gauges maintained by the North Wales Power Company in the Snowdon district, reduce the desert area to less alarming proportions. There are, however, large districts in the north and west of Carmarthenshire, in Cardiganshire, central Brecon, Montgomery, and Merioneth, where new records are badly wanted. A good many new records have recently been started at Council schools in Wales, but much more could be done in this direction. The rapid change in the rainfall conditions on the eastward of the Welsh mountains makes a larger number of stations than usual desirable in the border counties, and in particular nearly all parts of Shropshire are sadly in need of new recruits.

The districts in the north of England chiefly in need of fresh workers are the west of Northumberland and Durham, the east Riding and the north-western parts of the North and West Ridings of Yorkshire. The Lake District, particularly the western part, although fairly well represented, would be the better for more stations. Most parts of the Pennines are well covered by high level stations, but the north is deficient, and a few well-placed gauges in the hilly districts of Derbyshire and Staffordshire would also be helpful. In the south the chief need is in Devonshire and Cornwall, and the most grievously neglected area lies between Okehampton and Hartland, and eastward to Exeter. The uplands of most of Cornwall are not sufficiently represented, and any station exceeding 1,000 ft. in elevation, or in the immediate neighbourhood of land of that height would be an acquisition. In most parts of the Midlands, east and south of England the representation is fair, though in places, such as Salisbury Plain, the Cotswold Hills and the upper Thames Valley generally there is room for improvement. The representation of Somersetshire, particularly on the Quantocks, has been greatly improved this year. No county in the British Isles is absolutely without stations, but it is curious that the nearest approach to such a state of things should occur in England, where only one station remains in the little county of Rutland. This is also the only county in England with less than one station per 100 square miles of area. An interesting feature of the table on p. xxiii is the fact that the number of stations per 100 square miles of area is greater in the Channel Islands than in any county in the British Isles apart from London.

| County.                          | Records<br>in 1919. | Records<br>Lost. | Records<br>Gained. | Records<br>in 1920. | Records<br>per 100 sq.<br>mi. of area. | County.          | Records<br>in 1919. | Records<br>Lost. | Records<br>Gained. | Records<br>in 1920. | Records<br>per 100 sq.<br>mi. of area. |
|----------------------------------|---------------------|------------------|--------------------|---------------------|--|------------------|---------------------|------------------|--------------------|---------------------|--|
| <b>ENGLAND.</b>                  |                     |                  |                    |                     |  | <b>SCOTLAND.</b> |                     |                  |                    |                     |  |
| LONDON .. ..                     | 72                  | 1                | 4                  | 75                  | 64                                     | WIGTOWN .. ..    | 9                   | 2                | 1                  | 8                   | 1.6                                    |
| SURREY .. ..                     | 189                 | 21               | 17                 | 185                 | 26                                     | KIRKCUDBRIGHT..  | 20                  | 2                | 1                  | 19                  | 2                                      |
| KENT .. ..                       | 155                 | 16               | 13                 | 152                 | 10                                     | DUMFRIES .. ..   | 22                  | 2                | 1                  | 21                  | 2                                      |
| SUSSEX .. ..                     | 135                 | 13               | 9                  | 131                 | 9                                      | ROXBURGH .. ..   | 13                  | 1                | 3                  | 15                  | 2                                      |
| HAMPSHIRE ..                     | 151                 | 13               | 15                 | 153                 | 9                                      | SELKIRK .. ..    | 9                   | 0                | 0                  | 9                   | 3                                      |
| BERKSHIRE ..                     | 53                  | 5                | 1                  | 49                  | 7                                      | PEEBLES .. ..    | 19                  | 0                | 0                  | 19                  | 5                                      |
| MIDDLESEX ..                     | 61                  | 3                | 2                  | 60                  | 26                                     | BERWICK .. ..    | 11                  | 0                | 1                  | 12                  | 3                                      |
| HERTFORDSHIRE..                  | 81                  | 8                | 6                  | 79                  | 12                                     | HADDINGTON ..    | 10                  | 0                | 0                  | 10                  | 4                                      |
| BUCKINGHAMSHIRE                  | 34                  | 3                | 5                  | 36                  | 5                                      | MIDLOTHIAN ..    | 58                  | 2                | 0                  | 56                  | 15                                     |
| OXFORDSHIRE ..                   | 56                  | 5                | 7                  | 58                  | 8                                      | LINLITHGOW ..    | 18                  | 0                | 0                  | 18                  | 15                                     |
| NORTHAMPTON-<br>SHIRE            | 68                  | 7                | 4                  | 65                  | 6                                      | LANARK .. ..     | 41                  | 1                | 1                  | 41                  | 5                                      |
| HUNTINGDONSHIRE                  | 6                   | 0                | 0                  | 6                   | 1.6                                    | AYR .. ..        | 39                  | 3                | 2                  | 38                  | 3                                      |
| BEDFORDSHIRE ..                  | 27                  | 4                | 1                  | 24                  | 5                                      | RENFREW .. ..    | 37                  | 0                | 0                  | 37                  | 15                                     |
| CAMBRIDGESHIRE                   | 43                  | 3                | 4                  | 44                  | 5                                      | DUMBARTON ..     | 20                  | 0                | 3                  | 23                  | 9                                      |
| ESSEX .. ..                      | 95                  | 7                | 10                 | 98                  | 6                                      | STIRLING .. ..   | 35                  | 2                | 1                  | 34                  | 7                                      |
| SUFFOLK .. ..                    | 47                  | 6                | 6                  | 47                  | 3                                      | BUTE .. ..       | 7                   | 1                | 2                  | 8                   | 4                                      |
| NORFOLK .. ..                    | 74                  | 10               | 9                  | 73                  | 4                                      | ARGYLL .. ..     | 63                  | 5                | 2                  | 60                  | 1.9                                    |
| WILTSHIRE .. ..                  | 56                  | 5                | 4                  | 55                  | 4                                      | CLACKMANNAN ..   | 3                   | 0                | 1                  | 4                   | 7                                      |
| DORSETSHIRE ..                   | 71                  | 6                | 5                  | 70                  | 7                                      | KINROSS .. ..    | 3                   | 0                | 1                  | 4                   | 5                                      |
| SOUTH DEVON ..                   | 131                 | 8                | 12                 | 135                 | 8                                      | FIFE .. ..       | 34                  | 2                | 4                  | 36                  | 7                                      |
| NORTH DEVON ..                   | 42                  | 4                | 4                  | 42                  | 5                                      | PERTH .. ..      | 58                  | 1                | 5                  | 62                  | 2                                      |
| CORNWALL .. ..                   | 63                  | 3                | 6                  | 66                  | 5                                      | FORFAR .. ..     | 40                  | 0                | 1                  | 41                  | 5                                      |
| SOMERSETSHIRE..                  | 131                 | 3                | 20                 | 148                 | 9                                      | KINCARDINE ..    | 14                  | 6                | 0                  | 8                   | 2                                      |
| GLOUCESTERSHIRE                  | 90                  | 3                | 5                  | 92                  | 7                                      | ABERDEEN .. ..   | 40                  | 4                | 0                  | 36                  | 1.8                                    |
| HEREFORDSHIRE..                  | 45                  | 1                | 3                  | 47                  | 6                                      | BANFF .. ..      | 9                   | 0                | 0                  | 9                   | 1.4                                    |
| SHROPSHIRE ..                    | 46                  | 2                | 9                  | 53                  | 4                                      | MORAY .. ..      | 11                  | 2                | 0                  | 9                   | 1.9                                    |
| STAFFORDSHIRE ..                 | 51                  | 2                | 4                  | 53                  | 5                                      | NAIRN .. ..      | 4                   | 0                | 1                  | 5                   | 3                                      |
| WORCESTERSHIRE                   | 58                  | 3                | 5                  | 60                  | 8                                      | INVERNESS .. ..  | 58                  | 4                | 3                  | 57                  | 1.4                                    |
| WARWICKSHIRE ..                  | 40                  | 4                | 4                  | 40                  | 4                                      | ROSS & CROMARTY  | 23                  | 1                | 1                  | 23                  | 0.7                                    |
| LEICESTERSHIRE..                 | 36                  | 4                | 4                  | 36                  | 4                                      | SUTHERLAND ..    | 8                   | 1                | 1                  | 8                   | 0.4                                    |
| RUTLANDSHIRE ..                  | 2                   | 1                | 0                  | 1                   | 0.7                                    | CAITHNESS .. ..  | 10                  | 1                | 0                  | 9                   | 1.3                                    |
| LINCOLNSHIRE ..                  | 72                  | 4                | 6                  | 74                  | 3                                      | ORKNEY .. ..     | 13                  | 0                | 0                  | 13                  | 3                                      |
| NOTTINGHAMSHIRE                  | 58                  | 1                | 5                  | 62                  | 7                                      | SHETLAND .. ..   | 7                   | 1                | 0                  | 6                   | 1.1                                    |
| DERBYSHIRE ..                    | 80                  | 3                | 3                  | 80                  | 8                                      | <b>IRELAND.</b>  |                     |                  |                    |                     |  |
| CHESHIRE .. ..                   | 77                  | 2                | 2                  | 77                  | 8                                      | CORK .. ..       | 33                  | 2                | 1                  | 32                  | 1.1                                    |
| SOUTH LANCs. ..                  | 103                 | 2                | 2                  | 103                 | 15                                     | KERRY .. ..      | 11                  | 1                | 1                  | 11                  | 0.6                                    |
| CENTRAL LANCs. ..                | 82                  | 1                | 5                  | 86                  | 16                                     | WATERFORD ..     | 13                  | 1                | 1                  | 13                  | 1.8                                    |
| NORTH LANCs. ..                  | 68                  | 6                | 7                  | 69                  | 11                                     | TIPPERARY .. ..  | 17                  | 1                | 4                  | 20                  | 1.2                                    |
| YORKSHIRE, W.R.                  | 326                 | 10               | 11                 | 327                 | 12                                     | LIMERICK .. ..   | 11                  | 2                | 2                  | 11                  | 1.1                                    |
| YORKSHIRE, E.R.                  | 27                  | 2                | 4                  | 29                  | 2                                      | CLARE .. ..      | 7                   | 1                | 0                  | 6                   | 0.5                                    |
| YORKSHIRE, N.R.                  | 107                 | 9                | 9                  | 107                 | 5                                      | WEXFORD .. ..    | 8                   | 1                | 0                  | 7                   | 0.8                                    |
| DURHAM .. ..                     | 40                  | 2                | 7                  | 45                  | 4                                      | KILKENNY .. ..   | 7                   | 0                | 0                  | 7                   | 0.9                                    |
| NORTHUMBERLAND                   | 45                  | 1                | 5                  | 49                  | 2                                      | WICKLOW .. ..    | 14                  | 1                | 0                  | 13                  | 1.7                                    |
| CUMBERLAND ..                    | 64                  | 5                | 3                  | 62                  | 4                                      | CARLOW .. ..     | 4                   | 0                | 0                  | 4                   | 1.2                                    |
| WESTMORLAND ..                   | 61                  | 5                | 2                  | 58                  | 7                                      | QUEEN'S COUNTY   | 4                   | 0                | 0                  | 4                   | 0.6                                    |
| <b>MONMOUTH,<br/>WALES, ETC.</b> |                     |                  |                    |                     |  | KING'S COUNTY..  | 9                   | 0                | 0                  | 9                   | 1.2                                    |
| MONMOUTH .. ..                   | 39                  | 2                | 3                  | 40                  | 7                                      | KILDARE .. ..    | 3                   | 1                | 0                  | 2                   | 0.3                                    |
| GLAMORGAN .. ..                  | 61                  | 1                | 5                  | 65                  | 8                                      | DUBLIN .. ..     | 30                  | 0                | 4                  | 34                  | 10                                     |
| CARMARTHEN ..                    | 12                  | 0                | 3                  | 15                  | 1.6                                    | MEATH .. ..      | 7                   | 0                | 0                  | 7                   | 0.8                                    |
| PEMBROKE .. ..                   | 19                  | 6                | 1                  | 14                  | 2                                      | WESTMEATH ..     | 9                   | 0                | 0                  | 9                   | 1.3                                    |
| CARDIGAN .. ..                   | 21                  | 1                | 2                  | 22                  | 3                                      | LOUTH .. ..      | 5                   | 0                | 0                  | 5                   | 1.6                                    |
| BRECON .. ..                     | 87                  | 2                | 2                  | 87                  | 12                                     | LONGFORD .. ..   | 4                   | 0                | 0                  | 4                   | 0.9                                    |
| RADNOR .. ..                     | 25                  | 3                | 0                  | 22                  | 5                                      | GALWAY .. ..     | 4                   | 1                | 1                  | 4                   | 0.2                                    |
| MONTGOMERY ..                    | 26                  | 0                | 0                  | 26                  | 3                                      | ROSCOMMON ..     | 2                   | 0                | 0                  | 2                   | 0.2                                    |
| FLINT .. ..                      | 13                  | 0                | 1                  | 14                  | 5                                      | MAYO .. ..       | 11                  | 2                | 0                  | 9                   | 0.4                                    |
| DENBIGH .. ..                    | 31                  | 2                | 9                  | 38                  | 6                                      | SLIGO .. ..      | 4                   | 0                | 0                  | 4                   | 0.6                                    |
| MERIONETH .. ..                  | 14                  | 1                | 1                  | 14                  | 2                                      | LEITRIM .. ..    | 2                   | 0                | 0                  | 2                   | 0.3                                    |
| CARNARVON .. ..                  | 43                  | 5                | 7                  | 45                  | 8                                      | CAVAN .. ..      | 4                   | 1                | 0                  | 3                   | 0.4                                    |
| ANGLESEY .. ..                   | 12                  | 0                | 1                  | 13                  | 5                                      | FERMANAGH ..     | 3                   | 0                | 1                  | 4                   | 0.6                                    |
| ISLE OF MAN ..                   | 10                  | 0                | 0                  | 10                  | 4                                      | MONAGHAN .. ..   | 2                   | 1                | 0                  | 1                   | 0.2                                    |
| CHANNEL ISLANDS                  | 23                  | 3                | 8                  | 28                  | 37                                     | ARMAGH .. ..     | 4                   | 0                | 3                  | 7                   | 1.4                                    |
|                                  |                     |                  |                    |                     |  | DOWN .. ..       | 11                  | 0                | 1                  | 12                  | 1.2                                    |
|                                  |                     |                  |                    |                     |  | ANTRIM .. ..     | 16                  | 0                | 0                  | 16                  | 1.3                                    |
|                                  |                     |                  |                    |                     |  | LONDONDERRY ..   | 8                   | 0                | 0                  | 8                   | 1.0                                    |
|                                  |                     |                  |                    |                     |  | TYRONE .. ..     | 4                   | 0                | 0                  | 4                   | 0.3                                    |
|                                  |                     |                  |                    |                     |  | DONEGAL .. ..    | 6                   | 0                | 1                  | 7                   | 0.4                                    |

## OBITUARY.

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The Obituary list this year is the shortest we have recorded since 1911. It contains 77 names which are given in full on pp. xxvii-xxviii. It is, of course, possible that the death of some Observers has not yet been intimated to us, and it is certain that in the case of correspondents who have not been in touch with the Organization for many years a good many deaths must pass unnoticed, but even allowing for these contingencies the losses this year among the observing staff are remarkably small.

The number of Observers of long enough standing to have reported for thirty years or more whose names appear in the list is only 10, the smallest number since 1906, and with that exception the smallest since 1900. They include, however, no fewer than three veterans with 58, 56, and 50 years' observations respectively, in Mr. James Weston, of Eastbourne, Mr. Henry Clay, of Piercefield Park, Chepstow, and Miss Rouse-Boughton, of Shrewsbury.

### *Records of Thirty Years and upwards.*

|                          |          |                         |          |
|--------------------------|----------|-------------------------|----------|
| Mr. James Weston.....    | 58 years | Mr. J. H. Taylor.....   | 38 years |
| Mr. Henry Clay.....      | 56 „     | Mr. W. R. Innes Hopkins | 36 „     |
| Miss F. Rouse-Boughton.. | 50 „     | Mrs. Jay Jones.....     | 32 „     |
| Rev. R. E. G. Cole.....  | 38 „     | Dr. Henry Clarke.....   | 30 „     |
| Mr. C. Grover.....       | 38 „     | Mr. G. Harrison .....   | 30 „     |

Of the 77 Observers we have been able to ascertain the ages of 45, and these are appended in the list. It is not without interest to note that they include thirteen octogenarians and four nonagenarians, among whom Mr. J. D. Allen, of Shepton Mallet, stands first at the remarkable age of 97.

It has been necessary on account of exigencies of space to keep the following biographical notes to a minimum. We feel sure that it is fully understood that if any name is passed over no want of appreciation of the service rendered to the Organization and to meteorology is implied.

Dr. HENRY CLARKE spent the greater part of his professional life as Medical Officer of Health to H.M. Prison at Wakefield, and whilst serving in that capacity carried out a valuable series of climatological records for about 30 years. The first 20 years of the observations were embodied in a valuable summary published soon after their compilation by the Royal Meteorological Society. Dr. Clarke was the author of many articles on medical subjects, and was a fellow of numerous scientific societies.

Mr. HENRY CLAY, of Piercefield Park, Chepstow, appears to have commenced observing rainfall in 1865, and from that date to the time of his death—a period of 56 years—continued the record without a break, an achievement of rare distinction even in comparison with the remarkable instances put on record from time to time in this section of *British Rainfall*. The last letter we received from Mr. Clay was not uncharacteristic of the modest view which he himself took of his magnificent contribution to meteorology.

Piercefield Park, Chepstow. Jan. 1, 1921.

Dear Sir,—I enclose my rainfall register for 1920, and feel sure that it will be my last. I am 95 years of age, and have kept the rainfall for more than 50 years, measuring it myself for quite 11 months out of the 12. I have always sent it on to Headquarters.—Yours very truly, HENRY CLAY.

Mr. CHARLES GROVER, who died on February 16th, 1921, at the age of 79, was for nearly 40 years astronomical and meteorological observer at Rousdon Observatory, near Lyme Regis, under the direction of the late Sir Cuthbert Peek, and latterly of Lady Peek. Whilst Mr. Grover's contributions to meteorology in this fine series of records was a very great one, his principal interests were probably centred in astronomy, and he was regarded as one of the leading authorities in this country on variable stars. Shortly after he came to Rousdon he went on a world tour with Sir Cuthbert Peek, during which much attention was devoted to astronomical work.

Mr. C. J. J. V. HAWKSFORD, of St. Saviour's, Jersey, began his association with the British Rainfall Organization in 1914 when he commenced observing rainfall at his home near St. Helier. His interest in the subject led him to effect a great improvement in the representation of the island of Jersey by inducing residents to start observations, and within a short time he had organized a local rainfall association for collecting and publishing the data obtained. We are glad to hear that this very useful work is being continued by Mrs. Hawksford.

Major HENRY KING carried on for the last twenty years of his life a valuable series of meteorological observations at Isfield Place, Sussex. These observations included, besides the usual readings of temperature and rainfall, records of rainfall duration and of evaporation, this being one of the very few stations with an evaporation tank in operation. Major King bequeathed the whole of his scientific instruments and books and pamphlets on Meteorology to the Royal Meteorological Society, and it is hoped that evaporation records may be established with the tank at another station not far distant.

Dr. G. B. LONGSTAFF was born in 1849, and educated at Rugby, at New College, Oxford—where he won a scholarship and took a first

class in Natural Science—and at St. Thomas's Hospital, where he was Mead Medallist. He devoted much time to municipal and philanthropic work, and while on the County Council, as chairman of the Building Act Committee, took a principal part in drafting and getting through Parliament the London Building Act of 1894. He was a fellow of a number of learned societies and had been Vice-President of the Royal Statistical and Entomological Societies. He published several books on scientific and other subjects. Dr. Longstaff commenced an excellent series of rainfall observations at his Devonshire residence near Morteheo, in 1910, and these are being continued by his son Col. Ralph Longstaff.

Dr. EDMUND JAMES MILLS, F.R.S., Professor of Technical Chemistry at Glasgow University, was not actually a rainfall observer, but ranks among those who have contributed to the work of the British Rainfall Organization in virtue of the fact that in 1865, in collaboration with Mr. Symons, he organized and put into operation a scheme for the study of the salt-content of rain on lines not dissimilar to those described in a special article in Part IV of the present volume, from the pen of Mr. Wilfred Irwin. He was the author of numerous scientific papers, chiefly on chemical subjects, and was from 1904–07 Vice-President of the Institute of Chemistry, to which body he served also as Examiner for several years.

Mrs. HANNAH EDITH PURCHAS, who died on February 17th, 1921, after a long and painful illness, began an active meteorological career only at the advanced age of 72, when, after the death of the late Mr. Henry Southall, of Ross-on-Wye, the climatological record maintained by that veteran enthusiast for over half a century was threatened with extinction. In order to avert this calamity Mrs. Purchas readily consented to allow the use of her house and grounds for the establishment of an official station. When the war broke out two months later the interest in the science which she had already manifested was still more intensely fired, and in spite of her advanced age she formed and carried out the resolution to study meteorology, and to maintain the full series of observations during the absence on war duty of the observer, Mr. F. J. Parsons. During the years 1914–19 she never faltered in her purpose, never being absent from her post, and taking most of the observations personally three times a day, even in the worst weather. She also bore the whole cost of the work, including the daily telegrams to the Meteorological Office, and carried out the compilation of the full weekly and monthly reports with commendable promptitude and accuracy. Mrs. Purchas combined with the high sense of duty exemplified by the above a charming personality and benevolent disposition. Besides generous gifts for charitable and local purposes she made provision in her will for the permanent maintenance of the climatological work.

Miss FRANCES ROUSE-BOUGHTON was one of the most devoted supporters of the work of the British Rainfall Organization, and, indeed, of meteorological work in general. She was keenly interested in the instrumental aspects of the science and lavished great personal care on her equipment. Besides the invaluable contribution of fifty years' continuous rainfall records, first at Larden Hall, near Much Wenlock, and later at The Abbey House, Shrewsbury, Miss Rouse-Boughton made generous gifts in money for the support of the work, and it was by her action in anticipating a contemplated legacy to the Organization, in 1909, that the necessary stimulus for the formation of the British Rainfall Organization Trust was given. Miss Rouse-Boughton continued her active interest by carrying on her rainfall record until her death at the advanced age of 90, and gave instructions in her will that all her papers containing meteorological statistics, and her complete set of "British Rainfall" from 1865 to 1919 should be transferred to 62, Camden Square, for safe custody.

Mr. JAMES WESTON, of Eastbourne, during his lifetime of 80 years, contributed rainfall records to the Organization for no less than 58 years, a feat surpassed by very few even among the wonderful band of long-lived and persevering enthusiasts brought together by the common bond of the work. Although during the last few years sadly failing in health and almost blind, Mr. Weston invariably retained the keenest interest in the scientific aspects of the observations to which he had given so much of his life.

*Observers deceased to June 30th, 1921.*

Small Capitals designate Observers with Records of Thirty Years and upwards.

|   |                                 |
|---|---------------------------------|
| Adams, A. J.....                        | Skelwith Bridge, Ambleside      |
| Addams-Williams, Rev. A. W. (57).....   | Panteg Rectory, Mon.            |
| Allen, James Dredge (97).....           | Pilton, Shepton Mallet          |
| Bere, Charles (62).....                 | Old Halls, Milverton            |
| Boddington, Rev. Edward Henry.....      | Honington, Shipton-on-Stour     |
| Boyd, John.....                         | Ford, Argyll                    |
| Bradshaw, William (84).....             | Carisbrook House, Nottingham    |
| Burman, Dr. Frederick James .....       | Wath-upon-Deane, Yorks          |
| Burton, W. C. V. ....                   | Carrigaholt Castle, Co. Clare   |
| *CLARKE, DR. HENRY (72).....            | Wakefield                       |
| *CLAY, HENRY (95).....                  | Piercefield Park, Chepstow      |
| Cleverley, Charles Frederick Moore .... | Ripley, Surrey                  |
| COLE REV. ROBERT EDEN GEORGE (89)..     | Pottergate, Lincoln             |
| Cookson, Henry Theodore (71) .....      | Sturford Mead, Warminster       |
| Curwen, E. ....                         | Calder Bridge, Garstang         |
| Dean, Edmund (66) .....                 | Markbeece, Kent                 |
| Du Pré, Francis Baring (72) .....       | Oakwood, Chichester             |
| Fawssett, Leonard Alston .....          | Warwick Avenue, Bedford         |
| Finch, Rev. Thomas Ross (82) .....      | Penwortham Hall, Preston        |
| Fisher, Joseph (71) .....               | Higham, Cokermonth              |
| Gaskill, Rev. Joseph Edward.....        | Muker Vicarage, Richmond, Yorks |
| Gott, Frank (61) .....                  | Weetwood Garth, Leeds           |

\* See Biographical Note *ante*.

*Observers deceased to June 30th, 1921—(con.).*

|  |                                   |
|--|-----------------------------------|
| Grant, Mrs. Sarah Jane (80) .....            | Ninnage Lodge, Westbury-on-Severn |
| Grant-Dalton, Seymour (56) .....             | Laugharne, Carmarthenshire        |
| Greg, Thomas Tyiston (62) .....              | Coles Park, Buntingford           |
| *GROVER, CHARLES (79) .....                  | Rousdon, Lyme Regis               |
| Gunner, William Ainge .....                  | Redhill                           |
| Hardy, W. J. ....                            | Crowlands, Peterborough           |
| HARRISON, G. ....                            | Swinefleet, Goole                 |
| *Hawksford, Cyril John Joseph Vyvyan (53)    | St. Saviour's, Jersey             |
| Hawkshaw, John Clarke (79) .....             | Hollycombe, Sussex                |
| Heywood-Jones, Miss Catherine .....          | Badsworth Grange, Yorks           |
| Hillyard, Rev. Arthur .....                  | Upton Pyne, Exeter                |
| Hodgson, Rev. John .....                     | Netherwasdale, Cumberland         |
| Hopkins, William Randolph Innes (93) ..      | Leat House, Malton                |
| Howell, David .....                          | Rose Hill, Penzance               |
| Hubbard, E. Isle .....                       | Sleights, Yorks                   |
| Hulkes, Cecil James Gladdish .....           | Hadlow Place, near Tonbridge      |
| Jekyll, Edward Joseph (81) .....             | Higham Bury, Ampthill             |
| Jex-Blake, Mrs. Henrietta (85) .....         | The Deanery, Wells                |
| Johnston, Sir George, Bart. (76) .....       | Ewhurst, Surrey                   |
| JONES, MRS. EMILY JAY (84) .....             | Holmhurst, St. Albans             |
| *King, Major Henry (64) .....                | Isfield Place, Uckfield           |
| Lee, Edward Arthur (70) .....                | Fowley, Liphook                   |
| Lloyd, Francis Zachary, C.B.E. (51) ....     | Areley Hall, Stourport            |
| *Longstaff, Dr. G. Blundell, M.A., M.D. (72) | Twitcheu, Morthoe                 |
| Lough, A. S. ....                            | Killeshandra, Co. Cavan           |
| Mainwaring, Col. Charles Salusbury (75)      | Bwlchybeudy, Cerrig-y-Druuidion   |
| Mair-Rumley, John George Valentine (77)      | Udimore, Sussex                   |
| Mays, Miss F. E. ....                        | East Rudham, King's Lynn          |
| *Mills, Prof. Edmund James, F.R.S. (79)      | London                            |
| Oliver, Mrs. M. ....                         | Tilford, Farnham                  |
| Pember, George Herbert (75) .....            | Fair Oak Park, Eastleigh          |
| Pike, Prof. William Herbert, D.Sc. (69) ..   | Sandhills, Salcombe, Devon        |
| Prevost, E. W., Ph.D. ....                   | Weston, Ross, Herefordshire       |
| Prichard, Thomas (74) .....                  | Llwydiarth Esgob, Anglesey        |
| *Purchas, Mrs. Hannah Edith (79) .....       | Chasedale, Ross-on-Wye            |
| Richardson, William Ryder .....              | Sandwich, Kent                    |
| *ROUSE-BOUGHTON, MISS FRANCES (90) ..        | The Abbey House, Shrewsbury       |
| Rutson, Henry (89) .....                     | Newby Wiske, Northallerton        |
| Shepherd, Sherringham Alfred .....           | Grafham Grange, Bramley           |
| Southall, H. John .....                      | Leominster                        |
| Stanford, Herbert S. K. ....                 | Halesworth, Suffolk               |
| Stewart, Lieut.-Gen. John McKie (79) ..      | Carruchan, Dumfries               |
| TAYLOR, JOHN HENRY, M.I.C.E. ....            | Barnsley                          |
| Thurgood, E. C. ....                         | Exmouth, Devon                    |
| Vaughan, Rev. Prebendary Henry ....          | Wraxhall Rectory, Som.            |
| Vicars, Sir Arthur, K.C.V.O. (57) .....      | Kilmorna, Co. Kerry               |
| Walker, George Booth (78) .....              | Wainfleet, Lincs.                 |
| Walker, Rev. Richard (79) .....              | East Ayton Lodge, Yorks.          |
| *WESTON, JAMES (80) .....                    | Staveley Cross, Eastbourne        |
| White, W. T. ....                            | Aishott, Bridgwater, Som.         |
| Woodhouse, Alfred Edward Clayton (62)        | Kilve, Somerset                   |
| Woods, Miss Lucy Katherine .....             | Chilgrove, near Chichester        |
| Woollcombe, Rev. Arthur Augustus ....        | Leusdon, Ashburton                |
| Wright, John George (52) .....               | Halton Park, Lancaster            |
| Wynne, Sur.-Gen. W. Arnold Smith, M.D. (85)  | St. Olave's Priory, Suffolk       |

\* See Biographical Note *ante*.

BRITISH RAINFALL, 1920

PART II

RAINFALL AND METEOROLOGY

OF

1920



## EVAPORATION AND PERCOLATION IN 1920.

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When one considers the fact that in any application of rainfall data to practical purposes, it is necessary to make due allowance for the losses to which precipitated rain is subject in the shape of evaporation, and that in the less rainy parts of the British Isles the amount of this evaporation annually exceeds half the total rainfall, it is difficult to understand why so little attention is paid to the subject. This neglect possibly arises partly from the somewhat cumbrous apparatus necessary for the observations, and possibly also from a justifiable doubt as to whether the records are actually giving us what we want. Unfortunately, there appears to be no way yet devised of measuring with certainty the losses to which precipitated rainfall is liable before it reaches rivers and lakes. The method which seems least likely to err is that of measuring the volume of water flowing from definite catchment areas and comparing it with the volume of precipitation as computed by the cartographical processes which are familiar to readers of *British Rainfall*. Even when this is accepted as the best method of determining the loss on an individual area, the difficulty remains that the results may not be generally applicable. The circumstances affecting the flow of individual streams are so many and so variable that unless an extremely large amount of data derived in the manner suggested, and covering many years, were brought together, generalizations might well be extremely misleading. It is, however, impossible to form a sound opinion on this point without trying the experiment, and should the recent recommendation of the Water Resources Committee of the Board of Trade for a hydrometric survey of the British Isles be carried out, a distinct step will have been made in the direction of improving our knowledge of a difficult subject. Until this consummation is reached, it appears highly desirable to continue to accumulate records of direct evaporation from tanks and also of inferred evaporation as deduced from percolation records.

There is one minor loss this year in the list of evaporation records, that of New Malden, and we add one new record at Barnacre Reservoir in Bowland Forest, near Garstang. There is also one new record of percolation commenced by Mr. K. M. Langdale, at Compton, in the

chalk downs between Chichester and Petersfield. The contents of the gauge are as far as possible similar to the subsoil. They are described by Mr. Langdale as "At bottom, 2 in. of irregular flints and pieces of crockery, etc. At top, turf overlying some 10 in. of soil; the intervening space being filled with well rammed chalk." The gauge is of the standard dimensions, one cubic yard, is brick built and lined with cement.

The outstanding feature of the year was the extremely small evaporation. The long record at Camden Square, which now covers 35 years, has only four smaller annual totals, and the past year gave the lowest since 1894. May had an evaporation slightly in excess of the average, but all the other months in the summer half-year showed deficient amounts, especially April and July. In the main table all the seven stations for which 12 years' records are available, had totals well below the average. At Otterbourne the total was the smallest in 29 years, and at Kennick the smallest in 24 years, but at the more northerly stations, 1907 was a year of less evaporation.

The evaporation as calculated from the percolation records is generally confirmatory, though the high reading from the gauge at Timsbury is somewhat discordant.

### Stations recording Evaporation in 1920.

| Station.                               | County. | Observer.               | Particulars of Tank. |     |           |           |     |       |
|--|---------|-------------------------|----------------------|-----|-----------|-----------|-----|-------|
|  |         |                         | Height above         |     | Diameter. | Capacity. |     |       |
|  |         |                         | Ground. Sea Level.   |     |           |           |     |       |
|  |         |                         | ft.                  | in. | ft.       | ft.       | in. | Gals. |
| Camden Sq. . London . . . . .          | 2       | Brit. Rainfall Org.     | 0                    | 3   | 111       | 6         | 0   | 450   |
| Otterbourne . Hampshire . . . . .      | 5       | E. C. Rodda, Esq.       | 0                    | 3   | 112       | 6         | 0   | 450   |
| Ormesby St. Norfolk . . . . .          | 2       | Gt. Yarmouth            | 0                    | 3   | 21        | 6         | 0   | 450   |
| Michael                                |         | W.W. Co.                |                      |     |           |           |     |       |
| Worstead .. Norfolk . . . . .          | 2       | R. J. Cross, Esq..      | 0                    | 4   | 55        | 2         | 6   | ..    |
| Kennick .... South Devon . . . . .     | 5       | S.C. Chapman, Esq.      | 0                    | 3   | 835       | 6         | 0   | 450   |
| Revesby .... Lincoln . . . . .         | 3       | J. Shaw, Esq. . . .     | 0                    | 2   | 130       | 6         | 0   | 450   |
| Southport .. Cen. Lancashire . . . . . | 3       | J. Baxendell, Esq.      | 0                    | 3   | 27        | 3         | 0   | 112   |
| Barnacre Res. N. . . . .               | 5       | Fylde Water Bd.         |                      |     | 629       | 6         | 0   | 450   |
| Ardley No. 1 Yorkshire, W.R.           | 8       | C. C. Smith, Esq.       | 0                    | 3   | 395       | 6         | 0   | 450   |
| „ No. 2 „ „                            | 8       | „ „                     | 0                    | 3   | 326       | 6         | 0   | 450   |
| Lower Laithe „ „                       | 9       | M.R. Barnett, Esq.      | 0                    | 6*  | 772       | 6         | 0   | 450   |
| Harrogate .. „ „                       | 11      | A. S. West, Esq. .      | Flush                |     | 589       | 6         | 0   | 450   |
| Talla Water . Peebles . . . . .        | 1       | Messrs. Leslie and Reid | 0                    | 3   | 904       | 6         | 0   | 450   |

\* Varying from 2½ to 9 in.

**Rainfall, Percolation and Calculated Evaporation in 1920.**

| 1920.                         | Grayshott, Hants.<br>Mrs. Lyndon. |              | Rothamsted, Herts. Dr. E. J. Russell. |              |              |              |
|-------------------------------|-----------------------------------|--------------|---------------------------------------|--------------|--------------|--------------|
|                               | Rainfall.                         | Percolation. | Rainfall.                             | Percolation. |              |              |
|                               |                                   |              |                                       | 20 in. Soil. | 40 in. Soil. | 60 in. Soil. |
|                               | in.                               | in.          | in.                                   | in.          | in.          | in.          |
| January .....                 | 4·24                              | 4·74         | 2·87                                  | 2·55         | 2·62         | 2·59         |
| February .....                | ·83                               | 1·40         | 0·48                                  | ·04          | ·14          | ·11          |
| March .....                   | 3·00                              | 1·79         | 1·47                                  | ·40          | ·40          | ·41          |
| April .....                   | 3·55                              | 3·52         | 4·35                                  | 3·17         | 3·18         | 3·16         |
| May .....                     | 1·16                              | ·46          | 1·26                                  | ·01          | ·06          | ·06          |
| June .....                    | 1·94                              | ·00          | 1·86                                  | ·04          | ·08          | ·10          |
| July .....                    | 6·08                              | 2·54         | 4·65                                  | 2·04         | 2·06         | 1·98         |
| August .....                  | 2·03                              | 1·08         | 1·27                                  | ·15          | ·23          | ·21          |
| September .....               | 2·81                              | 1·28         | 2·02                                  | ·42          | ·39          | ·37          |
| October .....                 | 2·91                              | 1·66         | 1·45                                  | ·59          | ·67          | ·62          |
| November .....                | 2·04                              | 1·84         | 1·71                                  | 1·36         | 1·21         | 1·13         |
| December .....                | 3·86                              | 4·26         | 2·35                                  | 2·24         | 2·36         | 2·28         |
| Year .....                    | 34·45                             | 24·57        | 25·74                                 | 13·01        | 13·40        | 13·02        |
| Calculated }<br>Evaporation } | ..                                | 9·88         | ..                                    | 12·73        | 12·34        | 12·72        |

| 1920.                         | Compton, Sussex.<br>K. M. Langdale,<br>Esq. |                   | Timsbury, Hants.<br>D. Kitchingman,<br>Esq. |                   | Twyford, Hants.<br>D. Kitchingman,<br>Esq. |                   | Harrogate, Yorks.<br>Harrogate<br>Corporation. |                   |
|-------------------------------|---|-------------------|---|-------------------|--|-------------------|--|-------------------|
|                               | Rainfall.                                   | Percola-<br>tion. | Rainfall.                                   | Percola-<br>tion. | Rainfall.                                  | Percola-<br>tion. | Rainfall.                                      | Percola-<br>tion. |
|                               |   |                   |   |                   |  |                   |  |                   |
|                               | in.   | in.               | in.   | in.               | in.  | in.               | in.  | in.               |
| January .....                 | 4·77  | ..                | 3·68  | 3·09              | 3·87                                       | 3·77              | 3·22   | 2·81              |
| February .....                | ·90   | ..                | ·92   | ·60               | ·65  | ·88               | 2·06   | 1·89              |
| March .....                   | 2·87  | ..                | 2·20  | ·66               | 2·17                                       | ·85               | 2·27   | 1·30              |
| April .....                   | 4·02  | ..                | 3·57  | 1·69              | 3·36                                       | 2·23              | 4·20   | 2·92              |
| May .....                     | 1·64  | ..                | 1·05  | ·04               | 1·52                                       | ·07               | 2·69   | ·62               |
| June .....                    | 2·17  | ·00               | 2·55  | ·00               | 2·56                                       | ·01               | 1·83   | ·07               |
| July .....                    | 6·50  | 2·56?             | 5·58  | ·22               | 6·62                                       | 2·65              | 6·06   | 1·99              |
| August .....                  | 1·46  | ·06               | 1·22  | ·61               | 1·86                                       | ·91               | 1·57   | ·26               |
| September .....               | 2·23  | ·00               | 1·16  | ·00               | 1·49                                       | ·00               | ·97  | ·00               |
| October .....                 | 3·75  | 1·76              | 3·49  | 1·20              | 3·87                                       | 1·37              | 3·32   | ·29               |
| November .....                | 2·07  | 2·10              | 1·98  | ·59               | 1·82                                       | 1·45              | 1·54   | ·82               |
| December .....                | 4·14  | 3·77              | 2·80  | 2·22              | 2·90                                       | 2·76              | 2·88   | 2·75              |
| Year .....                    | 36·52                                       | ..                | 30·20                                       | 10·92             | 32·69                                      | 16·95             | 32·61  | 15·72             |
| Calculated }<br>Evaporation } | ..  | ..                | ..  | 19·28             | ..   | 15·74             | ..   | 16·89             |

**Evaporation in 1920.**

|   | Camden<br>Square.                       | Otter-<br>bourne. | Ormesby<br>St. Michael | Worstead. | Kennick. | Revesby. | Southport. |
|---|---|-------------------|------------------------|-----------|----------|----------|------------|
|   | in.                                     | in.               | in.                    | in.       | in.      | in.      | in.        |
| January .....                           | ·20                                     | c ·03             | ·52                    | ·40       | c ·52    | c ·04    | ·01        |
| February .....                          | ·24                                     | ·46               | ·59                    | ·41       | ·25      | ·20      | ·17        |
| March .....                             | ·78                                     | 1·29              | 1·44                   | 1·11      | ·71      | ·63      | ·62        |
| April .....                             | ·85                                     | 1·32              | 1·52                   | 1·43      | 1·12     | 1·14     | 1·22       |
| May .....                               | 2·71                                    | 2·94              | 3·02                   | 2·66      | 2·76     | 2·11     | 2·04       |
| June .....                              | 2·85                                    | 3·17              | 3·55                   | 3·30      | 2·99     | 2·65     | 2·72       |
| July .....                              | 2·09                                    | 2·12              | 2·84                   | 2·78      | 2·41     | 1·81     | 2·09       |
| August .....                            | 2·00                                    | 2·47              | 2·38                   | 1·97      | 2·49     | 1·84     | 2·13       |
| September .....                         | 1·04                                    | 1·48              | 1·42                   | ·90       | 1·58     | ·97      | 1·14       |
| October .....                           | ·66                                     | ·95               | 1·46                   | ·96       | ·63      | 1·06     | ·50        |
| November .....                          | ·04                                     | ·15               | ·46                    | ·65       | ·09      | ·12      | ·22        |
| December .....                          | ·00                                     | c ·17             | ·72                    | ·18       | c ·02    | ·19      | ·01        |
| Year .....                              | 13·46                                   | 16·15             | 19·92                  | 16·75     | 14·49    | 12·68    | 12·87      |
| Average, 1908-1920 <sup>1</sup> } ..... | 15·08                                   | 19·29             | ...                    | ...       | 18·22    | 14·46    | ...        |
| Difference .....                        | -1·62                                   | -3·14             | ...                    | ...       | -3·73    | -1·78    | ...        |
| RAIN. {                                 | Year .....                              | 23·59             | 31·53                  | 21·61     | 22·34    | 43·23    | 25·40      |
|   | Average, 1908-1920 <sup>1</sup> } ..... | 27·10             | 32·56                  | 28·79     | 27·66    | 43·29    | 26·11      |
|   | Difference .....                        | -3·51             | -1·03                  | -7·18     | -5·32    | -·06     | +·68       |

|   | Barnacre<br>Res.                        | Ardsley.<br>No. 1. | Ardsley.<br>No. 2. | Lower<br>Laithe. | Harrogate. | Talla<br>Water. | Mean of 13<br>Records. |
|---|---|--------------------|--------------------|------------------|------------|-----------------|------------------------|
|   | in.                                     | in.                | in.                | in.              | in.        | in.             | in.                    |
| January .....                           | ·51                                     | ·24                | ·14                | ·22              | ·59        | ·58             | ·21                    |
| February .....                          | ·53                                     | ·36                | ·31                | ·37              | ·45        | ·45             | ·36                    |
| March .....                             | ·92                                     | ·74                | ·68                | ·88              | 1·13       | ·74             | ·90                    |
| April .....                             | 1·43                                    | 1·21               | 1·03               | ·74              | 1·21       | 1·15            | 1·18                   |
| May .....                               | 2·71                                    | 2·57               | 2·11               | 2·39             | 2·56       | 2·08            | 2·51                   |
| June .....                              | 3·45                                    | 3·37               | 3·13               | 2·93             | 3·51       | 3·68            | 3·18                   |
| July .....                              | 2·41                                    | 2·18               | 1·98               | 1·88             | 2·49       | 1·72            | 2·22                   |
| August .....                            | 2·10                                    | 2·25               | 1·96               | 1·93             | 2·47       | 1·67            | 2·13                   |
| September .....                         | 1·43                                    | 1·27               | 1·10               | 1·18             | 1·49       | 1·15            | 1·25                   |
| October .....                           | 1·26                                    | ·65                | ·56                | ·44              | ·77        | ·96             | ·84                    |
| November .....                          | ·63                                     | ·23                | ·18                | ·28              | ·49        | ·56             | ·32                    |
| December .....                          | ·75                                     | ·17                | ·08                | ·00              | ·36        | ·28             | ·19                    |
| Year .....                              | 18·13                                   | 15·24              | 13·26              | 13·24            | 17·52      | 15·02           | 15·29                  |
| Average, 1908-1920 <sup>1</sup> } ..... | ...                                     | 17·21              | ...                | ...              | 18·25      | 17·14           | ...                    |
| Difference .....                        | ...                                     | -1·97              | ...                | ...              | -·73       | -2·12           | ...                    |
| RAIN. {                                 | Year .....                              | 49·83              | 28·66              | 29·03            | 50·91      | 32·61           | 54·24                  |
|   | Average, 1908-1920 <sup>1</sup> } ..... | 48·11              | 26·28              | ...              | ...        | 29·16           | 48·42                  |
|   | Difference .....                        | +1·72              | +2·38              | ...              | ...        | +3·45           | +5·82                  |

NOTE.—In the Table c indicates condensation.

*Evaporation at Camden Square, 1885-1920.*

|                   | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|-------------------|------|------|------|------|------|-------|-------|------|-------|------|------|------|-------|
|                   | in.  | in.  | in.  | in.  | in.  | in.   | in.   | in.  | in.   | in.  | in.  | in.  | 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 |
| 1909 ..           | ·14  | ·30  | ·30  | 1·85 | 2·93 | 1·70  | 2·60  | 2·23 | ·84   | ·76  | ·17  | ·16  | 13·98 |
| 1910 ..           | ·22  | ·17  | ·80  | 1·43 | 2·52 | 2·57  | 2·00  | 2·12 | 1·42  | ·76  | ·19  | ·10  | 14·30 |
| 1911 ..           | ·15  | ·32  | ·59  | 1·77 | 2·58 | 3·34  | 4·60  | 3·19 | 1·96  | ·64  | ·37  | ·02  | 19·53 |
| 1912 ..           | ·24  | ·16  | ·79  | 2·34 | 2·44 | 2·49  | 2·55  | 1·69 | 1·41  | ·39  | ·33  | ·12  | 14·95 |
| 1913 ..           | ·10  | ·32  | ·77  | 1·25 | 2·49 | 3·13  | 2·15  | 2·09 | 1·07  | ·61  | ·36  | ·32  | 14·66 |
| 1914 ..           | ·09  | ·24  | ·52  | 1·84 | 2·56 | 2·93  | 2·72  | 1·99 | 1·68  | ·70  | ·28  | ·05  | 15·60 |
| 1915 ..           | ·11  | ·13  | ·66  | 1·65 | 2·90 | 3·15  | 2·50  | 1·76 | 1·61  | ·56  | ·25  | c·03 | 15·25 |
| 1916 ..           | ·19  | ·34  | ·30  | 1·61 | 2·32 | 2·20  | 2·23  | 2·34 | 1·20  | ·76  | ·34  | c·04 | 13·79 |
| 1917 ..           | ·11  | ·17  | ·53  | 1·18 | 3·06 | 3·01  | 2·81  | 1·95 | 1·16  | ·75  | ·34  | ·12  | 15·19 |
| 1918 ..           | ·14  | ·27  | ·85  | ·89  | 2·38 | 3·01  | 2·59  | 2·04 | 1·69  | ·40  | ·24  | ·16  | 14·66 |
| 1919 ..           | c·12 | ·13  | ·66  | 1·06 | 2·94 | 3·39  | 1·90  | 2·78 | 1·53  | ·61  | ·08  | ·06  | 15·02 |
| Average 1885-1919 | ·10  | ·25  | ·66  | 1·51 | 2·43 | 2·91  | 2·97  | 2·33 | 1·38  | ·62  | ·25  | ·09  | 15·50 |
| 1920 ..           | ·20  | ·24  | ·78  | ·85  | 2·71 | 2·85  | 2·09  | 2·00 | 1·04  | ·66  | ·04  | ·00  | 13·46 |
| Diff. ..          | +·10 | -·01 | +·12 | -·66 | +·28 | -·06  | -·88  | -·33 | -·34  | +·04 | -·21 | -·09 | -2·04 |

NOTE.—c indicates condensation.

## THE DISTRIBUTION OF RAINFALL IN TIME.

Continuity in climatological work is highly desirable, but its achievement makes for monotony, and if in aiming at the one we sometimes fall into the other, the fault is one which the sympathetic reader may not be unwilling to condone. It is necessary to repeat year by year that the arrangement of the Sections in *British Rainfall*, Part II, is designed in order, as far as is practicable, to separate the consideration of the time-relationships of the rainfall phenomena of the year from the space-relationships, and although this cannot be done completely, it is possible to approximate to it by bringing into one group of sections the tabular statements and text dealing with the incidence of rainfall based upon the frequency of days with rain, and the duration of rainfall both throughout the year and during particular periods. In the second group of sections the space-relationships predominate; these include the distribution of rain on individual days and that during the months and the whole year. These distributions are most intelligibly expressed in the form of maps.

In the present volume the experiment described in *British Rainfall*, 1919, in the direction of revising the definitions by which the frequency phenomena of rainfall are studied, is continued. For many years meteorologists have experienced difficulty in framing generalizations of any value summarizing the facts deduced from the study of "rain days," "droughts" and "rain spells," as built up on the old definition of a rain day as a day on which  $\cdot 01$  in. or, alternatively 0.2 millimetre, of rain is recorded. The root cause of the difficulty lay in the extremely small amount of water which decides the unit measurement. For reasons set out in detail last year there appear to be many advantages in using in preference the unit  $\cdot 04$  in. or 1.0 millimetre. It would probably however be unwise to discard the older definition until sufficient rainfall records have been analysed by means of the new one to demonstrate unmistakably whether it meets our needs or not. For this reason it is proposed for the present to print tables and discussions of the frequency data and of dry and wet periods according to both old and new definitions side by side. When this has been done for a few years, it should be possible to come to a definite decision as to their respective merits.

The distinct improvement in the facility with which the number of "wet days" can be mapped as compared with "rain days," to which attention was drawn last year, is fully borne out by the 1920 data; and there appears to be some prospect of gaining information as to the geographical distribution of rainfall frequency, as distinct from amount, which could only be dimly inferred from the study of the number of rain days. The favourable opinion formed as to the utility of the definitions of "dry spells" and "wet spells" is also confirmed.

### DAYS WITH RAIN IN 1920.

The study of rainfall frequency was carried a stage further in 1920 by the inclusion of columns for both "rain days" and "wet days" on all the blank forms sent out to Observers for returning the records of the year 1920. An additional column appears this year in the General Tables in Part III, giving the number of "wet days" for each station. Certain types of gauge, chiefly used in the rainier parts of the country, are inadequate for recording very small amounts, and each year a large number of records of rain days sent in have been so short in comparison with those at surrounding stations that we felt obliged not to print them in *British Rainfall*. It has been found that the number of records of "wet days" which have to be rejected is markedly fewer. The two definitions used are quoted again:—

(i) A **Rain Day** is a day on which  $\cdot 01$  in. of rain or more is recorded. A fall of rain exceeding  $\cdot 005$  in. but less than  $\cdot 01$  in. is recorded as  $\cdot 01$  in. A fall of rain less than  $\cdot 005$  in. is ignored.

(ii) A **Wet Day** is a day on which  $1\cdot 0$  mm. or  $\cdot 04$  in. of rain, or more, is recorded.

Both the above definitions refer to the "rainfall day," commencing at 9 h. (G.M.T.) on the day to which the observation is recorded, and ending at 9 h. (G.M.T.) on the following day.

Table I gives the number of Rain Days during each month of 1920 at one hundred selected stations. In Table II these values are summarized for the countries side by side with those of the previous 17 years, and each year's total is compared with the average of the period 1892–1911. It will be seen that over the country as a whole there were 220 rain days, being an excess of 16 days or 8 per cent. over the

TABLE II.—*Rain Days, 1903–1920, compared with Average, 1892–1911.*

| Year. | England and Wales.<br>Average 187. |                        |                          | Scotland.<br>Average 216. |                        |                          | Ireland.<br>Average 223. |                        |                          | British Isles.<br>Average 204. |                        |                          |
|-------|------------------------------------|------------------------|--------------------------|---------------------------|------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------------|------------------------|--------------------------|
|       | Rain<br>Days.                      | Diff.<br>from<br>Aver. | Per<br>cent. of<br>Aver. | Rain<br>Days.             | Diff.<br>from<br>Aver. | Per<br>cent. of<br>Aver. | Rain<br>Days.            | Diff.<br>from<br>Aver. | Per<br>cent. of<br>Aver. | Rain<br>Days.                  | Diff.<br>from<br>Aver. | Per<br>cent. of<br>Aver. |
| 1903  | 211                                | + 24                   | 113                      | 244                       | + 28                   | 113                      | 252                      | + 29                   | 113                      | 229                            | + 25                   | 112                      |
| 1904  | 188                                | + 1                    | 101                      | 219                       | + 3                    | 101                      | 231                      | + 8                    | 104                      | 206                            | + 2                    | 101                      |
| 1905  | 186                                | — 1                    | 99                       | 222                       | + 6                    | 103                      | 221                      | — 2                    | 99                       | 203                            | — 1                    | 100                      |
| 1906  | 192                                | + 5                    | 103                      | 226                       | + 10                   | 105                      | 231                      | + 8                    | 104                      | 210                            | + 6                    | 103                      |
| 1907  | 203                                | + 16                   | 109                      | 232                       | + 16                   | 107                      | 240                      | + 17                   | 108                      | 218                            | + 14                   | 107                      |
| 1908  | 189                                | + 2                    | 101                      | 221                       | + 5                    | 102                      | 228                      | + 5                    | 102                      | 206                            | + 2                    | 101                      |
| 1909  | 195                                | + 8                    | 104                      | 216                       | 0                      | 100                      | 209                      | — 14                   | 94                       | 204                            | 0                      | 100                      |
| 1910  | 209                                | + 22                   | 112                      | 221                       | + 5                    | 102                      | 233                      | + 10                   | 104                      | 218                            | + 14                   | 107                      |
| 1911  | 175                                | — 12                   | 94                       | 209                       | — 7                    | 97                       | 202                      | — 21                   | 91                       | 191                            | — 13                   | 94                       |
| 1912  | 212                                | + 25                   | 113                      | 228                       | + 12                   | 106                      | 235                      | + 12                   | 105                      | 222                            | + 18                   | 109                      |
| 1913  | 190                                | + 3                    | 102                      | 212                       | — 4                    | 98                       | 220                      | — 3                    | 99                       | 203                            | — 1                    | 100                      |
| 1914  | 192                                | + 5                    | 103                      | 214                       | — 2                    | 99                       | 222                      | — 1                    | 100                      | 205                            | + 1                    | 100                      |
| 1915  | 182                                | — 5                    | 97                       | 206                       | — 10                   | 95                       | 217                      | — 6                    | 97                       | 197                            | — 7                    | 97                       |
| 1916  | 205                                | + 18                   | 110                      | 232                       | + 16                   | 107                      | 239                      | + 16                   | 107                      | 220                            | + 16                   | 108                      |
| 1917  | 185                                | — 2                    | 99                       | 217                       | + 1                    | 100                      | 224                      | + 1                    | 100                      | 203                            | — 1                    | 100                      |
| 1918  | 200                                | + 13                   | 107                      | 226                       | + 10                   | 105                      | 227                      | + 4                    | 102                      | 214                            | + 10                   | 105                      |
| 1919  | 191                                | + 4                    | 102                      | 214                       | — 2                    | 99                       | 213                      | — 10                   | 96                       | 203                            | — 1                    | 100                      |
| 1920  | 203                                | + 16                   | 109                      | 232                       | + 16                   | 107                      | 243                      | + 20                   | 109                      | 220                            | + 16                   | 108                      |

average. The excess was greatest, 20 days or 9 per cent., in Ireland ; being 16 days for England and Wales, and also for Scotland. Only two years, 1903 and 1912, in the seventeen under review, had more rain days, but 1916 had the same number for the whole British Isles, with slightly more in England and Wales, and fewer in Ireland.

Less than 175 rain days occurred only in the east of England, and at the head of the Moray Firth more than 200 days were recorded over the western half of England and Wales, and with the exception of the extreme east coast, over the whole of Scotland and Ireland. More than 250 days occurred locally in the wet areas, reaching 292 days or four days out of every five at Ballynahinch Castle, in Galway.

From Table I it is clear that taking the Kingdom as a whole, the months with the greatest frequency of rain days were January and July with 24 days. The latter month, and also April with 23 days, were remarkable features of the year in this respect. The least number of rain days occurred in June, August and October, but in every month of the year the number of days was 13 or more.

The general values of mean amount of rain per day show only small variations from year to year, those for 1920 being somewhat high. The large value for mean amount of rain per rain day was no doubt connected with the fact that the excessive rainfall was more notable in the summer than in the winter months.

TABLE III.—*Mean Amount of Rain per Rain Day, 1903–1920.*

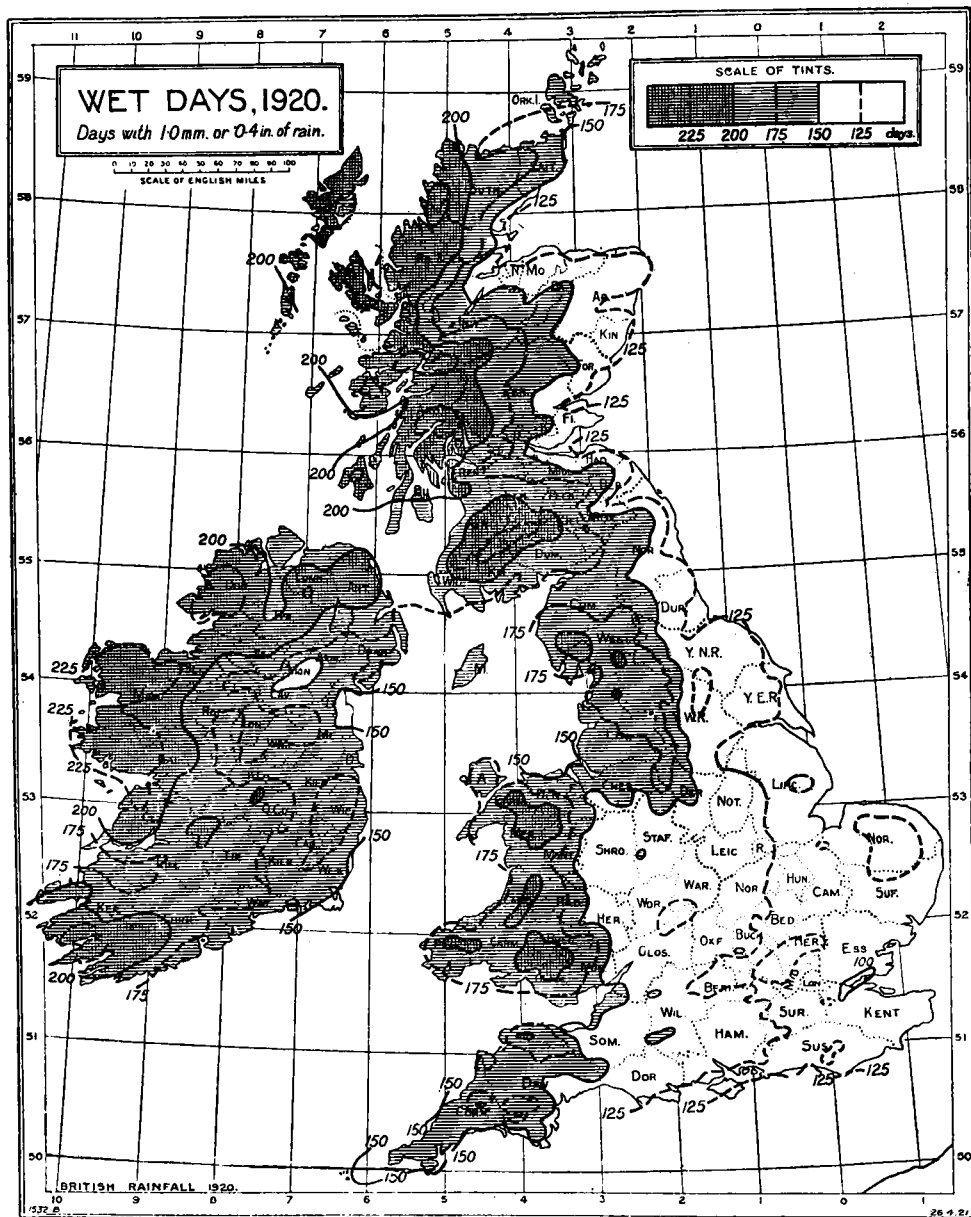
*General Values.*

|               | England and Wales.<br>in. | Scotland.<br>in. | Ireland.<br>in. | British Isles.<br>in. |
|---------------|---------------------------|------------------|-----------------|-----------------------|
| 1903 .....    | ·21                       | ·24              | ·20             | ·22                   |
| 1904 .....    | ·17                       | ·20              | ·18             | ·18                   |
| 1905 .....    | ·16                       | ·19              | ·16             | ·17                   |
| 1906 .....    | ·19                       | ·21              | ·17             | ·19                   |
| 1907 .....    | ·18                       | ·20              | ·17             | ·18                   |
| 1908 .....    | ·17                       | ·20              | ·17             | ·18                   |
| 1909 .....    | ·19                       | ·21              | ·18             | ·19                   |
| 1910 .....    | ·20                       | ·22              | ·19             | ·20                   |
| 1911 .....    | ·20                       | ·22              | ·20             | ·21                   |
| 1912 .....    | ·21                       | ·24              | ·19             | ·21                   |
| 1913 .....    | ·19                       | ·22              | ·20             | ·20                   |
| 1914 .....    | ·20                       | ·23              | ·20             | ·21                   |
| 1915 . . . .  | ·22                       | ·22              | ·20             | ·21                   |
| 1916 . . . .  | ·19                       | ·24              | ·20             | ·21                   |
| 1917 . . . .  | ·19                       | ·22              | ·19             | ·20                   |
| 1918 . . . .  | ·20                       | ·22              | ·21             | ·21                   |
| 1919 . . . .  | ·20                       | ·21              | ·19             | ·20                   |
| 1920 .....    | ·20                       | ·22              | ·20             | ·21                   |
| Average . . . | ·19                       | ·22              | ·19             | ·20                   |

In Table IV the number of “ wet days ” is set out for the same hundred stations as are used for the rain days in Table I. We have now comparative data for two years. The percentage which the recorded number of “ wet days ” formed of the rain days, varied from 62 at Tenterden, in Kent, to 94 at Abersoch, in Carnarvonshire, and



Inveraray, in Argyll, showing as in 1919 a suggestion of a general increase from south-east to north-west. As was found to be the case in 1919, the records of "wet days" recorded lent themselves readily to mapping, extremely few of the 750 values plotted exhibiting want of harmony with neighbouring records. For the purpose of the map, observations recorded in inches and in millimetres were utilized indiscriminately.



The map, which is reproduced on a small scale, shows some features of great interest. A well-marked line cuts off the whole of the east of England, and a narrow coastal strip in the south-east and north-east

of Scotland, over which, and nowhere else, fewer than 125 wet days were recorded. Locally, in the Thames estuary, the number fell to less than 100. To the westward there was a definite increase, the total reaching 150 practically everywhere west of a line running from the Lizard, along the Welsh border, the eastern side of the Pennines, and the east of Scotland to Wick. The 150-day line appeared also in the extreme east of Ireland. In the western districts the number of wet days shows a correlation with the amount of rainfall, but there is also a well-marked tendency for an increase in the frequency from east to west and from south-east to north-west, irrespective of the amount of rainfall. Thus we may take a number of stations almost at random having approximately the same total rainfall during the year, and in every case there is the same tendency.

|                     |    |           |    |               |
|---------------------|----|-----------|----|---------------|
| Wadhurst, Sussex    | .. | 29·96 in. | .. | 120 wet days. |
| Bournemouth, Hants  | .. | 29·15 in. | .. | 136 " "       |
| Sidmouth, Devon     | .. | 30·34 in. | .. | 141 " "       |
| St. Mary's, Scilly  | .. | 30·35 in. | .. | 149 " "       |
| Mickleover, Derby   | .. | 29·83 in. | .. | 143 " "       |
| Malin Head, Donegal | .. | 30·51 in. | .. | 187 " "       |

More than 200 wet days were observed during the year over the uplands of western England and Wales, though the areas were very small in the Devon-Cornwall peninsula. In the north-west of Scotland and Ireland, however, very large unbroken areas experienced more than 200 wet days, and here substantial tracts had as many as 225, whilst in parts of western Mayo and Galway the number possibly rose to 250.

For the British Isles as a whole, the number of wet days was greatest in January, with 20, but April and July, each with 19, were certainly more noteworthy for the time of year. The least frequency occurred in August and October, each with 9 days.

*Number of Wet Days in 1919 and 1920, British Isles.*

|         | Jan. | Feb. | Mar. | Ap. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | Year. |
|---------|------|------|------|-----|-----|------|------|------|------|------|------|------|-------|
| 1919 .. | 19   | 9    | 15   | 14  | 8   | 12   | 8    | 12   | 13   | 11   | 15   | 22   | 158   |
| 1920 .. | 20   | 13   | 17   | 19  | 15  | 10   | 19   | 9    | 13   | 9    | 12   | 15   | 171   |

The general number of wet days was less than the number of rain days by either 3, 4, or 5 in each month of the year.

The general values for the countries were in each case substantially in excess of those for 1919.

*General Number of Wet Days in 1919 and 1920.*

|        | England<br>and Wales. | Scotland. | Ireland. | British<br>Isles. |
|--------|-----------------------|-----------|----------|-------------------|
| 1919.. | ..                    | 143       | 172      | 171               |
| 1920.. | ..                    | 151       | 185      | 197               |

TABLE I.—Number of Rain Days in 1920.

| Station.                       | County.          | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | Year. | Total Rain-fall. | Amount per Rain Day. |
|--------------------------------|------------------|------|------|------|------|-----|------|------|------|------|------|------|------|-------|------------------|----------------------|
| ENGLAND & WALES.               |                  |      |      |      |      |     |      |      |      |      |      |      |      |       |                  |                      |
| St. Pancras, Camden Square     | London           | 2    | 18   | 10   | 17   | 20  | 13   | 9    | 16   | 7    | 14   | 8    | 9    | 23    | 164              | 23·14                |
| Tenterden, View Tower          | Kent             | 1    | 21   | 14   | 17   | 21  | 13   | 10   | 19   | 5    | 17   | 9    | 11   | 26    | 183              | 24·26                |
| Patcham                        | Sussex           | 3    | 21   | 14   | 19   | 26  | 13   | 10   | 19   | 6    | 13   | 7    | 11   | 25    | 184              | 31·67                |
| Lymington, The Salterns        | Hampshire        | 4    | 22   | 13   | 21   | 20  | 13   | 10   | 19   | 6    | 13   | 10   | 11   | 20    | 178              | 29·54                |
| Petersfield, Ditcham Park      | "                | 5    | 24   | 18   | 22   | 25  | 16   | 13   | 20   | 7    | 12   | 11   | 15   | 24    | 207              | 38·51                |
| Upton                          | Berkshire        | 5    | 21   | 14   | 17   | 24  | 14   | 12   | 19   | 6    | 13   | 12   | 21   | 185   | 22·44            |                      |
| Newport Pagnell, The Croft     | Buckinghamshire  | 5    | 20   | 13   | 19   | 25  | 16   | 10   | 23   | 11   | 13   | 9    | 9    | 23    | 191              | 22·26                |
| Eye, Northolt                  | Northamptonshire | 4    | 18   | 15   | 21   | 24  | 16   | 10   | 23   | 11   | 14   | 11   | 13   | 20    | 196              | 21·96                |
| Cambridge, Cherryhinton        | Cambridgeshire   | 2    | 16   | 6    | 16   | 23  | 9    | 10   | 21   | 13   | 17   | 13   | 17   | 24    | 185              | 20·66                |
| Bradwell-on-Sea, Bradwell Hall | Essex            | 3    | 17   | 5    | 14   | 24  | 12   | 7    | 17   | 10   | 14   | 9    | 10   | 21    | 160              | 25·30                |
| Haughley, Haughley House       | Suffolk          | 2    | 16   | 10   | 13   | 27  | 9    | 9    | 19   | 13   | 16   | 3    | 8    | 26    | 169              | 19·07                |
| Yarmouth, Burgh Hall           | "                | 4    | 17   | 14   | 13   | 25  | 11   | 8    | 17   | 10   | 15   | 6    | 13   | 24    | 173              | 22·71                |
| Swaffham                       | Norfolk          | 4    | 16   | 8    | 14   | 24  | 13   | 8    | 16   | 12   | 15   | 5    | 8    | 25    | 164              | 22·36                |
| Salisbury Plain, Shrewton      | Wiltshire        | 3    | 28   | 16   | 21   | 26  | 16   | 15   | 26   | 10   | 10   | 12   | 14   | 22    | 216              | 31·08                |
| Dorchester, Wollaston House    | Dorsetshire      | 3    | 25   | 13   | 21   | 24  | 15   | 16   | 24   | 7    | 11   | 12   | 11   | 19    | 198              | 39·22                |
| Holne, Church Park Cottage     | South Devon      | 4    | 27   | 17   | 21   | 24  | 13   | 13   | 24   | 7    | 10   | 17   | 10   | 20    | 203              | 69·96                |
| Martinhoe Rectory              | North Devon      | 1    | 24   | 15   | 23   | 23  | 15   | 17   | 26   | 14   | 15   | 17   | 18   | 16    | 223              | 52·21                |
| Morwenstow Vicarage            | Cornwall         | 1    | 29   | 20   | 24   | 27  | 16   | 18   | 29   | 17   | 21   | 17   | 18   | 257   | 45·14            |                      |
| St. Austell, Trevana           | "                | 2    | 25   | 17   | 23   | 24  | 14   | 13   | 26   | 7    | 14   | 19   | 13   | 19    | 214              | 49·37                |
| Angersleigh, Leigh Court       | Somersetshire    | 3    | 22   | 15   | 21   | 25  | 18   | 13   | 25   | 8    | 10   | 15   | 11   | 19    | 202              | 35·21                |
| Mickleton, Bank House          | Gloucestershire  | 4    | 14   | 10   | 18   | 26  | 15   | 13   | 23   | 12   | 15   | 11   | 10   | 21    | 188              | 27·30                |
| Clifton, Harley Place          | "                | 5    | 22   | 17   | 21   | 26  | 13   | 17   | 25   | 12   | 10   | 14   | 15   | 18    | 210              | 36·89                |
| Hereford, Holmer Hall          | Herefordshire    | 1    | 22   | 13   | 21   | 21  | 15   | 16   | 23   | 9    | 12   | 16   | 14   | 22    | 204              | 28·31                |
| Shifnal, Hatton Grange         | Shropshire       | 4    | 23   | 14   | 20   | 30  | 20   | 18   | 27   | 13   | 14   | 16   | 10   | 22    | 227              | 34·43                |
| Ashbourne, Mayfield House      | Staffordshire    | 5    | 24   | 16   | 18   | 26  | 19   | 14   | 23   | 10   | 11   | 12   | 9    | 18    | 200              | 36·23                |
| Leicester, Stoughton Drive     | Leicestershire   | 4    | 17   | 14   | 15   | 24  | 14   | 9    | 24   | 7    | 13   | 9    | 9    | 19    | 174              | 23·00                |
| Spilsby, Ashby Road            | Lincolnshire     | 4    | 17   | 10   | 12   | 25  | 15   | 10   | 21   | 6    | 14   | 6    | 8    | 24    | 168              | 24·38                |
| Worsop, Hodsock Priory         | Nottinghamshire  | 5    | 20   | 17   | 16   | 24  | 16   | 12   | 21   | 10   | 15   | 14   | 9    | 21    | 195              | 25·11                |
| Northwich, Winnington          | Cheshire         | 2    | 22   | 14   | 22   | 27  | 19   | 12   | 24   | 17   | 13   | 9    | 8    | 21    | 208              | 37·30                |
| St. Michael's-on-Wyre Vicarage | North Lancashire | 5    | 21   | 17   | 22   | 25  | 20   | 13   | 25   | 12   | 17   | 9    | 15   | 21    | 177              | 37·30                |
| Settle Gas Works               | Yorkshire, W.R.  | 2    | 25   | 18   | 23   | 25  | 20   | 10   | 27   | 11   | 15   | 9    | 13   | 20    | 216              | 50·89                |
| Meltham, Harewood Lodge        | "                | 8    | 24   | 18   | 20   | 27  | 21   | 15   | 26   | 13   | 13   | 14   | 23   | 227   | 52·93            |                      |
| Hull, Pearson Park             | " E.R.           | 3    | 21   | 13   | 16   | 27  | 18   | 9    | 27   | 7    | 11   | 9    | 9    | 26    | 193              | 25·67                |
| Felixkirk, Mount St. John      | " N.R.           | 2    | 18   | 13   | 18   | 23  | 14   | 11   | 26   | 11   | 14   | 9    | 13   | 21    | 191              | 29·17                |
| Aislabey, Park Hall            | "                | 5    | 19   | 12   | 14   | 25  | 13   | 6    | 25   | 13   | 15   | 10   | 8    | 21    | 181              | 29·43                |
| Sunderland, West Hendon House  | Durham           | 2    | 17   | 12   | 18   | 23  | 14   | 9    | 25   | 10   | 16   | 9    | 9    | 23    | 185              | 27·76                |
| Glanton, Glanton Pyke Gardens  | Northumberland   | 6    | 20   | 14   | 20   | 23  | 16   | 8    | 24   | 11   | 13   | 11   | 10   | 23    | 193              | 30·30                |

TABLE I.—Number of Rain Days in 1920—(con.).

| Station.                             | County.               | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | Year. | Total Rain-fall. | Amount per Rain Day |
|--------------------------------------|-----------------------|------|------|------|------|-----|------|------|------|------|------|------|------|-------|------------------|---------------------|
| <b>ENGLAND &amp; WALES—(con.).</b>   |                       |      |      |      |      |     |      |      |      |      |      |      |      |       |                  |                     |
| Appleby, Castle Bank .....           | Westmorland           | 27   | 21   | 22   | 24   | 20  | 11   | 27   | 14   | 15   | 8    | 14   | 22   | 225   | 39.36            | .17                 |
| Dungeon Ghyll .....                  | "                     | 28   | 21   | 25   | 27   | 22  | 15   | 28   | 15   | 20   | 13   | 18   | 19   | 251   | 126.30           | .50                 |
| Treherbert, Tyn-y-waun .....         | Glamorgan             | 26   | 21   | 25   | 27   | 19  | 16   | 28   | 15   | 14   | 17   | 16   | 15   | 239   | 112.45           | .47                 |
| Cardarthen, The Friary .....         | Pembrokeshire         | 26   | 22   | 23   | 29   | 19  | 16   | 30   | 16   | 12   | 14   | 15   | 18   | 240   | 61.35            | .26                 |
| Fishguard, Dwrbach .....             | Radnor                | 28   | 17   | 24   | 26   | 13  | 16   | 28   | 14   | 18   | 17   | 18   | 21   | 240   | 63.82            | .27                 |
| Birmingham W.W., Tymynydd ..         | Montgomery            | 24   | 18   | 21   | 27   | 19  | 15   | 24   | 15   | 12   | 11   | 12   | 20   | 221   | 65.27            | .30                 |
| Newtown, Penarth Weir .....          | Denbigh               | 20   | 13   | 15   | 24   | 15  | 15   | 26   | 17   | 15   | 15   | 17   | 22   | 228   | 41.41            | .18                 |
| Denbigh, Garn .....                  | Merioneth             | 20   | 16   | 22   | 24   | 19  | 15   | 23   | 13   | 14   | 11   | 12   | 17   | 216   | 77.12            | .36                 |
| Dolgelly, Bryntirion .....           | Carnarvon             | 25   | 19   | 22   | 26   | 16  | 14   | 25   | 10   | 17   | 12   | 12   | 16   | 212   | 56.66            | .27                 |
| Abersoch .....                       | Anglesey              | 26   | 17   | 24   | 27   | 17  | 17   | 26   | 16   | 16   | 15   | 16   | 14   | 231   | 48.22            | .21                 |
| Llanerchymedd, Llwydiarth Esgob.     | (Mean of 48 Stations) | 22   | 15   | 19   | 25   | 16  | 12   | 24   | 11   | 14   | 12   | 12   | 21   | 203   | 40.27            | .20                 |
| <b>England &amp; Wales</b>           |                       |      |      |      |      |     |      |      |      |      |      |      |      |       |                  |                     |
| <b>ISLE OF MAN.</b>                  |                       |      |      |      |      |     |      |      |      |      |      |      |      |       |                  |                     |
| Douglas, Clypse Res., Onchan ....    | Isle of Man           | 24   | 15   | 22   | 25   | 18  | 11   | 25   | 13   | 18   | 12   | 17   | 20   | 221   | 47.54            | .22                 |
| <b>SCOTLAND.</b>                     |                       |      |      |      |      |     |      |      |      |      |      |      |      |       |                  |                     |
| Stoneykirk, Ardwell House .....      | Wigtown               | 27   | 18   | 22   | 19   | 21  | 15   | 27   | 13   | 17   | 15   | 18   | 21   | 233   | 45.52            | .20                 |
| Dumfries, Jardington .....           | Kirkcudbright         | 30   | 23   | 24   | 26   | 23  | 12   | 25   | 11   | 19   | 12   | 17   | 18   | 240   | 44.46            | .19                 |
| Canonbie, Irvine House .....         | Dumfries              | 5    | 26   | 19   | 21   | 23  | 11   | 23   | 13   | 17   | 8    | 14   | 20   | 218   | 50.86            | .23                 |
| Swinton House .....                  | Berwick               | 3    | 18   | 17   | 20   | 23  | 17   | 8    | 20   | 13   | 14   | 12   | 23   | 199   | 27.25            | .14                 |
| Liberton, The Inch .....             | Midlothian            | 5    | 18   | 15   | 18   | 21  | 18   | 6    | 21   | 12   | 8    | 14   | 16   | 180   | 28.82            | .16                 |
| Strathaven, East Overton House ..    | Lanark                | 24   | 17   | 23   | 21   | 23  | 14   | 29   | 17   | 20   | 11   | 19   | 19   | 237   | 49.93            | .21                 |
| Girvan, Pinnore .....                | Ayr                   | 26   | 19   | 24   | 20   | 21  | 17   | 26   | 14   | 16   | 14   | 20   | 22   | 252   | 52.35            | .21                 |
| Stirling, Touch Reservoir, No. 1 ... | Stirling              | 26   | 20   | 24   | 22   | 19  | 12   | 26   | 14   | 16   | 14   | 20   | 22   | 235   | 60.70            | .26                 |
| Dougarie Lodge .....                 | Bute                  | 26   | 21   | 26   | 21   | 24  | 17   | 25   | 14   | 23   | 14   | 19   | 19   | 249   | 51.52            | .21                 |
| Inveraray Castle Gardens .....       | Argyll                | 27   | 19   | 27   | 16   | 25  | 13   | 28   | 17   | 23   | 14   | 21   | 20   | 250   | 95.81            | .38                 |
| Islay, Eallabus .....                | "                     | 29   | 22   | 27   | 22   | 26  | 17   | 27   | 18   | 27   | 12   | 24   | 21   | 272   | 58.94            | .22                 |
| Mull, Ulva .....                     | "                     | 29   | 25   | 26   | 21   | 24  | 14   | 25   | 17   | 26   | 13   | 21   | 17   | 258   | 68.95            | .27                 |
| St. Andrews, Water Works .....       | Fife                  | 18   | 14   | 16   | 17   | 13  | 12   | 21   | 11   | 15   | 13   | 14   | 21   | 185   | 26.91            | .15                 |
| Aberfeldy, Dail Avon .....           | Perth                 | 24   | 22   | 20   | 21   | 19  | 10   | 24   | 14   | 19   | 15   | 20   | 24   | 232   | 43.49            | .19                 |
| Fettercairn, Police Station .....    | Kincardine            | 13   | 13   | 16   | 19   | 16  | 7    | 20   | 12   | 16   | 12   | 14   | 24   | 182   | 34.66            | .19                 |
| Balmoral Castle Gardens .....        | Aberdeen              | 27   | 18   | 21   | 25   | 19  | 8    | 24   | 15   | 19   | 14   | 16   | 23   | 229   | 34.70            | .15                 |
| New Deer Schoolhouse .....           | "                     | 16   | 14   | 20   | 21   | 19  | 7    | 20   | 15   | 15   | 12   | 10   | 18   | 187   | 26.84            | .14                 |
| Dufftown, Fife Street .....          | Banff                 | 24   | 16   | 15   | 21   | 19  | 10   | 29   | 19   | 19   | 14   | 13   | 16   | 215   | 31.91            | .15                 |
| Cluny Castle .....                   | Inverness             | 27   | 23   | 24   | 24   | 25  | 13   | 26   | 15   | 21   | 16   | 22   | 17   | 255   | 42.66            | .17                 |
| Loch Nevis, Inverie .....            | "                     | 29   | 22   | 26   | 20   | 25  | 15   | 24   | 16   | 24   | 12   | 22   | 17   | 252   | 87.78            | .35                 |

TABLE I.—Number of Rain Days in 1920—(con.).

| Station.                       | County.                       | Jan.      | Feb.      | Mar.      | Apr.      | May       | June      | July      | Aug.      | Sep.      | Oct.      | Nov.      | Dec.      | Year.      | Total Rain-fall. | Amount per Rain Day. |
|--------------------------------|-------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------------|----------------------|
| <b>SCOTLAND—(con.).</b>        |                               |           |           |           |           |           |           |           |           |           |           |           |           |            |                  |                      |
| Glenleven, Kinlochmore         | Inverness                     | 17        | 23        | 27        | 22        | 23        | 15        | 27        | 18        | 23        | 12        | 22        | 20        | 261        | 114.17           | .44                  |
| Skye, Portree                  | "                             | 18        | 22        | 25        | 24        | 24        | 17        | 26        | 18        | 26        | 12        | 22        | 17        | 261        | 67.46            | .26                  |
| Barra, Castle Bay              | "                             | 19        | 30        | 22        | 25        | 24        | 13        | 23        | 16        | 28        | 13        | 22        | 21        | 262        | 34.93            | .13                  |
| Fortrose                       | Ross                          | 3         | 17        | 14        | 20        | 16        | 8         | 20        | 13        | 16        | 7         | 13        | 10        | 171        | 20.65            | .12                  |
| Achnasheen, Ledgowan           | "                             | 4         | 28        | 25        | 22        | 22        | 14        | 23        | 15        | 22        | 12        | 20        | 17        | 245        | 81.94            | .33                  |
| Stornoway                      | "                             | 10        | 27        | 24        | 26        | 23        | 25        | 15        | 24        | 17        | 12        | 22        | 20        | 259        | 56.36            | .22                  |
| Loch More, Achfary             | Sutherland                    | 5         | 29        | 24        | 27        | 22        | 21        | 24        | 18        | 22        | 9         | 19        | 16        | 245        | 76.89            | .31                  |
| Thurso, Buckies                | Caithness                     | 3         | 27        | 22        | 23        | 22        | 10        | 22        | 14        | 17        | 9         | 21        | 19        | 230        | 34.30            | .15                  |
| <b>Scotland</b>                | <b>(Mean of 28 Stations)</b>  | <b>25</b> | <b>20</b> | <b>23</b> | <b>22</b> | <b>21</b> | <b>13</b> | <b>24</b> | <b>15</b> | <b>20</b> | <b>12</b> | <b>18</b> | <b>19</b> | <b>232</b> | <b>51.81</b>     | <b>.22</b>           |
| <b>IRELAND.</b>                |                               |           |           |           |           |           |           |           |           |           |           |           |           |            |                  |                      |
| Castletownshend, Seafield      | Cork                          | 6         | 27        | 19        | 25        | 19        | 16        | 17        | 7         | 17        | 17        | 20        | 16        | 217        | 55.08            | .25                  |
| Malloy, Summer Hill            | "                             | 9         | 26        | 17        | 23        | 25        | 21        | 13        | 13        | 16        | 20        | 23        | 16        | 239        | 50.89            | .21                  |
| Killarney, District Asylum     | Kerry                         | 3         | 29        | 25        | 24        | 26        | 23        | 20        | 14        | 23        | 17        | 25        | 19        | 273        | 56.55            | .21                  |
| Valentia, Glanleam             | "                             | 6         | 27        | 19        | 21        | 20        | 17        | 14        | 18        | 15        | 17        | 24        | 14        | 231        | 69.49            | .30                  |
| Waterford, Brook Lodge         | Waterford                     | 3         | 25        | 18        | 17        | 22        | 19        | 15        | 9         | 13        | 16        | 15        | 19        | 212        | 45.71            | .22                  |
| Nenagh, Castle Lough           | Tipperary                     | 1         | 27        | 20        | 20        | 25        | 24        | 20        | 17        | 21        | 15        | 23        | 20        | 261        | 45.25            | .17                  |
| Cashel, Ballinamona            | "                             | 3         | 26        | 17        | 21        | 26        | 22        | 17        | 14        | 21        | 14        | 22        | 18        | 243        | 38.53            | .16                  |
| Ennistymon House               | Clare                         | 2         | 27        | 21        | 23        | 24        | 17        | 21        | 17        | 21        | 15        | 25        | 18        | 253        | 53.54            | .21                  |
| Gorey, Courtown House          | Wexford                       | 4         | 24        | 17        | 16        | 20        | 17        | 11        | 9         | 10        | 17        | 17        | 18        | 198        | 44.63            | .23                  |
| Abbey Leix, Blandsfort         | Queen's County                | 2         | 25        | 18        | 19        | 25        | 21        | 13        | 14        | 15        | 15        | 17        | 17        | 227        | 40.90            | .18                  |
| Straffan House                 | Kildare                       | 2         | 20        | 16        | 17        | 24        | 21        | 12        | 14        | 12        | 12        | 13        | 12        | 196        | 38.31            | .20                  |
| Kells, Headfort                | Meath                         | 4         | 28        | 20        | 20        | 26        | 18        | 16        | 14        | 14        | 15        | 21        | 20        | 236        | 39.79            | .17                  |
| Moate, Coolatore               | Westmeath                     | 1         | 28        | 21        | 22        | 23        | 19        | 23        | 18        | 17        | 14        | 19        | 20        | 247        | 35.40            | .14                  |
| Ballynahinch Castle            | Galway                        | 3         | 28        | 22        | 28        | 21        | 27        | 18        | 29        | 20        | 21        | 27        | 22        | 292        | 66.88            | .23                  |
| Woodlawn                       | "                             | 4         | 27        | 19        | 24        | 25        | 25        | 17        | 21        | 21        | 19        | 24        | 17        | 263        | 41.51            | .16                  |
| Crossmolina, Enniscoe          | Mayo                          | 2         | 29        | 23        | 27        | 24        | 17        | 22        | 18        | 26        | 17        | 24        | 20        | 271        | 64.07            | .24                  |
| Collooney, Markree Observatory | Sligo                         | 2         | 29        | 20        | 23        | 23        | 25        | 15        | 18        | 25        | 15        | 25        | 18        | 261        | 46.38            | .18                  |
| Belurbet, Cloverhill           | Cavan                         | 1         | 25        | 21        | 22        | 22        | 20        | 14        | 14        | 17        | 14        | 20        | 16        | 228        | 34.55            | .15                  |
| Seaforde                       | Down                          | 2         | 23        | 16        | 19        | 21        | 22        | 14        | 13        | 13        | 13        | 17        | 21        | 214        | 45.73            | .21                  |
| Ballymena, Harryville          | Antrim                        | 5         | 27        | 19        | 22        | 21        | 25        | 18        | 16        | 16        | 14        | 20        | 22        | 249        | 46.94            | .19                  |
| Omagh, Edenfel                 | Tyrone                        | 3         | 28        | 22        | 24        | 25        | 15        | 27        | 20        | 21        | 15        | 24        | 22        | 268        | 48.56            | .18                  |
| Milford, The Manse             | Donegal                       | 3         | 27        | 22        | 23        | 21        | 23        | 13        | 19        | 24        | 11        | 20        | 18        | 245        | 42.17            | .17                  |
| Killybegs, Rockmount           | "                             | 5         | 29        | 24        | 24        | 19        | 25        | 17        | 18        | 26        | 14        | 24        | 18        | 266        | 64.28            | .24                  |
| <b>Ireland</b>                 | <b>(Mean of 23 Stations)</b>  | <b>27</b> | <b>20</b> | <b>22</b> | <b>23</b> | <b>22</b> | <b>16</b> | <b>24</b> | <b>15</b> | <b>19</b> | <b>16</b> | <b>21</b> | <b>18</b> | <b>243</b> | <b>48.46</b>     | <b>.20</b>           |
| <b>British Isles</b>           | <b>(Mean of 100 Stations)</b> | <b>24</b> | <b>17</b> | <b>21</b> | <b>23</b> | <b>19</b> | <b>13</b> | <b>24</b> | <b>13</b> | <b>17</b> | <b>13</b> | <b>16</b> | <b>20</b> | <b>220</b> | <b>45.41</b>     | <b>.21</b>           |

TABLE IV.—*Number of Wet Days (Days with 1 mm. or .04 in. of Rain or more) in 1920.*

| Station.                             | County.                | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Year. | Total<br>Rain<br>Days. | Days with<br>.04 as %<br>of Rain<br>Days. |
|--------------------------------------|------------------------|------|------|------|------|------|-------|-------|------|-------|------|------|------|-------|------------------------|---|
| ENGLAND AND WALES.                   |                        |      |      |      |      |      |       |       |      |       |      |      |      |       |                        |   |
| St. Pancras, Camden Square .....     | London .....           | 12   | 5    | 11   | 16   | 7    | 6     | 14    | 2    | 12    | 7    | 5    | 16   | 113   | 164                    | 69  |
| Tenterden, View Tower .....          | Kent .....             | 14   | 6    | 8    | 17   | 7    | 3     | 15    | 4    | 10    | 5    | 7    | 18   | 114   | 183                    | 62  |
| Patcham .....                        | Sussex .....           | 18   | 6    | 14   | 19   | 8    | 9     | 14    | 5    | 10    | 7    | 8    | 13   | 122   | 184                    | 72  |
| Lymington, The Salterns .....        | Hampshire .....        | 16   | 5    | 11   | 15   | 9    | 7     | 16    | 3    | 10    | 8    | 7    | 13   | 122   | 178                    | 69  |
| Petersfield, Ditcham Park .....      | " .....                | 20   | 4    | 13   | 19   | 12   | 8     | 16    | 7    | 9     | 7    | 9    | 18   | 145   | 207                    | 70  |
| Upton .....                          | Berkshire .....        | 10   | 4    | 10   | 15   | 11   | 10    | 15    | 4    | 8     | 9    | 8    | 13   | 117   | 185                    | 63  |
| Newport Pagnell, The Croft .....     | Buckinghamshire .....  | 5    | 3    | 14   | 21   | 11   | 6     | 15    | 9    | 11    | 7    | 5    | 14   | 128   | 191                    | 67  |
| Eye, Northolm .....                  | Northamptonshire ..... | 12   | 4    | 11   | 17   | 10   | 8     | 13    | 6    | 13    | 5    | 6    | 10   | 115   | 196                    | 59  |
| Cambridge, Cherryhinton .....        | Cambridgeshire .....   | 13   | 4    | 13   | 19   | 7    | 5     | 15    | 7    | 12    | 4    | 5    | 14   | 118   | 185                    | 64  |
| Bradwell-on-Sea, Bradwell Hall ..... | Essex .....            | 10   | 3    | 9    | 17   | 7    | 5     | 13    | 8    | 11    | 4    | 4    | 16   | 107   | 160                    | 67  |
| Haughley, Haughley House .....       | Suffolk .....          | 13   | 4    | 10   | 23   | 7    | 4     | 14    | 9    | 10    | 3    | 5    | 19   | 121   | 169                    | 72  |
| Yarmouth, Burgh Hall .....           | " .....                | 11   | 4    | 8    | 19   | 5    | 6     | 12    | 8    | 11    | 5    | 7    | 20   | 116   | 173                    | 67  |
| Swaffham .....                       | Norfolk .....          | 12   | 3    | 10   | 17   | 8    | 6     | 14    | 9    | 13    | 3    | 6    | 22   | 123   | 164                    | 75  |
| Salisbury Plain, Shrewton .....      | Wiltshire .....        | 14   | 10   | 16   | 21   | 12   | 11    | 20    | 5    | 7     | 11   | 9    | 14   | 150   | 216                    | 69  |
| Dorchester, Wollaston House .....    | Dorsetshire .....      | 18   | 5    | 16   | 20   | 9    | 10    | 20    | 4    | 8     | 9    | 8    | 14   | 141   | 198                    | 71  |
| Holne, Church Park Cottage .....     | South Devon .....      | 23   | 10   | 19   | 20   | 9    | 10    | 20    | 4    | 7     | 13   | 8    | 19   | 162   | 203                    | 80  |
| Martinhoe Rectory .....              | North Devon .....      | 22   | 12   | 17   | 20   | 11   | 15    | 21    | 12   | 9     | 13   | 14   | 15   | 181   | 223                    | 81  |
| Morwenstow Vicarage .....            | Cornwall .....         | 24   | 10   | 20   | 19   | 12   | 12    | 23    | 10   | 10    | 16   | 11   | 15   | 182   | 257                    | 71  |
| St. Austell, Trevarna .....          | " .....                | 23   | 9    | 17   | 19   | 10   | 9     | 20    | 6    | 10    | 16   | 10   | 15   | 164   | 214                    | 77  |
| Angersleigh, Leigh Court .....       | Somersetshire .....    | 15   | 10   | 16   | 22   | 11   | 10    | 16    | 5    | 7     | 10   | 9    | 14   | 145   | 202                    | 72  |
| Mickleton, Bank House .....          | Gloucestershire .....  | 13   | 5    | 12   | 18   | 7    | 11    | 15    | 8    | 11    | 9    | 4    | 10   | 123   | 188                    | 65  |
| Clifton, Harley Place .....          | " .....                | 15   | 6    | 16   | 15   | 11   | 11    | 14    | 6    | 6     | 12   | 6    | 10   | 128   | 204                    | 73  |
| Hereford, Holmer Hall .....          | Herefordshire .....    | 17   | 8    | 16   | 22   | 11   | 11    | 14    | 5    | 7     | 12   | 7    | 11   | 168   | 227                    | 74  |
| Shifnal, Hatton Grange .....         | Shropshire .....       | 17   | 8    | 16   | 24   | 14   | 15    | 23    | 8    | 13    | 12   | 7    | 14   | 147   | 200                    | 73  |
| Ashbourne, Mayfield House .....      | Staffordshire .....    | 5    | 18   | 10   | 24   | 14   | 11    | 16    | 5    | 7     | 9    | 7    | 14   | 133   | 174                    | 76  |
| Leicester, Stoughton Drive .....     | Leicestershire .....   | 12   | 10   | 12   | 20   | 12   | 6     | 19    | 7    | 10    | 8    | 5    | 12   | 132   | 168                    | 79  |
| Spilsby, Ashby Road .....            | Lincolnshire .....     | 14   | 7    | 9    | 20   | 12   | 8     | 13    | 6    | 13    | 5    | 7    | 18   | 132   | 195                    | 64  |
| Workshop, Hodsock Priory .....       | Nottinghamshire .....  | 5    | 12   | 6    | 11   | 9    | 10    | 18    | 4    | 7     | 7    | 6    | 15   | 125   | 195                    | 75  |
| Northwich, Winnington .....          | Cheshire .....         | 20   | 10   | 16   | 23   | 16   | 9     | 17    | 12   | 11    | 6    | 6    | 11   | 157   | 208                    | 79  |
| St. Michael's-on-Wyre Vicarage ..... | North Lancashire ..... | 18   | 12   | 21   | 19   | 14   | 10    | 24    | 9    | 13    | 8    | 9    | 14   | 171   | 217                    | 87  |
| Settle Gas Works .....               | Yorkshire, W.R. ....   | 23   | 16   | 18   | 25   | 19   | 10    | 22    | 9    | 11    | 9    | 10   | 17   | 216   | 267                    | 80  |
| Meltham, Harewood Lodge .....        | " .....                | 21   | 11   | 17   | 26   | 18   | 12    | 19    | 12   | 10    | 9    | 9    | 18   | 182   | 227                    | 83  |
| Hull, Pearson Park .....             | " .....                | 12   | 6    | 10   | 20   | 10   | 5     | 17    | 4    | 9     | 6    | 5    | 18   | 122   | 193                    | 63  |
| Felixkirk, Mount St. John .....      | " .....                | 15   | 7    | 14   | 20   | 10   | 5     | 21    | 8    | 9     | 6    | 6    | 14   | 135   | 191                    | 71  |
| Aislaby, Park Hall .....             | " .....                | 12   | 7    | 11   | 18   | 9    | 3     | 15    | 10   | 10    | 6    | 5    | 15   | 121   | 181                    | 67  |
| Sunderland, West Hendon House .....  | Durham .....           | 12   | 4    | 12   | 16   | 11   | 4     | 18    | 7    | 14    | 7    | 5    | 17   | 127   | 185                    | 69  |
| Glanton, Glanton Pyke Gardens .....  | Northumberland .....   | 15   | 10   | 12   | 17   | 12   | 5     | 17    | 10   | 11    | 9    | 8    | 20   | 146   | 193                    | 76  |

TABLE IV.—*Number of Wet Days (Days with 1 mm. or .04 in. of Rain or more in 1920)—(con.).*

| Station.                               | County.                         | Jan.      | Feb.     | Mar.      | Apr.      | May.      | June.    | July.     | Aug.     | Sept.     | Oct.     | Nov.     | Dec.      | Year.      | Total Rain Days. | Days with .04 as % of Rain Days. |
|--|---------------------------------|-----------|----------|-----------|-----------|-----------|----------|-----------|----------|-----------|----------|----------|-----------|------------|------------------|----------------------------------|
| <b>ENGLAND AND WALES—(con.).</b>       |                                 |           |          |           |           |           |          |           |          |           |          |          |           |            |                  |                                  |
| Appleby, Castle Bank .....             | Westmorland.....                | 21        | 17       | 20        | 24        | 19        | 7        | 23        | 9        | 10        | 7        | 9        | 19        | 185        | 225              | 82                               |
| Dunoon, Castle Bank .....              | " .....                         | 28        | 19       | 23        | 23        | 19        | 15       | 23        | 10       | 14        | 9        | 15       | 16        | 214        | 251              | 85                               |
| Treherbert, Tyn-y-waun .....           | Glamorgan .....                 | 25        | 15       | 20        | 25        | 14        | 14       | 26        | 12       | 14        | 12       | 13       | 15        | 205        | 239              | 86                               |
| Carmarthen, The Friary .....           | Carmarthen .....                | 22        | 16       | 22        | 24        | 14        | 13       | 25        | 10       | 9         | 12       | 9        | 15        | 194        | 240              | 81                               |
| Fishguard, Dwrbach .....               | Pembroke .....                  | 25        | 14       | 20        | 24        | 11        | 12       | 23        | 10       | 14        | 15       | 14       | 17        | 199        | 240              | 83                               |
| Birmingham W.W., Tyrmynydd .....       | Radnor .....                    | 23        | 15       | 18        | 26        | 13        | 15       | 22        | 8        | 10        | 11       | 10       | 16        | 187        | 221              | 85                               |
| Newtown, Penarth Weir .....            | Montgomery .....                | 17        | 10       | 15        | 23        | 14        | 10       | 16        | 8        | 10        | 8        | 9        | 15        | 155        | 196              | 79                               |
| Denbigh, Garn .....                    | Denbigh .....                   | 17        | 12       | 16        | 21        | 14        | 11       | 23        | 13       | 11        | 8        | 8        | 15        | 169        | 228              | 74                               |
| Dolgelly, Bryntirion .....             | Merioneth .....                 | 24        | 17       | 20        | 26        | 18        | 13       | 21        | 10       | 13        | 10       | 9        | 15        | 196        | 216              | 91                               |
| Abersoch .....                         | Carnarvon .....                 | 23        | 17       | 21        | 24        | 15        | 11       | 25        | 10       | 15        | 12       | 11       | 15        | 199        | 212              | 94                               |
| Llanerchymedd, Lliwydiarth Esgob ..... | Anglesey .....                  | 18        | 15       | 17        | 24        | 15        | 13       | 22        | 11       | 15        | 10       | 9        | 11        | 180        | 231              | 78                               |
| <b>England and Wales.....</b>          | <b>(Mean of 48 Stations)...</b> | <b>17</b> | <b>9</b> | <b>15</b> | <b>20</b> | <b>12</b> | <b>9</b> | <b>18</b> | <b>8</b> | <b>11</b> | <b>9</b> | <b>8</b> | <b>15</b> | <b>151</b> | <b>203</b>       | <b>74</b>                        |
| <b>ISLE OF MAN.</b>                    |                                 |           |          |           |           |           |          |           |          |           |          |          |           |            |                  |                                  |
| Douglas, Clype Res., Onchan.....       | Isle of Man .....               | 19        | 15       | 17        | 21        | 14        | 8        | 19        | 8        | 13        | 10       | 9        | 17        | 170        | 221              | 77                               |
| <b>SCOTLAND.</b>                       |                                 |           |          |           |           |           |          |           |          |           |          |          |           |            |                  |                                  |
| Stoneykirk, Ardwell House.....         | Wigtown .....                   | 24        | 13       | 16        | 15        | 18        | 10       | 19        | 12       | 13        | 11       | 15       | 17        | 183        | 233              | 79                               |
| Dumfries, Jardington .....             | Kirkcudbright .....             | 24        | 17       | 18        | 17        | 18        | 11       | 17        | 8        | 14        | 8        | 11       | 18        | 181        | 240              | 75                               |
| Canonbie, Irvine House .....           | Dumfries .....                  | 23        | 17       | 19        | 22        | 18        | 11       | 21        | 8        | 9         | 5        | 11       | 17        | 181        | 218              | 83                               |
| Swinton House .....                    | Berwick .....                   | 14        | 9        | 14        | 13        | 10        | 4        | 15        | 5        | 8         | 8        | 7        | 14        | 121        | 199              | 61                               |
| Liberton, The Inch .....               | Midlothian .....                | 15        | 12       | 12        | 12        | 13        | 4        | 13        | 10       | 9         | 5        | 11       | 12        | 128        | 180              | 71                               |
| Strathaven, East Overton House ..      | Lanark .....                    | 24        | 16       | 18        | 16        | 20        | 7        | 26        | 14       | 14        | 7        | 13       | 15        | 190        | 237              | 80                               |
| Girvan, Pinnore .....                  | Ayr .....                       | 24        | 14       | 19        | 17        | 19        | 15       | 23        | 15       | 16        | 12       | 20       | 16        | 210        | 252              | 83                               |
| Stirling, Touch Reservoir No. 1 ..     | Stirling .....                  | 22        | 18       | 21        | 17        | 16        | 10       | 20        | 11       | 13        | 9        | 20       | 19        | 196        | 235              | 83                               |
| Dougarie Lodge .....                   | Bute .....                      | 24        | 18       | 19        | 14        | 23        | 12       | 19        | 11       | 15        | 11       | 16       | 16        | 198        | 249              | 79                               |
| Inveraray, Castle Gardens .....        | Argyll .....                    | 26        | 18       | 24        | 14        | 25        | 13       | 28        | 14       | 22        | 13       | 20       | 18        | 235        | 250              | 94                               |
| Islay, Eallabus .....                  | " .....                         | 27        | 19       | 23        | 18        | 21        | 13       | 24        | 13       | 25        | 10       | 22       | 18        | 233        | 272              | 86                               |
| Mull, Uiva .....                       | " .....                         | 27        | 22       | 24        | 15        | 20        | 10       | 22        | 15       | 23        | 10       | 21       | 15        | 224        | 258              | 87                               |
| St. Andrews, Water Works .....         | Fife .....                      | 13        | 8        | 13        | 12        | 12        | 6        | 15        | 9        | 10        | 7        | 11       | 18        | 134        | 185              | 72                               |
| Aberfeldy, Dall Avon .....             | Perth .....                     | 11        | 8        | 15        | 9         | 11        | 7        | 14        | 10       | 13        | 9        | 15       | 18        | 154        | 232              | 66                               |
| Fettercairn, Police Station .....      | Kincardine .....                | 11        | 11       | 13        | 16        | 13        | 5        | 17        | 11       | 14        | 10       | 9        | 19        | 146        | 182              | 80                               |
| Balmoral Castle Gardens .....          | Aberdeen .....                  | 12        | 14       | 13        | 14        | 13        | 5        | 16        | 9        | 10        | 10       | 11       | 17        | 144        | 229              | 63                               |
| New Deer Schoolhouse .....             | " .....                         | 10        | 9        | 13        | 16        | 15        | 4        | 13        | 10       | 12        | 9        | 9        | 16        | 136        | 187              | 73                               |
| Dufftown, Fife Street .....            | Banff .....                     | 16        | 11       | 10        | 19        | 14        | 7        | 19        | 14       | 11        | 8        | 9        | 12        | 150        | 215              | 70                               |
| Cluny Castle .....                     | Inverness .....                 | 22        | 20       | 19        | 17        | 18        | 9        | 19        | 12       | 15        | 10       | 15       | 14        | 190        | 255              | 75                               |
| Loch Nevis, Inverie .....              | " .....                         | 27        | 21       | 25        | 15        | 23        | 12       | 21        | 13       | 19        | 10       | 20       | 16        | 222        | 252              | 88                               |

TABLE IV.—Number of Wet Days (Days with 1 mm or .04 in. of Rain or more) in 1920—(con.).

| Station.                             | County.                          | Jan.      | Feb.      | Mar.      | Apr.      | May.      | June.     | July.     | Aug.      | Sept.     | Oct.      | Nov.      | Dec.      | Year.      | Total Rain Days. | Days with .04 as % of Rain Days. |
|--------------------------------------|----------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------------|----------------------------------|
| <b>SCOTLAND—(con.).</b>              |                                  |           |           |           |           |           |           |           |           |           |           |           |           |            |                  |                                  |
| Glenleven, Kinlochmore .....         | Inverness .....                  | 28        | 21        | 25        | 18        | 21        | 12        | 25        | 14        | 21        | 9         | 21        | 16        | 231        | 261              | 89                               |
| Skye, Portree .....                  | " .....                          | 28        | 21        | 25        | 20        | 21        | 13        | 22        | 14        | 25        | 9         | 20        | 16        | 234        | 261              | 90                               |
| Barra, Castle Bay .....              | " .....                          | 26        | 18        | 20        | 9         | 20        | 7         | 15        | 9         | 20        | 10        | 20        | 15        | 189        | 262              | 72                               |
| Fortrose .....                       | Ross .....                       | 13        | 16        | 13        | 15        | 13        | 4         | 15        | 10        | 10        | 6         | 5         | 6         | 126        | 171              | 74                               |
| Achnasheen, Ledgowan .....           | " .....                          | 28        | 25        | 21        | 17        | 21        | 12        | 19        | 10        | 19        | 7         | 19        | 16        | 214        | 245              | 87                               |
| Stornoway .....                      | " .....                          | 4         | 26        | 23        | 24        | 16        | 22        | 11        | 20        | 21        | 10        | 21        | 16        | 221        | 259              | 85                               |
| Loch More, Achfary .....             | Sutherland .....                 | 28        | 23        | 26        | 19        | 20        | 9         | 23        | 15        | 19        | 8         | 18        | 13        | 221        | 245              | 90                               |
| Thurso, Buckies .....                | Caithness .....                  | 22        | 14        | 16        | 18        | 18        | 6         | 16        | 8         | 17        | 7         | 17        | 15        | 174        | 230              | 76                               |
| <b>Scotland .....</b>                | <b>(Mean of 28 Stations) ..</b>  | <b>21</b> | <b>16</b> | <b>18</b> | <b>16</b> | <b>18</b> | <b>9</b>  | <b>19</b> | <b>11</b> | <b>16</b> | <b>10</b> | <b>15</b> | <b>16</b> | <b>185</b> | <b>232</b>       | <b>80</b>                        |
| <b>IRELAND.</b>                      |                                  |           |           |           |           |           |           |           |           |           |           |           |           |            |                  |                                  |
| Castletownshend, Seafield .....      | Cork .....                       | 25        | 16        | 19        | 15        | 14        | 14        | 14        | 6         | 13        | 13        | 17        | 15        | 181        | 217              | 83                               |
| Malloy, Summer Hill .....            | " .....                          | 22        | 11        | 18        | 19        | 15        | 9         | 19        | 8         | 10        | 16        | 17        | 16        | 180        | 239              | 75                               |
| Killarney, District Asylum .....     | Kerry .....                      | 23        | 15        | 19        | 20        | 17        | 12        | 17        | 8         | 14        | 12        | 19        | 16        | 192        | 273              | 70                               |
| Valentia, Glanleam .....             | " .....                          | 26        | 18        | 19        | 18        | 15        | 14        | 22        | 16        | 14        | 15        | 24        | 14        | 215        | 231              | 93                               |
| Waterford, Brook Lodge .....         | Waterford .....                  | 21        | 13        | 16        | 19        | 15        | 10        | 20        | 8         | 12        | 15        | 13        | 13        | 175        | 212              | 83                               |
| Nenagh, Castle Lough .....           | Tipperary .....                  | 24        | 16        | 17        | 20        | 17        | 13        | 22        | 11        | 14        | 12        | 17        | 16        | 199        | 261              | 76                               |
| Casheil, Ballinamona .....           | " .....                          | 21        | 14        | 18        | 17        | 13        | 10        | 20        | 9         | 16        | 13        | 16        | 15        | 182        | 243              | 75                               |
| Ennistymon House .....               | Clare .....                      | 26        | 20        | 20        | 21        | 19        | 16        | 18        | 14        | 18        | 14        | 23        | 16        | 225        | 253              | 89                               |
| Gorey, Courtown House .....          | Wexford .....                    | 17        | 10        | 14        | 14        | 11        | 9         | 18        | 8         | 7         | 16        | 9         | 14        | 147        | 198              | 74                               |
| Abbey Leix, Blandsfort .....         | Queen's County .....             | 24        | 15        | 19        | 21        | 15        | 8         | 19        | 12        | 8         | 13        | 13        | 14        | 181        | 227              | 80                               |
| Straffan House .....                 | Kildare .....                    | 17        | 14        | 13        | 21        | 20        | 7         | 21        | 13        | 13        | 11        | 11        | 11        | 172        | 196              | 88                               |
| Kells, Headfort .....                | Meath .....                      | 21        | 16        | 15        | 18        | 16        | 10        | 20        | 11        | 12        | 9         | 14        | 16        | 178        | 236              | 75                               |
| Moate, Coolatore .....               | Westmeath .....                  | 21        | 15        | 17        | 18        | 16        | 13        | 19        | 14        | 12        | 11        | 16        | 13        | 185        | 247              | 75                               |
| Ballynahinch Castle .....            | Galway .....                     | 27        | 21        | 23        | 18        | 24        | 16        | 21        | 13        | 27        | 13        | 24        | 16        | 243        | 292              | 83                               |
| Woodlawn .....                       | " .....                          | 25        | 16        | 18        | 22        | 22        | 12        | 21        | 12        | 16        | 9         | 20        | 13        | 202        | 263              | 77                               |
| Crossmolina, Enniscove .....         | Mayo .....                       | 26        | 20        | 24        | 23        | 22        | 15        | 21        | 17        | 24        | 13        | 21        | 17        | 243        | 271              | 90                               |
| Collooney, Markree Observatory ..... | Sligo .....                      | 26        | 17        | 21        | 19        | 20        | 12        | 21        | 14        | 17        | 8         | 19        | 15        | 209        | 261              | 80                               |
| Belturbet, Cloverhill .....          | Cavan .....                      | 22        | 15        | 18        | 16        | 18        | 10        | 20        | 11        | 13        | 10        | 16        | 14        | 183        | 228              | 80                               |
| Seaforde .....                       | Down .....                       | 20        | 13        | 17        | 19        | 15        | 9         | 20        | 11        | 11        | 12        | 14        | 18        | 179        | 214              | 84                               |
| Ballymena, Harryville .....          | Antrim .....                     | 25        | 17        | 19        | 17        | 21        | 16        | 21        | 15        | 15        | 14        | 16        | 17        | 213        | 249              | 86                               |
| Omagh, Edenfel .....                 | Tyrone .....                     | 26        | 19        | 21        | 20        | 21        | 13        | 21        | 13        | 15        | 13        | 19        | 16        | 217        | 268              | 81                               |
| Milford, The Manse .....             | Donegal .....                    | 26        | 18        | 22        | 18        | 22        | 12        | 18        | 11        | 19        | 10        | 18        | 13        | 207        | 245              | 84                               |
| Killybegs, Rockmount .....           | " .....                          | 27        | 18        | 22        | 15        | 23        | 13        | 25        | 15        | 23        | 11        | 22        | 16        | 230        | 266              | 86                               |
| <b>Ireland .....</b>                 | <b>(Mean of 23 Stations) ..</b>  | <b>23</b> | <b>16</b> | <b>19</b> | <b>18</b> | <b>18</b> | <b>12</b> | <b>20</b> | <b>12</b> | <b>14</b> | <b>12</b> | <b>17</b> | <b>16</b> | <b>197</b> | <b>243</b>       | <b>81</b>                        |
| <b>British Isles .....</b>           | <b>(Mean of 100 Stations) ..</b> | <b>20</b> | <b>13</b> | <b>17</b> | <b>19</b> | <b>15</b> | <b>10</b> | <b>19</b> | <b>9</b>  | <b>13</b> | <b>9</b>  | <b>12</b> | <b>15</b> | <b>171</b> | <b>220</b>       | <b>78</b>                        |



## DROUGHTS IN 1920.

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Comparable data now exist for a period of thirty-four years of the occurrence of droughts under the following definitions :—

An **Absolute Drought** is a period of *more than* fourteen consecutive days (*i.e.*, fifteen or more), no one of which is a rain day.

A **Partial Drought** is a period of *more than* twenty-eight consecutive days (*i.e.*, twenty-nine or more), the mean rainfall of which does not exceed  $\cdot 01$  in. per day.

With the introduction into *British Rainfall*, 1919, p. 15, of the term “wet day,” a third definition was drawn up as follows (the reasons for this innovation were given in *British Rainfall*, 1919) :—

A **Dry Spell** is a period of fifteen or more consecutive days, no one of which is a “Wet Day.” [A “Wet Day” for the purpose of this definition is a day ending at 9 h. (G.M.T.) on which 1 mm., or  $\cdot 04$  in., or more of rain is recorded.]

We have now comparative lists for two years of all the instances included under the three definitions. Those occurring at any of the one hundred selected stations will be found on pp. 20–23. The names of those stations at which no droughts were experienced during the year have been omitted ; they appear in full in Tables on pp. 12–14.

It will be noticed that, as in 1919, the number of dry spells was considerably greater than either the number of absolute or partial droughts, insignificant amounts of rainfall frequently being sufficient to exclude a dry period from either of these two groups. The new definition has the advantage of bringing out this year an interesting dry period in December in the rainy district of the south-west of Ireland and in Wales, which would otherwise have escaped notice.

The year 1920 was like 1918 in being unusually free from droughts. Of the 100 stations, 84 recorded no absolute drought and 79 no partial drought ; the former figure representing the largest immune area recorded since 1904. Only two stations recorded more than one absolute drought and only one, Fortrose, in Ross-shire, more than one partial drought. The mean duration of both absolute and partial droughts was close to the average. The geographical distribution of droughts was less well defined than usual, but they were, as is commonly the case, confined mainly to the east of Great Britain.

Similarly the area affected by dry spells was principally the eastern half of Great Britain. Part of the south-west of Ireland was also involved.

*Comparative Summary of Droughts, 1887-1920.*

| ABSOLUTE DROUGHTS. |   |           |           |                             | PARTIAL DROUGHTS.                         |           |           |                             |
|--------------------|---|-----------|-----------|-----------------------------|---|-----------|-----------|-----------------------------|
|                    | No. of<br>Droughts<br>at 100<br>Stations. | Duration. |           | Stations<br>without<br>one. | No. of<br>Droughts<br>at 100<br>Stations. | Duration. |           | Stations<br>without<br>one. |
|                    |   | Mean.     | Greatest. |                             |   | Mean.     | Greatest. |                             |
|                    |   | Days.     | Days.     |                             |   | Days.     | Days.     |                             |
| 1887               | 160                                       | 21        | 34        | 4                           | 116                                       | 40        | 74        | 18                          |
| 1888               | 34  | 17        | 20        | 70                          | 8   | 42        | 50        | 92                          |
| 1889               | 84  | 21        | 30        | 26                          | 76  | 34        | 45        | 30                          |
| 1890               | 26  | 18        | 20        | 78                          | 6   | 30        | 31        | 94                          |
| 1891               | 52  | 18        | 34        | 56                          | 76  | 36        | 49        | 28                          |
| 1892               | 72  | 16        | 20        | 50                          | 34  | 35        | 64        | 66                          |
| 1893               | 78  | 20        | 44        | 46                          | 106                                       | 51        | 114       | 20                          |
| 1894               | 104                                       | 18        | 31        | 20                          | 88  | 37        | 62        | 26                          |
| 1895               | 104                                       | 19        | 29        | 32                          | 94  | 39        | 64        | 38                          |
| 1896               | 54  | 18        | 26        | 50                          | 98  | 40        | 75        | 32                          |
| 1897               | 40  | 18        | 20        | 62                          | 14  | 40        | 61        | 88                          |
| 1898               | 62  | 17        | 28        | 54                          | 62  | 38        | 77        | 52                          |
| 1899               | 120                                       | 21        | 31        | 20                          | 82  | 35        | 48        | 40                          |
| 1900               | 28  | 17        | 21        | 76                          | 18  | 32        | 35        | 82                          |
| 1901               | 112                                       | 17        | 20        | 20                          | 18  | 37        | 56        | 84                          |
| 1902               | 10  | 17        | 18        | 90                          | 4   | 37        | 41        | 96                          |
| 1903               | 22  | 19        | 25        | 79                          | 33  | 34        | 41        | 71                          |
| 1904               | 12  | 16        | 18        | 88                          | 18  | 34        | 41        | 82                          |
| 1905               | 26  | 17        | 20        | 74                          | 59  | 36        | 48        | 60                          |
| 1906               | 73  | 17        | 25        | 47                          | 40  | 36        | 55        | 62                          |
| 1907               | 56  | 19        | 25        | 51                          | 30  | 32        | 41        | 71                          |
| 1908               | 74  | 18        | 32        | 48                          | 52  | 35        | 54        | 68                          |
| 1909               | 47  | 17        | 23        | 66                          | 18  | 37        | 51        | 84                          |
| 1910               | 32  | 16        | 24        | 70                          | 23  | 33        | 42        | 78                          |
| 1911               | 137                                       | 19        | 32        | 20                          | 137                                       | 36        | 75        | 19                          |
| 1912               | 105                                       | 19        | 32        | 26                          | 68  | 37        | 69        | 42                          |
| 1913               | 67  | 17        | 26        | 33                          | 52  | 37        | 62        | 54                          |
| 1914               | 49  | 20        | 25        | 65                          | 54  | 33        | 50        | 57                          |
| 1915               | 68  | 18        | 33        | 38                          | 56  | 36        | 50        | 57                          |
| 1916               | 52  | 20        | 29        | 51                          | 44  | 33        | 43        | 57                          |
| 1917               | 109                                       | 19        | 28        | 23                          | 64  | 33        | 61        | 46                          |
| 1918               | 20  | 16        | 18        | 83                          | 14  | 34        | 47        | 87                          |
| 1919               | 33  | 18        | 31        | 68                          | 44  | 38        | 50        | 63                          |
| Average            | 64  | 18        | 26        | 51                          | 52  | 36        | 55        | 59                          |
| 1920               | 18  | 17        | 22        | 84                          | 22  | 37        | 54        | 79                          |
| Diff.              | -46                                       | -1        | -4        | +33                         | -30                                       | +1        | -1        | +20                         |

NOTE.—The values previous to 1910 have been increased to the equivalent of 100 Stations for ready comparison. In the columns headed "Greatest," the figures refer to the selected Stations only.

*Dry Spells, 1919-1920.*

|      | Number at<br>100 Stations. | Duration. |           | Number of Stations with |                |                   |                  |
|------|----------------------------|-----------|-----------|-------------------------|----------------|-------------------|------------------|
|      |                            | Mean.     | Greatest. | None.                   | One or<br>two. | Three or<br>four. | Five or<br>more. |
|      |                            | Days.     | Days.     |                         |                |                   |                  |
| 1919 | 98                         | 19        | 38        | 35                      | 62             | 3                 | 0                |
| 1920 | 56                         | 18        | 31        | 55                      | 44             | 1                 | 0                |

It is interesting to note that, as in 1919, the mean rainfall per day during all "dry spells" recorded in the year was only  $\cdot 002$  in. In no individual spell did the mean rainfall per day reach  $\cdot 01$  in.

Turning to individual droughts, these were in no case widespread. The only dry period in the first five months was a dry spell recorded in February at Swaffham, in Norfolk. The first dry period of importance was that beginning about 1st June. It was best marked by the dry spell, only a few stations reporting either an absolute or partial drought. The area affected was the north-east of Scotland and north-east coast of England, no station in the south-east of England recording it. One or two stations in the south of England reported dry spells or partial droughts in August and September, but these were very local.

The most important droughty period of the year occurred in October continuing in some cases into November. The area affected extended over the east coast of England and the south-east and north-east of Scotland. The dry spell extended over more than one-fifth of the British Isles, and at Appleby, in Westmorland, it lasted from October 13th to November 12th, a period of 31 days. So widespread a drought has not occurred so late in the year since 1899, when over a large part of England the second half of November was practically rainless. The December dry spell began about the 4th. The areas affected were local and included the normally rainy areas of Munster and South Wales. The occurrence of drought in December in the west of Ireland is very remarkable, no instance having been noted for at least 34 years, and droughts in any winter month having been rare, as is shown by the following list, which gives all the instances of absolute droughts recorded in *British Rainfall* as occurring in the district, from November to February since 1887:—

|       |                                |                          |          |
|-------|--------------------------------|--------------------------|----------|
| 1888. | Limerick .. .. .               | Jan. 5 to Jan. 19 .. ..  | 15 days. |
| 1888. | " .. .. .                      | Feb. 19 to Mar. 4 .. ..  | 15 "     |
| 1895. | Collooney, Markree Observatory | Feb. 8 to Feb. 22 .. ..  | 15 "     |
| 1909. | Glanmire .. .. .               | Nov. 10 to Nov. 24 .. .. | 15 "     |
| 1911. | Nenagh .. .. .                 | Jan. 23 to Feb. 8 .. ..  | 17 "     |
| 1912. | Carrigaholt Castle .. ..       | Jan. 21 to Feb. 4 .. ..  | 15 "     |
| 1912. | Newport, Burrishoole House ..  | Jan. 21 to Feb. 4 .. ..  | 15 "     |
| 1920. | Castletownshead.. .. .         | Dec. 4 to Dec. 18 .. ..  | 15 "     |
| 1920. | Mallow, Summer Hill .. ..      | Dec. 4 to Dec. 18 .. ..  | 15 "     |

Between the two droughty periods of October and December a wet spell occurred in the latter part of November.

#### *Droughts in 1920.*

| Station and County.                          | ABSOLUTE DROUGHTS. |         |              | PARTIAL DROUGHTS. |         |              |            |
|--|--------------------|---------|--------------|-------------------|---------|--------------|------------|
|  | Began.             | Ended.  | Last-<br>ed. | Began.            | Ended.  | Last-<br>ed. | Rain.      |
| ENGLAND & WALES.                             |                    |         | Days.        |                   |         | Days.        | in.        |
| Tenterden (View Tower) ..<br><i>Kent</i> —1. | None.              |         |              | Oct. 16           | Nov. 13 | 29           | $\cdot 21$ |
| Patcham .. .. .<br><i>Sussex</i> —3.         | Oct. 16            | Oct. 30 | 15           | None.             |         |              |            |

*Droughts in 1920—(con.).*

| Station and County.           | ABSOLUTE DROUGHTS. |         |              | PARTIAL DROUGHTS. |         |              |       |
|-------------------------------|--------------------|---------|--------------|-------------------|---------|--------------|-------|
|                               | Began.             | Ended.  | Last-<br>ed. | Began.            | Ended.  | Last-<br>ed. | Rain. |
| ENGLAND & WALES<br>—(con.).   |                    |         | Days.        |                   |         | Days         | in.   |
| Eye (Northolm) . . . . .      | None.              |         |              | Oct. 2            | Oct. 30 | 29           | .26   |
| Northamptonshire—4.           |                    |         |              |                   |         |              |       |
| Cambridge (Cherryhinton)      | None.              |         |              | Oct. 3            | Nov. 13 | 42           | .39   |
| Cambridgeshire—2.             |                    |         |              |                   |         |              |       |
| Haughley (Haughley House)     | Oct. 16            | Oct. 30 | 15           | Oct. 2            | Nov. 13 | 43           | .26   |
| Suffolk—2.                    |                    |         |              |                   |         |              |       |
| Yarmouth (Burgh Hall) ..      | None.              |         |              | Oct. 2            | Nov. 13 | 43           | .32   |
| Suffolk—4.                    |                    |         |              |                   |         |              |       |
| Swaffham . . . . .            | Oct. 16            | Oct. 30 | 15           | Oct. 16           | Nov. 27 | 43           | .41   |
| Norfolk—4.                    |                    |         |              |                   |         |              |       |
| Salisbury Plain (Shrewton)    | None.              |         |              | Aug. 19           | Sep. 16 | 29           | .29   |
| Wiltshire—3.                  |                    |         |              |                   |         |              |       |
| Holne (Church Park Cott.)     | None.              |         |              | Aug. 5            | Sep. 13 | 40           | .37   |
| S. Devonshire—4.              |                    |         |              |                   |         |              |       |
| Spilsby (Ashby Road) ....     | Oct. 16            | Oct. 30 | 15           | Oct. 16           | Nov. 26 | 42           | .34   |
| Lincolnshire—4.               |                    |         |              |                   |         |              |       |
| Hull (Pearson Park) . . . . . | Oct. 24            | Nov. 11 | 19           | Oct. 5            | Nov. 27 | 54           | .44   |
| Yorkshire, E. Riding—3.       |                    |         |              |                   |         |              |       |
| Felixkirk (Mount St. John)    | None.              |         |              | Oct. 16           | Nov. 13 | 29           | .21   |
| Yorkshire, N. Riding—2.       |                    |         |              |                   |         |              |       |
| Aislaby (Park Hall) . . . . . | June 3             | June 19 | 17           | Oct. 16           | Nov. 26 | 42           | .32   |
| Yorkshire, N. Riding—5.       | Oct. 19            | Nov. 7  | 20           |                   |         |              |       |
| Sunderland (W.Hendon Ho.)     | Oct. 18            | Nov. 8  | 22           | Oct. 18           | Nov. 27 | 41           | .35   |
| Durham—2.                     |                    |         |              |                   |         |              |       |
| Glanton (Glanton Pyke) ..     | June 4             | June 19 | 16           | None.             |         |              |       |
| Northumberland—6.             |                    |         |              |                   |         |              |       |
| Appley (Castle Bank) ....     | Oct. 13            | Oct. 31 | 19           | Oct. 6            | Nov. 13 | 39           | .24   |
| Westmorland—1.                |                    |         |              |                   |         |              |       |
| Treherbert (Tyn-y-waun) ..    | Dec. 4             | Dec. 19 | 16           | None.             |         |              |       |
| Glamorgan—6.                  |                    |         |              |                   |         |              |       |
| SCOTLAND.                     |                    |         |              |                   |         |              |       |
| Canonbie (Irvine House) ..    | Oct. 15            | Nov. 3  | 20           | Oct. 6            | Nov. 6  | 32           | .29   |
| Dumfries—5.                   |                    |         |              |                   |         |              |       |
| Swinton House . . . . .       | None.              |         |              | Oct. 6            | Nov. 12 | 38           | .35   |
| Berwick—3.                    |                    |         |              |                   |         |              |       |
| Liberton (The Inch) . . . . . | None.              |         |              | Oct. 5            | Nov. 11 | 38           | .34   |
| Midlothian—5.                 |                    |         |              |                   |         |              |       |
| Strathaven (E.Overton Ho.)    | None.              |         |              | Oct. 8            | Nov. 5  | 29           | .17   |
| Lanark—5.                     |                    |         |              |                   |         |              |       |
| Inveraray Castle Gardens ..   | June 1             | June 15 | 15           | None.             |         |              |       |
| Argyll—11.                    |                    |         |              |                   |         |              |       |
| St. Andrews Water Works       | None.              |         |              | Oct. 6            | Nov. 11 | 37           | .27   |
| Fife—3.                       |                    |         |              |                   |         |              |       |
| Fortrose . . . . .            | June 4             | June 18 | 15           | May 22            | June 23 | 33           | .33   |
| Ross—3.                       | Oct. 16            | Nov. 4  | 20           | Oct. 5            | Nov. 12 | 39           | .31   |
| Achnasheen (Ledgowan) ..      | June 3             | June 17 | 15           | None.             |         |              |       |
| Ross—4.                       |                    |         |              |                   |         |              |       |
| Thurso (Buckies) . . . . .    | None.              |         |              | Oct. 6            | Nov. 3  | 29           | .23   |
| Caithness—3.                  |                    |         |              |                   |         |              |       |

*Droughts in 1920—(con.).*

| Station and County.                          | ABSOLUTE DROUGHTS. |         |              | PARTIAL DROUGHTS. |        |              |       |
|--|--------------------|---------|--------------|-------------------|--------|--------------|-------|
|  | Began.             | Ended.  | Last-<br>ed. | Began.            | Ended. | Last-<br>ed. | Rain. |
| IRELAND.                                     |                    |         |              |                   |        |              |       |
| Castletownshend (Seafield)<br><i>Cork—6.</i> | Dec. 4             | Dec. 18 | Days.<br>15  | None.             |        | Days.        | in.   |
| Mallow (Summer Hill) ....<br><i>Cork—9.</i>  | Dec. 4             | Dec. 18 | 15           | None.             |        |              |       |

*Dry Spells in 1920.*

| Station and County.   | Began.            | Ended.              | Last-<br>ed. | Rain-<br>fall. |
|---|-------------------|---------------------|--------------|----------------|
| ENGLAND & WALES.  |                   |                     |              |                |
| St. Pancras (Camden Square) .....<br><i>London—2.</i>                 | Aug. 3            | Aug. 17             | Days.<br>15  | in.<br>·11     |
| Tenterden (View Tower).....<br><i>Kent—1.</i>                         | Oct. 16           | Oct. 30             | 15           | ·01            |
| Patcham .....<br><i>Sussex—3.</i>                                     | Oct. 16           | Oct. 30             | 15           | ·00            |
| Lymington (The Salterns) .....<br><i>Hampshire—4.</i>                 | Oct. 16           | Oct. 30             | 15           | ·03            |
| Petersfield (Ditcham Park).....<br><i>Hampshire—5.</i>                | Oct. 16           | Oct. 30             | 15           | ·02            |
| Upton.....<br><i>Berkshire—5.</i>                                     | Aug. 24<br>Dec. 3 | Sept. 13<br>Dec. 17 | 21<br>15     | ·06<br>·10     |
| Eye (Northolm) .....<br><i>Northamptonshire—4.</i>                    | Oct. 16           | Oct. 30             | 15           | ·05            |
| Cambridge (Cherryhinton) .....<br><i>Cambridgeshire—2.</i>            | Oct. 15           | Oct. 30             | 16           | ·13            |
| Haughley (Haughley House) .....<br><i>Suffolk—2.</i>                  | Oct. 16           | Oct. 30             | 15           | ·00            |
| Yarmouth (Burgh Hall) .....<br><i>Suffolk—4.</i>                      | Oct. 16           | Oct. 30             | 15           | ·01            |
| Swaffham .....<br><i>Norfolk—4.</i>                                   | Feb. 1<br>Oct. 16 | Feb. 19<br>Nov. 13  | 19<br>29     | ·08<br>·05     |
| Holne (Church Park Cottage) .....<br><i>S. Devonshire—4.</i>          | Aug. 19           | Sept. 13            | 26           | ·05            |
| Hereford (Holmer Hall) .....<br><i>Herefordshire—1.</i>               | Dec. 3            | Dec. 19             | 17           | ·14            |
| Spilsby (Ashby Road) .....<br><i>Lincolnshire—4.</i>                  | Oct. 16           | Oct. 30             | 15           | ·00            |
| St. Michael's-on-Wyre Vicarage.....<br><i>North Lancashire—5.</i>     | Oct. 16           | Oct. 30             | 15           | ·02            |
| Hull (Pearson Park) .....<br><i>Yorkshire, East Riding—3.</i>         | Oct. 18           | Nov. 13             | 27           | ·05            |
| Felixkirk (Mount St. John) .....<br><i>Yorkshire, North Riding—2.</i> | June 1<br>Oct. 16 | June 17<br>Oct. 30  | 17<br>15     | ·05<br>·03     |
| Aislaby (Park Hall).....<br><i>Yorkshire, North Riding—5.</i>         | June 3<br>Oct. 18 | June 19<br>Nov. 7   | 17<br>21     | ·00<br>·01     |
| Sunderland (West Hendon House) .....<br><i>Durham—2.</i>              | June 4<br>Oct. 18 | June 19<br>Nov. 8   | 16<br>22     | ·03<br>·00     |
| Glanton (Glanton Pyke Gardens) .....<br><i>Northumberland—6.</i>      | June 4            | June 19             | 16           | ·00            |
| Appleby (Castle Bank) .....<br><i>Westmorland—1.</i>                  | Oct. 13           | Nov. 12             | 31           | ·09            |
| Treherbert (Tyn-y-waun) .....<br><i>Glamorgan—6.</i>                  | Dec. 4            | Dec. 19             | 16           | ·00            |

*Dry Spells in 1920—(con.).*

| Station and County.                  | Began.  | Ended.  | Lasted. | Rain-<br>fall. |
|--------------------------------------|---------|---------|---------|----------------|
| SCOTLAND.                            |         |         |         |                |
|                                      |         |         | Days.   | in.            |
| Canonbie (Irvine House).....         | Oct. 15 | Nov. 3  | 20      | ·00            |
| <i>Dumfries—5.</i>                   |         |         |         |                |
| Swinton House .....                  | June 4  | June 18 | 15      | ·01            |
| <i>Berwick—3.</i>                    | Oct. 16 | Oct. 30 | 15      | ·06            |
| Liberton (The Inch).....             | Oct. 16 | Nov. 3  | 19      | ·04            |
| <i>Midlothian—5.</i>                 |         |         |         |                |
| Strathaven (East Overton House)..... | June 2  | June 18 | 17      | ·06            |
| <i>Lanark—5.</i>                     | Oct. 15 | Nov. 3  | 20      | ·03            |
| Inveraray Castle Gardens .....       | June 1  | June 15 | 15      | ·00            |
| <i>Argyll—11.</i>                    |         |         |         |                |
| St. Andrews Water Works .....        | June 4  | June 18 | 15      | ·03            |
| <i>Fife—3.</i>                       |         |         |         |                |
| Aberfeldy (Dall Avon).....           | May 28  | June 17 | 21      | ·04            |
| <i>Perth—11.</i>                     |         |         |         |                |
| Fettercairn (Police Station) .....   | May 31  | June 19 | 20      | ·04            |
| <i>Kincardine—1.</i>                 |         |         |         |                |
| Balmoral Castle Gardens .....        | June 4  | June 19 | 16      | ·01            |
| <i>Aberdeen—1.</i>                   |         |         |         |                |
| New Deer Schoolhouse .....           | June 6  | June 27 | 22      | ·02            |
| <i>Aberdeen—4.</i>                   |         |         |         |                |
| Dufftown (Fife Street).....          | June 3  | June 23 | 21      | ·06            |
| <i>Banff—3</i>                       |         |         |         |                |
| Cluny Castle .....                   | June 2  | June 17 | 16      | ·01            |
| <i>Inverness—3.</i>                  |         |         |         |                |
| Skye (Portree) .....                 | Oct. 7  | Oct. 21 | 15      | ·06            |
| <i>Inverness—18.</i>                 |         |         |         |                |
| Barra (Castle Bay) .....             | June 1  | June 16 | 16      | ·05            |
| <i>Inverness—19.</i>                 |         |         |         |                |
| Fortrose.....                        | June 2  | June 18 | 17      | ·02            |
| <i>Ross—3.</i>                       | Oct. 16 | Nov. 11 | 27      | ·06            |
|                                      | Dec. 3  | Dec. 20 | 18      | ·03            |
| Achnasheen (Ledgowan) .....          | June 3  | June 19 | 17      | ·03            |
| <i>Ross—4.</i>                       | Oct. 8  | Oct. 29 | 22      | ·05            |
| Stornoway.....                       | June 3  | June 17 | 15      | ·04            |
| <i>Ross—10.</i>                      |         |         |         |                |
| Loch More (Achfary) .....            | June 3  | June 18 | 16      | ·04            |
| <i>Sutherland—5.</i>                 |         |         |         |                |
| Thurso (Buckies) .....               | June 3  | June 18 | 16      | ·03            |
| <i>Caithness—3.</i>                  | Oct. 16 | Nov. 3  | 19      | ·05            |
| IRELAND.                             |         |         |         |                |
| Castletownshend (Seafeld) .....      | Dec. 3  | Dec. 18 | 16      | ·03            |
| <i>Cork—6.</i>                       |         |         |         |                |
| Mallow (Summer Hill).....            | Dec. 4  | Dec. 18 | 15      | ·00            |
| <i>Cork—9.</i>                       |         |         |         |                |
| Killarney (District Asylum) .....    | Dec. 4  | Dec. 18 | 15      | ·04            |
| <i>Kerry—3.</i>                      |         |         |         |                |
| Nenagh (Castle Lough) .....          | Dec. 4  | Dec. 18 | 15      | ·07            |
| <i>Tipperary—1.</i>                  |         |         |         |                |

## RAIN SPELLS IN 1920.

The definition of a Rain Spell adopted in 1903 is :—

A **Rain Spell** is a period of *more than* fourteen consecutive days (*i.e.*, fifteen or more), every one of which is a Rain Day.

A Wet Spell is the antithesis of a Dry Spell, and the definition adopted in 1919 is :—

A **Wet Spell** is a period of fifteen or more consecutive days, every one of which is a Wet Day. [A “Wet Day” for the purpose of this definition is a day ending at 9 h. (G.M.T.) on which 1 mm., or  $\cdot 04$  in., or more, of rain is recorded.]

The particulars of all periods satisfying the definitions are set out in full on pp. 27–33, the names of stations at which no spell occurred being omitted, as in the case of the Drought Tables. The number of rain spells observed and the area affected were slightly less than the average of the past 18 years.

In all 165 rain spells were recorded at 68 out of the 100 stations, thus involving approximately two-thirds of the area of the British Isles. At 23 stations, that is over about one-quarter of the country, the number of rain spells was three or more. Of these, 12 stations, representing about one-eighth of the country, had three or four, and 11 stations recorded five or six. So large a number of stations had reached this figure only four times since 1903. The areas with rain spells lay almost entirely in the west, extending to the east coasts only locally. Areas with 60 days or more involved in rain spells were confined to the rainy districts of Ireland and the north-west of Scotland; and in the extreme west small areas in Co. Kerry, Co. Galway, and the west of Argyll and Inverness-shire rain spells continued during more than 100 days. The largest number of days reached was 137 at Ballynahinch Castle, in Connemara.

The number of wet spells under the new definition was, as last year, notably smaller than the number of rain spells. It is curious to note that the number of stations at which no wet spells were observed and at which no dry spells were observed both showed a considerable increase as compared with 1919.

In spite of the increase of area with no wet spells the total number of spells recorded was only two fewer than in 1919, there being as many as eight stations in 1920, representing about one-twelfth of the British Isles, with three or four. In England and Wales only small local areas

*Comparative Table of Rain Spells at 100 Stations, 1903-1920.*

| Year.   | No. of Rain Spells. | DURATION OF SPELLS. |                        |           |                        | STATIONS WITH |         |         |            |
|---------|---------------------|---------------------|------------------------|-----------|------------------------|---------------|---------|---------|------------|
|         |                     | Mean.               |                        | Greatest. |                        | None.         | 1 or 2. | 3 or 4. | 5 or more. |
|         |                     | Days.               | Mean rain per day. in. | Days.     | Mean rain per day. in. |               |         |         |            |
| 1903    | 282                 | 22                  | ·28                    | 52        | ·51                    | 11            | 41      | 26      | 22         |
| 1904    | 152                 | 19                  | ·22                    | 34        | ·27                    | 31            | 51      | 11      | 7          |
| 1905    | 121                 | 19                  | ·24                    | 44        | ·38                    | 45            | 39      | 12      | 4          |
| 1906    | 125                 | 21                  | ·25                    | 50        | ·40                    | 38            | 47      | 11      | 4          |
| 1907    | 177                 | 21                  | ·25                    | 45        | ·17                    | 38            | 30      | 18      | 14         |
| 1908    | 159                 | 19                  | ·24                    | 49        | ·43                    | 21            | 59      | 12      | 8          |
| 1909    | 110                 | 19                  | ·26                    | 45        | ·12                    | 36            | 52      | 12      | 0          |
| 1910    | 235                 | 21                  | ·25                    | 64        | ·30                    | 24            | 34      | 25      | 17         |
| 1911    | 185                 | 22                  | ·29                    | 39        | ·15                    | 19            | 50      | 23      | 8          |
| 1912    | 198                 | 22                  | ·27                    | 58        | ·19                    | 29            | 32      | 30      | 9          |
| 1913    | 128                 | 21                  | ·29                    | 64        | ·19                    | 44            | 34      | 19      | 3          |
| 1914    | 150                 | 22                  | ·29                    | 70        | ·28                    | 30            | 44      | 25      | 1          |
| 1915    | 132                 | 20                  | ·27                    | 38        | ·25                    | 34            | 47      | 16      | 3          |
| 1916    | 231                 | 20                  | ·29                    | 62        | ·28                    | 19            | 41      | 28      | 12         |
| 1917    | 152                 | 22                  | ·28                    | 52        | ·19                    | 30            | 48      | 17      | 5          |
| 1918    | 186                 | 23                  | ·30                    | 56        | ·21                    | 21            | 51      | 19      | 9          |
| 1919    | 143                 | 20                  | ·26                    | 46        | ·31                    | 29            | 53      | 14      | 4          |
| 1920    | 165                 | 20                  | ·25                    | 45        | ·24                    | 32            | 45      | 12      | 11         |
| Average | 168                 | 21                  | ·27                    | 51        | ·27                    | 30            | 44      | 18      | 8          |

NOTE.—The values previous to 1910 have been increased to the equivalent of 100 Stations for comparison. In the columns headed "Greatest" the figures refer to the selected Stations only.

*Wet Spells, 1919-1920.*

| Year. | Number of Wet Spells. | DURATION OF SPELLS. |                    |           |                    | STATIONS WITH |         |         |            |
|-------|-----------------------|---------------------|--------------------|-----------|--------------------|---------------|---------|---------|------------|
|       |                       | Mean.               |                    | Greatest. |                    | None.         | 1 or 2. | 3 or 4. | 5 or more. |
|       |                       | Days.               | Mean rain per day. | Days.     | Mean rain per day. |               |         |         |            |
| 1919  | 49                    | 17                  | ·29                | 33        | ·34                | 66            | 29      | 5       | 0          |
| 1920  | 47                    | 18                  | ·37                | 31        | ·61                | 75            | 17      | 8       | 0          |

in the west were affected, but wet spells occurred practically everywhere along the north-west coast of Scotland and Ireland. In Scotland the number of days involved in wet spells exceeded 50 during the year over a considerable area in the north-west, the maximum being 78 days in Portree, in Skye. There were 80 days at Ballynahinch Castle.

The rainy periods of 1920 occurred in four well-defined periods, the first widespread rain spell beginning about 6th January, and continuing generally to the beginning of February. The area occupied included a narrow strip along the west coast of England, Wales, and the west of Scotland, stretching from Land's End to John o' Groats



and also the western half of Ireland. The mean rate of rainfall per day rose to  $\cdot 67$  in. at Dungeon Ghyll, in the Lake District, and  $\cdot 70$  in. at Kinlochmore, in Inverness-shire. At one or two stations the rain spell was extended beyond the middle of February, and at Killarney a spell of 45 days lasted from 6th January to 19th February. It was thus coincident with the local dry spell at Swaffham. This rainy period reached the intensity of a wet spell over about half the area previously described, being confined to the more westerly and rainier regions. It gave the longest wet spell of the year from 5th January to 4th February at Achnasheen, in Ross-shire, and at Portree. The mean rainfall per day reached  $\cdot 82$  in. at Kinlochmore and  $\cdot 67$  in. at Dungeon Ghyll.

The most widespread rainy period of the year, occupying nearly one-half of the British Isles, commenced in the early part of April in the south of England, and as late as the 16th in Scotland and Ireland. The area affected was ill defined, as is usually the case with rain spells occurring in the more easterly districts. It included small scattered areas in the east of England and Ireland, as well as most of the south-west of England and Wales, the greater part of Munster, and the north-west of Scotland. Although rain spells in mid-spring are not uncommon, they are usually very local, and seldom occur elsewhere than in the rainy districts of Scotland and Ireland. The area covered on this occasion in England was particularly noteworthy, and we have to go back to the very wet year 1903 to find any parallel. At Shifnal, in Shropshire, the duration reached 40 days, an unusual period for England, extending from 23rd March to 1st May; and at Treherbert, in Glamorganshire, the mean fall per day was as much as  $\cdot 72$  in., a remarkably high figure for the time of year. The area affected by the wet spell was small, being confined to the north of Scotland and Ireland.

A second unseasonable rainy period occurred in July. Although rather less widespread and less protracted than that of April and May, the July rain spell was somewhat similar in distribution. The period reached the intensity of a wet spell only very locally, the longest duration being at Inveraray, in Argyllshire, where it lasted for 27 days from 13th July to 8th August.

The fourth rainy period of the year lasted from about 4th to 20th November, and was of the ordinary winter type, being confined to the west of Ireland and the north-west of Scotland. In Scotland the wet spell occupied practically the same area, but in Ireland it was less extensive. The rain spell followed immediately upon the drought of October, and parts of the north and east of England were experiencing partial drought throughout its duration.

The only other rain spells of the year, the most conspicuous of which occurred in March and September, were almost entirely confined to the north of Scotland.

The most noteworthy feature of the year was the small number of protracted rainy periods during the autumn and early winter, the season when they are normally most frequent, and the occurrence of widespread rainy periods in spring and summer, at which season they are commonly rare.

*Rain Spells in 1920.*

| Station and County.  | Began.                          | Ended.         | Lasted.   | Total Rain.  | Rain per Day. |            |            |
|--|---------------------------------|----------------|-----------|--------------|---------------|------------|------------|
|  |                                 |                |           |              | Max.          | Min.       | Mean.      |
| ENGLAND & WALES.   |                                 |                | Days.     | In.          | In.           | In.        | In.        |
| Tenterden (View Tower)....<br><i>Kent</i> —1.              | <i>Dec. 13</i><br><i>(1919)</i> | <i>Jan. 1</i>  | <i>20</i> | <i>1.97</i>  | <i>.45</i>    | <i>.01</i> | <i>.10</i> |
| Patcham .....<br><i>Sussex</i> —3.                         | <i>Dec. 10</i><br><i>(1919)</i> | <i>Jan. 1</i>  | <i>23</i> | <i>4.87</i>  | <i>1.05</i>   | <i>.01</i> | <i>.21</i> |
|  | <i>Apr. 7</i>                   | <i>Apr. 23</i> | <i>17</i> | <i>2.47</i>  | <i>.47</i>    | <i>.01</i> | <i>.15</i> |
|  | <i>Dec. 15</i>                  | <i>Dec. 31</i> | <i>17</i> | <i>3.37</i>  | <i>.84</i>    | <i>.01</i> | <i>.20</i> |
| Petersfield (Ditcham Park)..<br><i>Hampshire</i> —5.       | <i>Dec. 13</i><br><i>(1919)</i> | <i>Jan. 3</i>  | <i>22</i> | <i>4.95</i>  | <i>1.39</i>   | <i>.01</i> | <i>.22</i> |
|  | <i>Apr. 7</i>                   | <i>Apr. 22</i> | <i>16</i> | <i>3.52</i>  | <i>.71</i>    | <i>.02</i> | <i>.22</i> |
|  | <i>June 26</i>                  | <i>July 12</i> | <i>17</i> | <i>4.75</i>  | <i>1.01</i>   | <i>.01</i> | <i>.28</i> |
| Upton.....<br><i>Berkshire</i> —5.                         | <i>Apr. 7</i>                   | <i>Apr. 22</i> | <i>16</i> | <i>2.28</i>  | <i>.46</i>    | <i>.01</i> | <i>.14</i> |
| Newport Pagnell (The Croft)<br><i>Buckinghamshire</i> —5.  | <i>Apr. 7</i>                   | <i>Apr. 22</i> | <i>16</i> | <i>2.70</i>  | <i>.48</i>    | <i>.01</i> | <i>.17</i> |
| Haughley (Haughley House)<br><i>Suffolk</i> —2.            | <i>Apr. 1</i>                   | <i>Apr. 22</i> | <i>22</i> | <i>2.84</i>  | <i>.39</i>    | <i>.01</i> | <i>.13</i> |
| Yarmouth (Burgh Hall) ....<br><i>Suffolk</i> —4.           | <i>Apr. 7</i>                   | <i>Apr. 23</i> | <i>17</i> | <i>2.64</i>  | <i>.89</i>    | <i>.01</i> | <i>.16</i> |
| Salisbury Plain (Shrewton)..<br><i>Wiltshire</i> —3.       | <i>Dec. 17</i><br><i>(1919)</i> | <i>Jan. 4</i>  | <i>19</i> | <i>2.51</i>  | <i>.47</i>    | <i>.01</i> | <i>.13</i> |
|  | <i>Mar. 31</i>                  | <i>Apr. 22</i> | <i>23</i> | <i>3.55</i>  | <i>.50</i>    | <i>.01</i> | <i>.15</i> |
|  | <i>June 27</i>                  | <i>July 12</i> | <i>16</i> | <i>4.06</i>  | <i>1.06</i>   | <i>.01</i> | <i>.25</i> |
| Dorchester (Wollaston House)<br><i>Dorsetshire</i> —3.     | <i>Dec. 17</i><br><i>(1919)</i> | <i>Jan. 3</i>  | <i>18</i> | <i>3.95</i>  | <i>.83</i>    | <i>.01</i> | <i>.22</i> |
|  | <i>Mar. 31</i>                  | <i>Apr. 15</i> | <i>16</i> | <i>3.71</i>  | <i>.72</i>    | <i>.02</i> | <i>.23</i> |
|  | <i>June 27</i>                  | <i>July 12</i> | <i>16</i> | <i>4.30</i>  | <i>.72</i>    | <i>.02</i> | <i>.27</i> |
| Holne (Church Park Cottage)<br><i>South Devonshire</i> —4. | <i>Dec. 9</i><br><i>(1919)</i>  | <i>Jan. 3</i>  | <i>26</i> | <i>12.36</i> | <i>2.10</i>   | <i>.01</i> | <i>.48</i> |
|  | <i>Apr. 6</i>                   | <i>Apr. 22</i> | <i>17</i> | <i>6.69</i>  | <i>1.39</i>   | <i>.01</i> | <i>.39</i> |
| Martinhoe Rectory .....<br><i>North Devonshire</i> —1.     | <i>June 24</i>                  | <i>July 12</i> | <i>19</i> | <i>5.43</i>  | <i>1.20</i>   | <i>.01</i> | <i>.29</i> |
| Morwenstow Vicarage .....<br><i>Cornwall</i> —1.           | <i>Nov. 16</i><br><i>(1919)</i> | <i>Jan. 4</i>  | <i>50</i> | <i>10.16</i> | <i>.90</i>    | <i>.01</i> | <i>.20</i> |
|  | <i>Jan. 7</i>                   | <i>Feb. 1</i>  | <i>26</i> | <i>4.91</i>  | <i>1.03</i>   | <i>.01</i> | <i>.19</i> |
|  | <i>July 19</i>                  | <i>Aug. 6</i>  | <i>19</i> | <i>3.46</i>  | <i>.85</i>    | <i>.01</i> | <i>.18</i> |
| St. Austell (Trevarna) ....<br><i>Cornwall</i> —2.         | <i>Dec. 13</i><br><i>(1919)</i> | <i>Jan. 3</i>  | <i>22</i> | <i>6.29</i>  | <i>.76</i>    | <i>.02</i> | <i>.29</i> |
| Angersleigh (Leigh Court) ..<br><i>Somersetshire</i> —3.   | <i>Apr. 7</i>                   | <i>Apr. 22</i> | <i>16</i> | <i>3.90</i>  | <i>.82</i>    | <i>.02</i> | <i>.24</i> |
|  | <i>June 30</i>                  | <i>July 14</i> | <i>15</i> | <i>2.97</i>  | <i>.57</i>    | <i>.01</i> | <i>.20</i> |
| Clifton (Harley Place) ....<br><i>Gloucestershire</i> —5.  | <i>Apr. 5</i>                   | <i>Apr. 23</i> | <i>19</i> | <i>3.78</i>  | <i>.84</i>    | <i>.02</i> | <i>.20</i> |
|  | <i>June 26</i>                  | <i>July 12</i> | <i>17</i> | <i>3.93</i>  | <i>.76</i>    | <i>.01</i> | <i>.23</i> |

*Rain Spells in 1920—(con.).*

| Station and County.             | Began   | Ended.  | Lasted. | Total Rain. | Rain per Day. |      |       |
|---------------------------------|---------|---------|---------|-------------|---------------|------|-------|
|                                 |         |         |         |             | Max.          | Min. | Mean. |
| ENGLAND & WALES—(con.)          |         |         | Days.   | In.         | In.           | In.  | In.   |
| Hereford (Holmer Hall) . . . .  | June 26 | July 11 | 16      | 2·70        | 1·14          | ·01  | ·17   |
| Herefordshire—1.                |         |         |         |             |               |      |       |
| Shifnal (Hatton Grange) . . . . | Mar. 23 | May 1   | 40      | 5·41        | ·56           | ·01  | ·14   |
| Shropshire—4.                   | June 25 | July 12 | 18      | 3·02        | ·54           | ·02  | ·17   |
| Northwich (Winnington) . . . .  | Apr. 19 | May 6   | 18      | 3·10        | ·72           | ·01  | ·17   |
| Cheshire—2.                     |         |         |         |             |               |      |       |
| Settle (Gas Works) . . . . .    | Jan. 7  | Jan. 22 | 16      | 4·05        | ·74           | ·03  | ·25   |
| Yorkshire, West Riding—2.       |         |         |         |             |               |      |       |
| Meltham (Harewood Lodge)        | Dec. 10 | Jan. 1  | 23      | 5·87        | ·83           | ·01  | ·26   |
| Yorkshire, West Riding—8.       | (1919)  |         |         |             |               |      |       |
| Hull (Pearson Park) . . . . .   | Apr. 22 | May 8   | 17      | 3·16        | ·51           | ·01  | ·19   |
| Yorkshire, East Riding—3.       | Apr. 19 | May 6   | 18      | 1·99        | ·35           | ·01  | ·11   |
| Glanton (Glanton Pyke Gds.)     | June 27 | July 12 | 16      | 3·21        | ·74           | ·01  | ·20   |
| Northumberland—6.               |         |         |         |             |               |      |       |
| Dungeon Ghyll . . . . .         | Jan. 6  | Feb. 3  | 29      | 19·48       | 2·20          | ·04  | ·67   |
| Westmorland—2.                  | July 9  | July 29 | 21      | 8·28        | 1·30          | ·01  | ·39   |
| Treherbert (Tyn-y-waun) . .     | Apr. 6  | Apr. 22 | 17      | 12·18       | 2·21          | ·01  | ·72   |
| Glamorgan—6.                    | July 19 | Aug. 6  | 19      | 8·07        | 2·84          | ·01  | ·42   |
| Carmarthen (The Friary) . .     | Apr. 6  | May 2   | 27      | 7·61        | 1·45          | ·02  | ·28   |
| Carmarthen—2.                   | June 25 | July 17 | 23      | 5·72        | ·87           | ·01  | ·25   |
| Fishguard (Dwrbach) . . . . .   | Jan. 6  | Jan. 31 | 26      | 6·94        | 1·04          | ·01  | ·27   |
| Pembroke—4.                     | Apr. 6  | Apr. 24 | 19      | 5·34        | ·61           | ·02  | ·28   |
| Birm. W.W. (Trymynydd) . .      | June 24 | July 12 | 19      | 4·32        | ·88           | ·01  | ·23   |
| Radnor—1.                       | Apr. 18 | May 6   | 19      | 5·92        | 1·05          | ·01  | ·31   |
| Denbigh (Garn) . . . . .        | June 27 | July 12 | 16      | 3·87        | ·54           | ·01  | ·24   |
| Denbigh—2.                      | June 26 | July 12 | 17      | 2·99        | ·98           | ·01  | ·18   |
| Dolgelly (Bryntirion) . . . . . | Jan. 6  | Jan. 20 | 15      | 4·14        | ·78           | ·04  | ·28   |
| Merioneth—4.                    | Apr. 11 | May 1   | 21      | 7·74        | ·84           | ·02  | ·37   |
| Abersoch . . . . .              | Jan. 6  | Jan. 20 | 15      | 2·73        | ·47           | ·03  | ·18   |
| Carnarvon—4.                    |         |         |         |             |               |      |       |
| Llwydiarth Esgob . . . . .      | Jan. 6  | Jan. 31 | 26      | 3·92        | ·41           | ·01  | ·15   |
| Anglesey.                       | Apr. 18 | May 6   | 19      | 3·68        | 1·00          | ·01  | ·19   |
| SCOTLAND.                       |         |         |         |             |               |      |       |
| Dumfries (Jardington) . . . . . | Jan. 6  | Feb. 5  | 31      | 5·93        | ·70           | ·01  | ·19   |
| Kirkcudbright—5.                | Apr. 11 | Apr. 28 | 18      | 2·11        | ·43           | ·01  | ·12   |
| Canonbie (Irvine House) . . . . | Jan. 9  | Jan. 27 | 19      | 4·93        | ·72           | ·02  | ·26   |
| Dumfries—5.                     |         |         |         |             |               |      |       |
| Liberton (The Inch) . . . . .   | Mar. 23 | Apr. 6  | 15      | 2·02        | ·42           | ·01  | ·13   |
| Midlothian—5.                   |         |         |         |             |               |      |       |
| Strathaven (E. Overton Ho.)     | July 4  | July 20 | 17      | 2·29        | ·42           | ·01  | ·13   |
| Lanark—5.                       | July 22 | Aug. 5  | 15      | 2·81        | ·72           | ·03  | ·19   |
| Girvan (Pinmore) . . . . .      | Jan. 6  | Feb. 1  | 27      | 6·93        | ·71           | ·01  | ·26   |
| Ayr—8.                          | July 24 | Aug. 9  | 17      | 3·26        | ·85           | ·01  | ·19   |

*Rain Spells in 1920—(con.).*

| Station and County.            | Began.  | Ended.  | Lasted. | Total Rain. | Rain per Day. |      |       |
|--------------------------------|---------|---------|---------|-------------|---------------|------|-------|
|                                |         |         |         |             | Max.          | Min. | Mean. |
| SCOTLAND—(con.).               |         |         | Days.   | In.         | In.           | In.  | In.   |
| Stirling (Touch Res. No. 1) .. | Jan. 9  | Feb. 3  | 26      | 8·01        | 1·15          | ·02  | ·31   |
| <i>Stirling</i> —1.            |         |         |         |             |               |      |       |
| Dougarie Lodge .....           | Feb. 25 | Mar. 13 | 18      | 2·23        | ·67           | ·01  | ·12   |
| <i>Bute</i> —3.                | July 8  | July 22 | 15      | 2·33        | ·41           | ·01  | ·16   |
| Inveraray Castle Gardens ..    | Jan. 5  | Feb. 4  | 31      | 18·61       | 1·57          | ·02  | ·60   |
| <i>Argyll</i> —11.             | Apr. 22 | May 10  | 19      | 8·10        | 1·03          | ·02  | ·43   |
|                                | July 13 | Aug. 8  | 27      | 4·42        | ·50           | ·03  | ·16   |
|                                | Nov. 5  | Nov. 20 | 16      | 6·00        | 1·51          | ·06  | ·38   |
| Islay (Eallabus) .....         | Jan. 6  | Feb. 4  | 30      | 6·54        | ·63           | ·01  | ·22   |
| <i>Argyll</i> —14.             | Feb. 25 | Mar. 20 | 25      | 3·69        | ·78           | ·02  | ·15   |
|                                | Apr. 12 | Apr. 27 | 16      | 2·85        | ·49           | ·02  | ·18   |
|                                | July 8  | July 25 | 18      | 3·19        | ·46           | ·02  | ·18   |
|                                | Aug. 31 | Sep. 22 | 23      | 4·05        | ·59           | ·01  | ·18   |
|                                | Nov. 4  | Nov. 20 | 17      | 4·27        | ·83           | ·01  | ·25   |
| Mull (Ulva) .....              | Jan. 16 | Feb. 18 | 34      | 10·00       | ·94           | ·01  | ·29   |
| <i>Argyll</i> —14.             | Feb. 25 | Mar. 10 | 15      | 4·25        | ·77           | ·06  | ·28   |
|                                | July 10 | July 24 | 15      | 3·64        | ·84           | ·01  | ·24   |
|                                | Sep. 2  | Sep. 20 | 19      | 3·50        | ·61           | ·01  | ·18   |
|                                | Nov. 4  | Nov. 19 | 16      | 5·72        | ·74           | ·08  | ·36   |
| Aberfeldy (Dall Avon) .....    | Jan. 20 | Feb. 5  | 17      | 4·52        | ·82           | ·01  | ·27   |
| <i>Perth</i> —11.              |         |         |         |             |               |      |       |
| Balmoral Castle Gardens ....   | Jan. 20 | Feb. 3  | 15      | 2·40        | ·62           | ·01  | ·16   |
| <i>Aberdeen</i> —1.            |         |         |         |             |               |      |       |
| Dufftown (Fife Street) .....   | July 1  | July 15 | 15      | 2·25        | ·57           | ·01  | ·15   |
| <i>Banff</i> —3.               |         |         |         |             |               |      |       |
| Cluny Castle .....             | Jan. 6  | Feb. 4  | 30      | 8·17        | 1·44          | ·02  | ·27   |
| <i>Inverness</i> —3.           | Feb. 25 | Mar. 10 | 15      | 2·35        | ·64           | ·02  | ·16   |
|                                | Apr. 18 | May 14  | 27      | 3·94        | ·36           | ·01  | ·15   |
|                                | Aug. 31 | Sep. 15 | 16      | 2·11        | ·38           | ·01  | ·13   |
|                                | Nov. 4  | Nov. 19 | 16      | 3·78        | ·76           | ·02  | ·24   |
| Loch Nevis (Inverie) .....     | Dec. 9  | Jan. 1  | 24      | 8·08        | ·82           | ·05  | ·34   |
| <i>Inverness</i> —12.          |         |         |         |             |               |      |       |
|                                | Jan. 5  | Feb. 3  | 30      | 14·98       | 2·25          | ·02  | ·50   |
|                                | Feb. 25 | Mar. 10 | 15      | 7·81        | 1·53          | ·04  | ·52   |
|                                | Aug. 31 | Sep. 15 | 16      | 3·62        | 1·03          | ·02  | ·23   |
|                                | Nov. 4  | Nov. 19 | 16      | 8·04        | ·88           | ·19  | ·50   |
| Glenleven (Kinlochmore) ..     | Jan. 5  | Feb. 4  | 31      | 21·82       | 2·80          | ·02  | ·70   |
| <i>Inverness</i> —17.          | Feb. 25 | Mar. 10 | 15      | 9·42        | 2·44          | ·02  | ·63   |
|                                | Apr. 18 | May 13  | 26      | 9·08        | 1·03          | ·02  | ·35   |
|                                | July 6  | July 23 | 18      | 5·32        | ·71           | ·02  | ·30   |
|                                | Nov. 4  | Nov. 19 | 16      | 10·59       | 2·22          | ·21  | ·66   |
| Skye (Portree) .....           | Jan. 5  | Feb. 4  | 31      | 10·65       | 1·34          | ·05  | ·34   |
| <i>Inverness</i> —18.          | Feb. 25 | Mar. 10 | 15      | 4·63        | ·80           | ·04  | ·31   |
|                                | Apr. 18 | May 14  | 27      | 4·75        | ·61           | ·01  | ·18   |
|                                | July 8  | Aug. 3  | 27      | 5·99        | 1·17          | ·01  | ·22   |
|                                | Aug. 31 | Sep. 15 | 16      | 2·38        | ·66           | ·04  | ·15   |
|                                | Nov. 4  | Nov. 19 | 16      | 6·85        | 1·20          | ·11  | ·43   |

*Rain Spells in 1920—(con.).*

| Station and County.                            | Began.            | Ended.  | Lasted. | Total Rain. | Rain per day. |      |       |
|--|-------------------|---------|---------|-------------|---------------|------|-------|
|  |                   |         |         |             | Max.          | Min. | Mean. |
| SCOTLAND—(con.).                               |                   |         | Days.   | In.         | In.           | In.  | In.   |
| Barra (Castle Bay) . . . . .<br>Inverness—19.  | Dec. 31<br>(1919) | Jan. 14 | 15      | 2.18        | .47           | .02  | .15   |
|  | Jan. 16           | Feb. 3  | 19      | 2.24        | .41           | .02  | .12   |
|  | Feb. 25           | Mar. 19 | 24      | 2.60        | .38           | .01  | .11   |
|  | Apr. 12           | May 13  | 32      | 2.75        | .59           | .01  | .09   |
|  | Aug. 31           | Sep. 20 | 21      | 1.83        | .22           | .02  | .09   |
|  | Nov. 3            | Nov. 19 | 17      | 2.75        | .97           | .02  | .16   |
| Fortrose . . . . .<br>Ross—3.                  | Apr. 20           | May 6   | 17      | 1.46        | .29           | .02  | .09   |
| Achnasheen (Ledgowan) ..<br>Ross—4.            | Jan. 5            | Feb. 4  | 31      | 18.95       | 2.87          | .05  | .61   |
|  | Feb. 7            | Feb. 21 | 15      | 6.73        | 1.37          | .04  | .45   |
|  | Feb. 25           | Mar. 10 | 15      | 8.62        | 2.03          | .02  | .57   |
|  | Apr. 19           | May 9   | 21      | 6.78        | 1.04          | .01  | .32   |
|  | Nov. 4            | Nov. 19 | 16      | 8.10        | 1.20          | .05  | .51   |
| Stornoway . . . . .<br>Ross—10.                | Jan. 14           | Feb. 5  | 23      | 7.39        | 1.23          | .02  | .32   |
|  | Feb. 25           | Mar. 10 | 15      | 3.35        | .70           | .05  | .22   |
|  | Apr. 23           | May 9   | 17      | 4.14        | .69           | .04  | .24   |
|  | Nov. 4            | Nov. 20 | 17      | 8.19        | 1.85          | .04  | .48   |
| Loch More (Achfary) . . . . .<br>Sutherland—5. | Dec. 9<br>(1919)  | Jan. 1  | 24      | 5.43        | .64           | .02  | .23   |
|  | Jan. 5            | Feb. 4  | 31      | 15.34       | 2.76          | .02  | .50   |
|  | Feb. 7            | Feb. 21 | 15      | 5.37        | 1.51          | .01  | .36   |
|  | Feb. 25           | Mar. 10 | 15      | 5.61        | 1.08          | .04  | .37   |
|  | Apr. 19           | May 9   | 21      | 7.57        | .86           | .01  | .36   |
|  | Nov. 4            | Nov. 19 | 16      | 9.39        | 2.21          | .02  | .59   |
| Thurso (Buckies) . . . . .<br>Caithness—3.     | Jan. 5            | Jan. 24 | 20      | 3.40        | 1.07          | .01  | .17   |
|  | Apr. 22           | May 13  | 22      | 4.09        | .53           | .02  | .19   |
|  | July 14           | July 30 | 17      | 1.72        | .30           | .02  | .10   |
|  | Nov. 4            | Nov. 19 | 16      | 2.97        | 1.01          | .03  | .19   |
| IRELAND.                                       |                   |         |         |             |               |      |       |
| Castletownshend (Seafeld) ..<br>Cork—6.        | Jan. 7            | Feb. 3  | 28      | 6.82        | .92           | .02  | .24   |
|  | Mar. 4            | Mar. 19 | 16      | 2.53        | .41           | .01  | .16   |
| Mallow (Summer Hill) . . . . .<br>Cork—9.      | Dec. 20<br>(1919) | Jan. 3  | 15      | 3.21        | .57           | .01  | .21   |
|  | Jan. 17           | Feb. 3  | 18      | 4.49        | .79           | .01  | .25   |
|  | Apr. 27           | May 12  | 16      | 2.31        | .66           | .01  | .14   |
| Killarney (District Asylum)<br>Kerry—3.        | Dec. 19<br>(1919) | Jan. 3  | 16      | 4.00        | .85           | .01  | .25   |
|  | Jan. 6            | Feb. 19 | 45      | 10.68       | 1.17          | .01  | .24   |
|  | Apr. 27           | May 12  | 16      | 2.71        | .56           | .02  | .17   |
|  | July 5            | Aug. 5  | 32      | 4.15        | .78           | .01  | .13   |
|  | Oct. 30           | Nov. 19 | 21      | 3.44        | .53           | .01  | .16   |
| Valentia (Glanleam) . . . . .<br>Kerry—6.      | Jan. 10           | Feb. 3  | 25      | 7.67        | 1.23          | .03  | .31   |
|  | July 11           | July 27 | 17      | 3.00        | .55           | .02  | .18   |
|  | Oct. 31           | Nov. 15 | 16      | 4.45        | 1.03          | .05  | .28   |

*Rain Spells in 1920—(con.).*

| Station and County.             | Began.  | Ended.  | Lasted. | Total Rain. | Rain per Day. |      |       |
|---------------------------------|---------|---------|---------|-------------|---------------|------|-------|
|                                 |         |         |         |             | Max.          | Min. | Mean. |
| IRELAND—(con.).                 |         |         | Days.   | In.         | In.           | In.  | In.   |
| Nenagh (Castle Lough) . . . . . | Jan. 17 | Feb. 3  | 18      | 3.15        | .68           | .01  | .17   |
| Tipperary—1.                    | Apr. 18 | May 9   | 22      | 3.86        | .83           | .01  | .18   |
|                                 | July 5  | Aug. 5  | 32      | 4.70        | .76           | .01  | .15   |
| Ennistymon House . . . . .      | Jan. 17 | Feb. 3  | 18      | 4.75        | .75           | .04  | .26   |
| Clare—2.                        | Apr. 19 | May 8   | 20      | 4.60        | .90           | .02  | .23   |
|                                 | Oct. 30 | Nov. 19 | 21      | 4.63        | .70           | .01  | .22   |
| Kells (Headfort) . . . . .      | Jan. 6  | Jan. 31 | 26      | 4.96        | .56           | .01  | .19   |
| Meath—4.                        | Apr. 18 | May 6   | 19      | 3.25        | .64           | .01  | .17   |
| Moate (Coolatore) . . . . .     | Jan. 6  | Feb. 1  | 27      | 4.71        | .67           | .01  | .17   |
| Westmeath—1.                    |         |         |         |             |               |      |       |
| Ballynahinch Castle . . . . .   | Jan. 6  | Feb. 3  | 29      | 7.60        | .79           | .06  | .26   |
| Galway—3.                       | Mar. 3  | Mar. 20 | 18      | 2.81        | .52           | .01  | .16   |
|                                 | July 4  | Aug. 5  | 33      | 5.95        | .69           | .01  | .18   |
|                                 | Sep. 1  | Sep. 20 | 20      | 4.86        | 1.04          | .01  | .24   |
|                                 | Sep. 22 | Oct. 6  | 15      | 4.07        | .93           | .01  | .27   |
|                                 | Oct. 30 | Nov. 20 | 22      | 6.72        | 1.09          | .02  | .31   |
| Woodlawn . . . . .              | Jan. 16 | Feb. 3  | 19      | 2.87        | .50           | .01  | .15   |
| Galway—4.                       |         |         |         |             |               |      |       |
| Crossmolina (Enniscoe) . . . .  | Nov. 29 | Jan. 3  | 36      | 10.93       | 1.21          | .02  | .30   |
| Mayo—2.                         | (1919)  |         |         |             |               |      |       |
|                                 | Jan. 6  | Feb. 5  | 31      | 8.94        | 1.09          | .01  | .29   |
|                                 | Mar. 3  | Mar. 18 | 16      | 3.75        | .88           | .03  | .23   |
|                                 | Nov. 2  | Nov. 19 | 18      | 5.35        | 1.04          | .02  | .30   |
| Collooney (Markree Observy.)    | Nov. 30 | Jan. 3  | 35      | 8.65        | .93           | .02  | .25   |
| Sligo—2.                        | (1919)  |         |         |             |               |      |       |
|                                 | Jan. 6  | Jan. 31 | 26      | 5.68        | .95           | .03  | .22   |
|                                 | Nov. 2  | Nov. 19 | 18      | 3.27        | .85           | .01  | .18   |
| Ballymena (Harryville) . . . .  | Dec. 9  | Jan. 3  | 26      | 5.66        | .98           | .02  | .22   |
| Antrim—5.                       | (1919)  |         |         |             |               |      |       |
|                                 | Jan. 6  | Jan. 25 | 20      | 4.03        | .93           | .02  | .20   |
| Omagh (Edenfel) . . . . .       | Nov. 30 | Jan. 3  | 35      | 9.89        | 1.46          | .01  | .28   |
| Tyrone—3.                       | (1919)  |         |         |             |               |      |       |
|                                 | Jan. 6  | Jan. 20 | 15      | 3.25        | .74           | .01  | .22   |
|                                 | Apr. 18 | May 9   | 22      | 4.38        | .70           | .01  | .20   |
|                                 | July 8  | Aug. 5  | 29      | 4.65        | .67           | .01  | .16   |
| Milford (The Manse) . . . . .   | Dec. 16 | Jan. 2  | 18      | 5.64        | 1.16          | .02  | .31   |
| Donegal—3.                      | (1919)  |         |         |             |               |      |       |
|                                 | Jan. 16 | Feb. 3  | 19      | 2.68        | .42           | .01  | .14   |
|                                 | Feb. 7  | Feb. 21 | 15      | 2.23        | .45           | .02  | .15   |
|                                 | July 21 | Aug. 5  | 16      | 1.92        | .26           | .01  | .12   |
| Killybegs (Rockmount) . . . .   | Nov. 30 | Jan. 3  | 35      | 11.63       | 1.60          | .02  | .33   |
| Donegal—5.                      | (1919)  |         |         |             |               |      |       |
|                                 | Jan. 17 | Feb. 3  | 18      | 4.25        | .75           | .01  | .24   |
|                                 | Feb. 7  | Feb. 21 | 15      | 2.98        | .62           | .01  | .20   |
|                                 | Mar. 3  | Mar. 19 | 17      | 4.42        | .79           | .01  | .26   |
|                                 | July 19 | Aug. 9  | 22      | 3.29        | .40           | .01  | .15   |
|                                 | Sep. 1  | Sep. 20 | 20      | 5.87        | 1.41          | .01  | .29   |

*Wet Spells in 1920.*

| Station and County.   | Began.                                   | Ended.                                   | Lasted.              | Total Rain.                   | Mean Rain, per day.      |
|---|--|--|----------------------|-------------------------------|--------------------------|
| ENGLAND & WALES.  |  |  | Days.                | In.                           | In.                      |
| Holne (Church Park Cottage).<br><i>South Devonshire</i> —4. | Dec. 20<br>(1919)                        | Jan. 3                                   | 15                   | 7·89                          | ·53                      |
| Morwenstow Vicarage.....<br><i>Cornwall</i> —1.             | Dec. 19<br>(1919)                        | Jan. 3                                   | 16                   | 3·88                          | ·24                      |
| Shifnal (Hatton Grange) ....<br><i>Shropshire</i> —4.       | June 27                                  | July 11                                  | 15                   | 2·92                          | ·19                      |
| Dungeon Ghyll.....<br><i>Westmorland</i> —2.                | Jan. 6                                   | Feb. 3                                   | 29                   | 19·48                         | ·67                      |
| Treherbert (Tyn-y-waun) ....<br><i>Glamorgan</i> —6.        | July 19                                  | Aug. 5                                   | 18                   | 8·06                          | ·45                      |
| Fishguard (Dwrbach).....<br><i>Pembroke</i> —4.             | April 6                                  | April 22                                 | 17                   | 5·29                          | ·31                      |
| Dolgelly (Bryntirion) .....<br><i>Merioneth</i> —4.         | Jan. 6                                   | Jan. 20                                  | 15                   | 4·14                          | ·28                      |
| SCOTLAND.   |  |  |                      |                               |                          |
| Inveraray Castle Gardens ....<br><i>Argyll</i> —11.         | Jan. 16<br>July 13<br>Nov. 5             | Feb. 4<br>Aug. 6<br>Nov. 20              | 20<br>25<br>16       | 13·80<br>3·89<br>6·00         | ·69<br>·16<br>·38        |
| Islay (Eallabus) .....<br><i>Argyll</i> —14.                | Nov. 4                                   | Nov. 19                                  | 16                   | 4·26                          | ·27                      |
| Mull (Ulva) .....<br><i>Argyll</i> —14.                     | Feb. 25<br>Nov. 4                        | Mar. 10<br>Nov. 19                       | 15<br>16             | 4·25<br>5·72                  | ·28<br>·36               |
| Cluny Castle.....<br><i>Inverness</i> —3.                   | April 19                                 | May 9                                    | 21                   | 3·40                          | ·16                      |
| Loch Nevis (Inverie) .....<br><i>Inverness</i> —12.         | Dec. 9<br>(1919)                         | Jan. 1                                   | 24                   | 8·08                          | ·34                      |
|   | Jan. 16                                  | Feb. 3                                   | 19                   | 10·70                         | ·56                      |
|   | Feb. 25                                  | Mar. 10                                  | 15                   | 7·81                          | ·52                      |
|   | Nov. 4                                   | Nov. 19                                  | 16                   | 8·04                          | ·50                      |
| Glenleven (Kinlochmore) ....<br><i>Inverness</i> —17.       | Jan. 16<br>July 8<br>Nov. 4              | Feb. 4<br>July 23<br>Nov. 19             | 20<br>16<br>16       | 16·17<br>5·12<br>10·59        | ·82<br>·32<br>·66        |
| Skye (Portree) .....<br><i>Inverness</i> —18.               | Jan. 5<br>Feb. 25<br>Aug. 31<br>Nov. 4   | Feb. 4<br>Mar. 10<br>Sept. 15<br>Nov. 19 | 31<br>15<br>16<br>16 | 10·65<br>4·63<br>2·38<br>6·85 | ·34<br>·31<br>·15<br>·43 |
| Achnasheen (Ledgowan).....<br><i>Ross</i> —4.               | Jan. 5<br>Feb. 7<br>Nov. 4               | Feb. 4<br>Feb. 21<br>Nov. 19             | 31<br>15<br>16       | 18·95<br>6·73<br>8·10         | ·61<br>·45<br>·51        |
| Stornoway .....<br><i>Ross</i> —10.                         | Jan. 14<br>Feb. 25<br>April 23<br>Nov. 4 | Feb. 4<br>Mar. 10<br>May 9<br>Nov. 19    | 22<br>15<br>17<br>16 | 7·37<br>3·35<br>4·14<br>8·15  | ·34<br>·22<br>·24<br>·51 |
| Loch More (Achfary) .....<br><i>Sutherland</i> —5.          | Jan. 5<br>Feb. 25<br>April 20            | Jan. 28<br>Mar. 10<br>May 9              | 24<br>15<br>20       | 10·45<br>5·61<br>7·56         | ·44<br>·37<br>·38        |
| Thurso (Buckies) .....<br><i>Caithness</i> —3.              | April 22                                 | May 10                                   | 19                   | 3·46                          | ·18                      |

*Wet Spells in 1920—(con.).*

| Station and County.              | Began.         | Ended.        | Lasted.   | Total Rain. | Mean Rain, per day. |
|----------------------------------|----------------|---------------|-----------|-------------|---------------------|
| <b>IRELAND.</b>                  |                |               |           |             |                     |
|                                  |                |               | Days.     | In.         | In.                 |
| Valentia (Glanleam) . . . . .    | Jan. 16        | Feb. 3        | 19        | 5.57        | .29                 |
| <i>Kerry—6.</i>                  | Oct. 31        | Nov. 15       | 16        | 4.45        | .28                 |
| Ennistymon House . . . . .       | Jan. 17        | Feb. 3        | 18        | 4.75        | .26                 |
| <i>Clare—2.</i>                  |                |               |           |             |                     |
| Ballynahineh Castle . . . . .    | Jan. 6         | Feb. 3        | 29        | 7.60        | .26                 |
| <i>Galway—3.</i>                 | Mar. 3         | Mar. 17       | 15        | 2.75        | .18                 |
|                                  | Sept. 1        | Sept. 18      | 18        | 4.79        | .27                 |
|                                  | Nov. 2         | Nov. 19       | 18        | 5.86        | .33                 |
| Crossmolina (Enniscoe) . . . . . | Dec. 18        | Jan. 2        | 16        | 5.41        | .34                 |
| <i>Mayo—2.</i>                   | (1919)         |               |           |             |                     |
|                                  | Jan. 16        | Jan. 31       | 16        | 4.97        | .31                 |
| Collooney (Markree Observy.)     | Jan. 6         | Jan. 20       | 15        | 3.61        | .24                 |
| <i>Sligo—2.</i>                  |                |               |           |             |                     |
| Ballymena (Harryville) . . . . . | <i>Dec. 16</i> | <i>Jan. 2</i> | <i>18</i> | <i>4.21</i> | <i>.23</i>          |
| <i>Antrim—5.</i>                 | (1919)         |               |           |             |                     |
| Omagh (Edenfel) . . . . .        | April 23       | May 8         | 16        | 3.38        | .21                 |
| <i>Tyrone—3.</i>                 |                |               |           |             |                     |
| Killybegs (Rockmount) . . . . .  | <i>Dec. 17</i> | <i>Jan. 3</i> | <i>18</i> | <i>6.93</i> | <i>.38</i>          |
| <i>Donegal—5.</i>                | (1919)         |               |           |             |                     |
|                                  | Mar. 3         | Mar. 17       | 15        | 4.38        | .29                 |



## DURATION OF RAINFALL IN 1920.

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The list of stations reporting rainfall duration continues to undergo considerable changes from year to year, and the geographical distribution can hardly be said to have been improved this year, although valuable new records appear from Swansea and Renfrew, and we again include that for Glenleven, Argyllshire, the loss of which was deplored in 1916. This is the only station in the region of high rainfall in the West Highlands from which observations have ever been obtained, and as such it is of peculiar scientific value. The traces for the years 1916 to 1919 have been kindly lent by the British Aluminium Company and have been measured in order to keep the series intact.

The duration for the year in London was again above the average, and the mean rate per hour below it. The excess was largely due to the large values recorded in April and July, both being unprecedented in 40 years' observations. December also had an unusually great duration, this having been exceeded only four times in the same period.

High durations in these three months were general at all stations, but in the west January was equally conspicuous, giving more than 100 hours over a wide area. At Cray, Brecon, the duration for April reached the remarkable value of 327·6 hours, or 10·9 hours per day. In the west of Scotland, on the other hand, there were only 75·3 hours of rain, or 2·5 hours per day, at Glenleven.

February, October and November were generally the months of least duration, October having less than 5 hours' rain at Worstead, Norfolk, and November only 6·5 hours at Bidford, Warwickshire, but on the west coast these conditions did not hold good.

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## THE STANDARDIZATION OF RECORDS OF RAINFALL DURATION.

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The measurement of rainfall duration is a comparatively new branch of climatology and as is inevitably the case much of the early work must be regarded as experimental. The records so far accumulated have taught us much which was formerly only vaguely surmised as to the regional distribution of rainfall duration and of the mean intensity of rainfall, but they have primarily been of value as a means of groping our way towards better methods, which, if realized, will give a surer basis for the interpretation of future observations in physical terms.

In *British Rainfall*, 1916 (pp. 32-40), we published an abstract of a paper on the measurement of rainfall duration recently discussed by the Royal Meteorological Society. In this paper attention was drawn

(Continued on p. 45.)

*Comparison of Amount, Duration and Intensity of Rainfall, and Number of Rain Days at Camden Square in 1920 with the Average for 35 Years 1881-1915.*

| 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.            |                       | Days.        |                       |
| 1881                     | 27.92          | 114                   | 486.3          | 111                   | .057           | 102                   | 152          | 94                    |
| 1882                     | 27.14          | 111                   | 480.7          | 110                   | .056           | 100                   | 165          | 102                   |
| 1883                     | 24.40          | 100                   | 393.5          | 90                    | .062           | 111                   | 164          | 101                   |
| 1884                     | 20.35          | 83                    | 336.8          | 77                    | .060           | 107                   | 150          | 93                    |
| 1885                     | 26.64          | 109                   | 470.0          | 108                   | .057           | 102                   | 165          | 102                   |
| 1886                     | 27.01          | 110                   | 427.2          | 98                    | .063           | 112                   | 176          | 108                   |
| 1887                     | 19.21          | 79                    | 300.3          | 69                    | .064           | 114                   | 140          | 86                    |
| 1888                     | 27.74          | 113                   | 435.7          | 100                   | .064           | 114                   | 173          | 107                   |
| 1889                     | 23.85          | 97                    | 428.5          | 98                    | .056           | 100                   | 169          | 104                   |
| 1890                     | 21.23          | 87                    | 409.5          | 94                    | .052           | 93                    | 161          | 100                   |
| 1891                     | 28.15          | 115                   | 490.3          | 112                   | .057           | 102                   | 178          | 110                   |
| 1892                     | 22.61          | 92                    | 372.5          | 85                    | .061           | 109                   | 158          | 98                    |
| 1893                     | 19.80          | 81                    | 388.0          | 89                    | .051           | 91                    | 148          | 91                    |
| 1894                     | 27.94          | 114                   | 477.7          | 109                   | .058           | 104                   | 185          | 114                   |
| 1895                     | 21.47          | 88                    | 380.0          | 87                    | .057           | 102                   | 137          | 85                    |
| 1896                     | 23.52          | 96                    | 404.3          | 93                    | .058           | 104                   | 159          | 98                    |
| 1897                     | 22.86          | 93                    | 371.2          | 85                    | .062           | 111                   | 164          | 101                   |
| 1898                     | <i>m</i> 17.69 | 72                    | <i>m</i> 298.5 | 68                    | .059           | 105                   | 140          | 86                    |
| 1899                     | 22.54          | 92                    | 337.5          | 77                    | .067           | 120                   | 144          | 88                    |
| 1900                     | 23.28          | 95                    | 366.3          | 84                    | .064           | 114                   | 174          | 107                   |
| 1901                     | 22.17          | 91                    | 310.2          | 71                    | <i>M</i> .071  | 127                   | <i>m</i> 128 | 79                    |
| 1902                     | 20.84          | 85                    | 357.8          | 82                    | .059           | 105                   | 162          | 99                    |
| 1903                     | <i>M</i> 38.10 | 156                   | <i>M</i> 688.5 | 158                   | .055           | 98                    | 179          | 111                   |
| 1904                     | 20.65          | 84                    | 491.8          | 113                   | <i>m</i> .042  | 75                    | 160          | 99                    |
| 1905                     | 22.97          | 94                    | 456.4          | 104                   | .050           | 89                    | 162          | 100                   |
| 1906                     | 24.26          | 99                    | 420.4          | 96                    | .058           | 104                   | 163          | 101                   |
| 1907                     | 23.01          | 94                    | 418.8          | 96                    | .055           | 98                    | 175          | 108                   |
| 1908                     | 23.67          | 97                    | 500.7          | 115                   | .047           | 84                    | 157          | 97                    |
| 1909                     | 26.75          | 109                   | 576.5          | 132                   | .046           | 82                    | 190          | 117                   |
| 1910                     | 25.36          | 104                   | 491.2          | 112                   | .052           | 93                    | 186          | 115                   |
| 1911                     | 24.79          | 101                   | 473.0          | 108                   | .052           | 93                    | 155          | 96                    |
| 1912                     | 27.88          | 114                   | 517.0          | 118                   | .054           | 96                    | 180          | 111                   |
| 1913                     | 22.41          | 92                    | 453.0          | 104                   | .049           | 87                    | 163          | 101                   |
| 1914                     | 25.72          | 105                   | 513.6          | 118                   | .050           | 89                    | 168          | 104                   |
| 1915                     | 32.18          | 132                   | 568.9          | 130                   | .057           | 102                   | 152          | 94                    |
| 1916                     | 34.01          | 139                   | 627.8          | 144                   | .054           | 96                    | 193          | 119                   |
| 1917                     | 30.04          | 123                   | 476.3          | 109                   | .063           | 112                   | 175          | 108                   |
| 1918                     | 29.69          | 121                   | 520.2          | 119                   | .057           | 102                   | <i>M</i> 195 | 120                   |
| 1919                     | 26.21          | 107                   | 610.6          | 140                   | .043           | 77                    | 182          | 112                   |
| Average }<br>1881-1915 } | 24.46          | 100                   | 436.9          | 100                   | .056           | 100                   | 162          | 100                   |
| 1920 }                   | 23.59          | 96                    | 519.9          | 119                   | .045           | 80                    | 175          | 108                   |
| Diff. from<br>average. } | -.87           | -4                    | +83.0          | +19                   | -.011          | -20                   | +13          | +8                    |

*Shad. Thames Pump. Stat., London.D***London County Council.**

N. &amp; Z.'s Hyetograph. 42 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | in.      | hours.   | in.           |
| Jan. ....  | 2.20     | 58.7     | .038          |
| Feb. ....  | .55      | 24.8     | .022          |
| Mar. ....  | 1.27     | 39.2     | .032          |
| Apr. ....  | 2.27     | 67.8     | .033          |
| May ....   | .46      | 19.0     | .024          |
| June ....  | 1.42     | 27.7     | .051          |
| July ....  | 3.13     | 69.8     | .045          |
| Aug. ....  | 1.93     | 27.5     | .070          |
| Sept. .... | 2.98     | 46.5     | .064          |
| Oct. ....  | .81      | 29.5     | .027          |
| Nov. ....  | .77      | 19.0     | .041          |
| Dec. ....  | 1.58     | 71.0     | .022          |
| Year ....  | 19.37    | 500.5    | .039          |

*Hammersmith, London.***London County Council.**

N. &amp; Z.'s Hyetograph. 35 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | in.      | hours.   | in.           |
| Jan. ....  | 2.18     | 61.5     | .035          |
| Feb. ....  | .36      | 24.8     | .014          |
| Mar. ....  | 1.00     | 36.0     | .028          |
| Apr. ....  | 2.60     | 71.5     | .036          |
| May ....   | 1.85     | 25.2     | .073          |
| June ....  | 1.56     | 29.5     | .053          |
| July ....  | 3.70     | 78.8     | .047          |
| Aug. ....  | 1.40     | 27.5     | .050          |
| Sept. .... | 2.43     | 46.0     | .053          |
| Oct. ....  | 1.08     | 31.2     | .034          |
| Nov. ....  | 1.14     | 36.5     | .031          |
| Dec. ....  | 2.15     | 60.8     | .035          |
| Year ....  | 21.45    | 529.3    | .040          |

*Camden Square, London.D\****British Rainfall Organization.**

Halliwell Recorder. 111 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 2.58  | 60.6   | .043 |
| Feb. ....  | .59   | 22.5   | .026 |
| Mar. ....  | 1.42  | 35.9   | .040 |
| Apr. ....  | 3.07  | 73.1   | .042 |
| May ....   | .69   | 20.5   | .034 |
| June ....  | 1.59  | 28.6   | .056 |
| July ....  | 4.06  | 74.4   | .055 |
| Aug. ....  | 1.75  | 27.7   | .063 |
| Sept. .... | 3.27  | 48.2   | .068 |
| Oct. ....  | 1.09  | 26.5   | .041 |
| Nov. ....  | 1.12  | 23.0   | .049 |
| Dec. ....  | 2.36  | 78.9   | .030 |
| Year ....  | 23.59 | 519.9  | .045 |

*Old Ford, Poplar, London.***London County Council.**

N. &amp; Z.'s Hyetograph. 43 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 2.40  | 49.0   | .049 |
| Feb. ....  | .53   | 22.5   | .023 |
| Mar. ....  | 1.43  | 34.5   | .041 |
| Apr. ....  | 2.87  | 65.8   | .043 |
| May ....   | .46   | 15.5   | .029 |
| June ....  | 1.31  | 27.5   | .047 |
| July ....  | 3.33  | 65.5   | .051 |
| Aug. ....  | 1.77  | 23.7   | .074 |
| Sept. .... | 3.21  | 48.0   | .066 |
| Oct. ....  | 1.30  | 23.0   | .056 |
| Nov. ....  | .83   | 17.8   | .046 |
| Dec. ....  | 1.98  | 55.5   | .035 |
| Year ....  | 21.42 | 448.3  | .048 |

*Edenfield, New Malden, Surrey.D***W. J. Carter, Esq., F.R.Met.Soc.**

Casella's Recorder. 39 ft. above Sea.

|            | in.  | hours. | in.  |
|------------|------|--------|------|
| Jan. ....  | 2.07 | 50.7   | .041 |
| Feb. ....  | .54  | 21.7   | .025 |
| Mar. ....  | 1.20 | 22.9   | .052 |
| Apr. ....  | 2.55 | 61.1   | .042 |
| May ....   | .61  | 12.2   | .050 |
| June ....  | ..   | ..     | ..   |
| July ....  | ..   | ..     | ..   |
| Aug. ....  | ..   | ..     | ..   |
| Sept. .... | ..   | ..     | ..   |
| Oct. ....  | ..   | ..     | ..   |
| Nov. ....  | ..   | ..     | ..   |
| Dec. ....  | ..   | ..     | ..   |
| Year ....  | ..   | ..     | ..   |

*Kew Observatory, Surrey.***Meteorological Office.**

Beckley Gauge. 20 ft. above Sea.

|             | mm.              | hours.            | mm.             |
|-------------|------------------|-------------------|-----------------|
| Jan. ....   | 55.1             | 48.5              | 1.14            |
| Feb. ....   | 10.3             | 19.3              | .53             |
| Mar. ....   | 29.7             | 27.9              | 1.06            |
| Apr. ....   | 67.8             | 59.9              | 1.13            |
| * May ....  | <del>21.5</del>  | <del>(23.6)</del> | <del>.92</del>  |
| June ....   | 78.0             | (30.4)            | 2.57            |
| July ....   | 111.8            | 70.7              | 1.58            |
| Aug. ....   | 37.9             | 25.5              | 1.49            |
| Sept. ....  | 62.2             | 34.4              | 1.81            |
| Oct. ....   | 42.6             | 19.5              | 2.19            |
| Nov. ....   | 33.6             | 23.5              | 1.43            |
| Dec. ....   | 49.4             | 59.2              | .83             |
| * Year .... | <del>500.9</del> | <del>442.4</del>  | <del>1.56</del> |

\* May... 38.3. 19.1. 2.00.  
 \* year... 616.7. 437.4. 1.41.

*Lympne, Kent.D***Air Ministry.**

N. &amp; Z.'s Hyetograph. 348 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | mm.      | hours.   | mm.           |
| Jan. ....  | ..       | ..       | ..            |
| Feb. ....  | ..       | ..       | ..            |
| Mar. ....  | ..       | ..       | ..            |
| Apr. ....  | ..       | ..       | ..            |
| May ....   | ..       | ..       | ..            |
| June ....  | ..       | ..       | ..            |
| July ....  | ..       | ..       | ..            |
| Aug. ....  | ..       | ..       | ..            |
| Sept. .... | 92.9     | (43.7)   | 2.13          |
| Oct. ....  | 29.6     | (23.4)   | 1.26          |
| Nov. ....  | 39.8     | 36.3     | 1.10          |
| Dec. ....  | 92.1     | (87.5)   | 1.05          |
| Year ....  | ..       | ..       | ..            |

*The Old House, Sevenoaks, Kent.D***W. Tattersall, Esq., F.R.Met.Soc.**

N. &amp; Z.'s Hyetograph. 510 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | mm.      | hours.   | mm.           |
| Jan. ....  | 102.1    | 83.0     | 1.23          |
| Feb. ....  | 18.8     | 35.0     | .54           |
| Mar. ....  | 35.6     | 47.0     | .76           |
| Apr. ....  | 89.6     | 83.0     | 1.08          |
| May ....   | 25.0     | 25.5     | .98           |
| June ....  | 37.4     | 31.0     | 1.21          |
| July ....  | 118.9    | 93.5     | 1.27          |
| Aug. ....  | 47.9     | 36.0     | 1.33          |
| Sept. .... | 102.0    | 72.0     | 1.42          |
| Oct. ....  | 24.8     | 22.0     | 1.13          |
| Nov. ....  | 35.9     | 34.0     | 1.06          |
| Dec. ....  | 76.9     | 132.0    | .58           |
| Year ....  | 714.9    | 694.0    | 1.03          |

*Calshot, Hants.D***Air Ministry.**

N. &amp; Z.'s Hyetograph. 11 ft. above Sea.

|            | mm.   | hours.  | mm.  |
|------------|-------|---------|------|
| Jan. ....  | 94.3  | 59.1    | 1.60 |
| Feb. ....  | 14.8  | 13.5    | 1.10 |
| Mar. ....  | 55.3  | 39.8    | 1.39 |
| Apr. ....  | 62.0  | 51.5    | 1.20 |
| May ....   | 37.8  | 24.0    | 1.58 |
| June ....  | 48.8  | 21.7    | 2.25 |
| July ....  | 111.1 | (74.3)  | 1.49 |
| Aug. ....  | 26.4  | 16.5    | 1.60 |
| Sept. .... | 53.5  | (26.8)  | 1.99 |
| Oct. ....  | 70.9  | 51.1    | 1.39 |
| Nov. ....  | 36.1  | 30.9    | 1.17 |
| Dec. ....  | 52.7  | (57.1)  | .92  |
| Year ....  | 663.7 | (466.3) | 1.42 |

*Timsbury, Hants.D***D. Kitchingman, Esq., M.Inst.C.E.**

N. &amp; Z.'s Tipping-bucket. 96 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 3.68  | 107.5  | .034 |
| Feb. ....  | .92   | 34.5   | .027 |
| Mar. ....  | 2.20  | 61.8   | .036 |
| Apr. ....  | 3.57  | 112.2  | .032 |
| May ....   | 1.05  | 47.8   | .022 |
| June ....  | 2.55  | 53.2   | .048 |
| July ....  | 5.58  | 129.5  | .043 |
| Aug. ....  | 1.22  | 34.0   | .036 |
| Sept. .... | 1.16  | 27.8   | .042 |
| Oct. ....  | 3.49  | 54.2   | .064 |
| Nov. ....  | 1.98  | 45.5   | .044 |
| Dec. ....  | 2.80  | 95.8   | .029 |
| Year ....  | 30.20 | 803.8  | .038 |

*Ashley Old Manor, Hants.D***Legh S. Powell, Esq.**

N. &amp; Z.'s Hyetograph. 235 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 3.84  | 86.7   | .044 |
| Feb. ....  | .92   | 27.7   | .033 |
| Mar. ....  | 2.49  | 62.0   | .040 |
| Apr. ....  | 3.79  | 101.7  | .037 |
| May ....   | 1.11  | 34.6   | .032 |
| June ....  | 2.41  | 38.8   | .062 |
| July ....  | 5.51  | 123.9  | .044 |
| Aug. ....  | 1.61  | 33.6   | .048 |
| Sept. .... | 1.31  | 51.0   | .026 |
| Oct. ....  | 3.48  | 60.9   | .057 |
| Nov. ....  | 2.03  | 52.7   | .039 |
| Dec. ....  | 3.01  | 82.1   | .037 |
| Year ....  | 31.51 | 755.7  | .042 |

*Twyford, Hants.D***D. Kitchingman, Esq., M.Inst.C.E.**

N. &amp; Z.'s Tipping-bucket. 139 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 3.87  | 97.5   | .040 |
| Feb. ....  | .65   | 28.0   | .023 |
| Mar. ....  | 2.17  | 53.8   | .040 |
| Apr. ....  | 3.36  | 87.0   | .039 |
| May ....   | 1.52  | 36.7   | .041 |
| June ....  | 2.56  | 58.3   | .044 |
| July ....  | 6.62  | 139.2  | .048 |
| Aug. ....  | 1.86  | 55.3   | .034 |
| Sept. .... | 1.49  | 27.0   | .055 |
| Oct. ....  | 3.87  | 72.2   | .054 |
| Nov. ....  | 1.82  | 46.8   | .039 |
| Dec. ....  | 2.90  | 95.5   | .030 |
| Year ....  | 32.69 | 797.3  | .041 |

*Palmers Green, Middlesex.D***R. Phillips, Esq.**

Casella's Recorder. 138 ft. above Sea.

| 1920      | Rainfall | Duration | Rate per hour |
|-----------|----------|----------|---------------|
|           | in.      | hours.   | in.           |
| Jan. .... | 2.86     | 41.8     | .068          |
| Feb. .... | .44      | 13.7     | .032          |
| Mar. .... | 1.40     | 36.3     | .039          |
| Apr. .... | 3.48     | 61.6     | .056          |
| May ....  | 1.36     | 30.5     | .045          |
| June .... | 1.57     | 23.7     | .066          |
| July .... | 3.90     | 54.0     | .072          |
| Aug. .... | 1.47     | 23.4     | .063          |
| Sept. ... | 3.11     | 41.2     | .075          |
| Oct. .... | 1.32     | 23.3     | .057          |
| Nov. .... | 1.10     | 19.4     | .057          |
| Dec. .... | 2.44     | 51.3     | .048          |
| Year .... | 24.45    | 420.2    | .058          |

*Benson Observatory, Oxfordshire.D***W. H. Dines, Esq., F.R.S.**

Dines Gauge. 186 ft. above Sea.

|           | mm.   | hours. | mm.  |
|-----------|-------|--------|------|
| Jan. .... | 41.1  | 39.2   | 1.05 |
| Feb. .... | 13.2  | 12.6   | 1.05 |
| Mar. .... | 32.6  | 22.6   | 1.44 |
| Apr. .... | 72.1  | 55.0   | 1.31 |
| May ....  | 40.5  | 23.4   | 1.73 |
| June .... | 73.4  | 28.7   | 2.56 |
| July .... | 126.7 | 62.3   | 2.03 |
| Aug. .... | 25.1  | 32.6   | .77  |
| Sept. ... | 29.7  | 21.7   | 1.37 |
| Oct. .... | 55.6  | 35.4   | 1.57 |
| Nov. .... | 22.1  | 17.0   | 1.30 |
| Dec. .... | 42.7  | 51.4   | .83  |
| Year .... | 574.8 | 401.9  | 1.43 |

*Felixstowe, Suffolk.D***Air Ministry.**

N. &amp; Z.'s Hyetograph. 15 ft. above Sea.

|           | mm.   | hours.  | mm.  |
|-----------|-------|---------|------|
| Jan. .... | ..    | ..      | ..   |
| Feb. .... | ..    | ..      | ..   |
| Mar. ...  | 17.7  | (14.6)  | 1.21 |
| Apr. .... | 73.3  | (78.1)  | .94  |
| May ....  | 19.7  | 23.4    | .84  |
| June .... | 22.3  | 25.3    | .88  |
| July .... | 62.3  | 45.4    | 1.37 |
| Aug. .... | 31.4  | 39.3    | .80  |
| Sept. ... | 112.0 | 68.0    | 1.65 |
| Oct. .... | 13.6  | 15.6    | .87  |
| Nov. .... | 17.0  | 16.9    | 1.01 |
| Dec. .... | 73.9  | (100.7) | .73  |
| Year .... | ..    | ..      | ..   |

*Chiltern Road, Hitchin, Herts.D***A. Latchmore, Esq.**

N. &amp; Z.'s Hyetograph. 297 ft. above Sea.

| 1920      | Rainfall | Duration | Rate per hour |
|-----------|----------|----------|---------------|
|           | in.      | hours.   | in.           |
| Jan. .... | 2.17     | 41.8     | .052          |
| Feb. .... | .42      | 12.3     | .034          |
| Mar. .... | 1.40     | 27.5     | .051          |
| Apr. .... | 3.65     | 72.9     | .050          |
| May ....  | 1.28     | 20.6     | .062          |
| June .... | 1.57     | 27.8     | .056          |
| July .... | 3.51     | 68.9     | .051          |
| Aug. .... | .97      | 19.7     | .049          |
| Sept. ... | 2.04     | 35.0     | .058          |
| Oct. .... | 1.51     | 19.1     | .079          |
| Nov. .... | 1.40     | 27.9     | .050          |
| Dec. .... | 1.64     | 52.8     | .031          |
| Year .... | 21.56    | 426.3    | .051          |

*Rookwood, Copdock, Suffolk.***F. L. Bland, Esq.**

N. &amp; Z.'s Tipping-bucket. 164 ft. above Sea.

|           | mm.   | hours. | mm.  |
|-----------|-------|--------|------|
| Jan. .... | 51.9  | 31.2   | 1.66 |
| Feb. .... | 10.6  | 11.1   | .95  |
| Mar. ...  | 25.1  | 24.5   | 1.02 |
| Apr. .... | 106.1 | 77.7   | 1.37 |
| May ....  | 21.9  | 22.2   | .99  |
| June .... | 27.6  | 21.3   | 1.30 |
| July .... | 66.7  | 40.5   | 1.65 |
| Aug. .... | 58.0  | 34.3   | 1.69 |
| Sept. ... | 67.7  | 33.4   | 2.03 |
| Oct. .... | 15.2  | 7.5    | 2.03 |
| Nov. .... | 21.5  | 16.7   | 1.29 |
| Dec. .... | 70.3  | 83.1   | .85  |
| Year .... | 542.6 | 403.5  | 1.34 |

*Lyngate Cottage, Worstead, Norfolk.D***Robert J. Cross, Esq.**

N. &amp; Z.'s Hyetograph. 50 ft. above Sea.

|           | in.   | hours. | in.  |
|-----------|-------|--------|------|
| Jan. .... | 1.81  | 40.0   | .045 |
| Feb. .... | .79   | 14.6   | .054 |
| Mar. .... | 1.08  | 21.7   | .050 |
| Apr. .... | 2.99  | 59.8   | .050 |
| May ....  | 1.35  | 21.5   | .063 |
| June .... | 1.62  | 39.7   | .041 |
| July .... | 3.17  | 46.2   | .069 |
| Aug. .... | 2.31  | 28.2   | .082 |
| Sept. ... | 2.95  | 29.2   | .101 |
| Oct. .... | .74   | 4.9    | .151 |
| Nov. .... | .70   | 13.4   | .052 |
| Dec. .... | 2.83  | 72.7   | .039 |
| Year .... | 22.34 | 391.9  | .057 |

*The Hoe, Plymouth, Devon.D\****James Paton, Esq., C.E.**

Halliwell Recorder. 117 ft. above Sea.

| 1920      | Rainfall | Duration | Rate per hour |
|-----------|----------|----------|---------------|
|           | in.      | hours.   | in.           |
| Jan. .... | 6.19     | 113.8    | .054          |
| Feb. .... | .79      | 26.0     | .030          |
| Mar. .... | 3.67     | 63.4     | .058          |
| Apr. .... | 3.08     | 76.5     | .040          |
| May ....  | 1.50     | 44.2     | .034          |
| June .... | 2.17     | 43.4     | .050          |
| July .... | 4.19     | 66.4     | .063          |
| Aug. .... | .97      | 19.0     | .051          |
| Sept. .   | 1.99     | 35.8     | .056          |
| Oct.....  | 3.88     | 43.3     | .090          |
| Nov. .... | 1.88     | 34.2     | .055          |
| Dec. .... | 4.96     | 103.9    | .048          |
| Year .... | 35.27    | 669.9    | .053          |

*Freedom Park, Plymouth, Devon.D\****James Paton, Esq., C.E.**

N. &amp; Z.'s Hyetograph. 208 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | in.      | hours.   | in.           |
| Jan. ....  | 8.08     | 135.1    | .060          |
| Feb. ....  | 1.03     | 34.4     | .030          |
| Mar. ....  | 4.66     | 82.6     | .056          |
| Apr. ....  | 3.96     | 81.9     | .048          |
| May ....   | 1.76     | 56.1     | .031          |
| June ....  | 2.30     | 44.9     | .051          |
| July ....  | 4.88     | 82.9     | .059          |
| Aug. ....  | 1.22     | 22.6     | .054          |
| Sept. .... | 2.19     | 36.5     | .060          |
| Oct.....   | 4.41     | 57.3     | .077          |
| Nov. ....  | 2.31     | 41.5     | .056          |
| Dec. ....  | 6.06     | 123.5    | .049          |
| Year ....  | 42.86    | 799.3    | .054          |

*Falmouth Observatory, Cornwall.***Meteorological Office.**

Beckley Gauge. 169 ft. above Sea.

|            | mm.    | hours. | mm.  |
|------------|--------|--------|------|
| Jan. ....  | 189.6  | 107.2  | 1.77 |
| Feb. ....  | 25.1   | 17.7   | 1.42 |
| Mar. ....  | 111.5  | 59.5   | 1.87 |
| Apr. ....  | 113.4  | 57.9   | 1.96 |
| May ....   | 59.9   | 31.6   | 1.90 |
| June ....  | 66.7   | 35.0   | 1.91 |
| July ....  | 132.8  | 53.6   | 2.48 |
| Aug. ....  | 35.5   | 19.1   | 1.86 |
| Sept. .... | 101.7  | 27.5   | 3.70 |
| Oct.....   | 168.6  | 50.9   | 3.31 |
| Nov. ....  | 55.0   | 30.9   | 1.78 |
| Dec. ....  | 140.6  | 68.1   | 2.07 |
| Year ....  | 1200.4 | 559.0  | 2.15 |

*Dollarward House, Cirencester, Glos.D***C. P. Hooker, Esq., F.R.Met.Soc.**

N. &amp; Z.'s Hyetograph. 366 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 4.30  | 101.1  | .043 |
| Feb. ....  | 1.13  | 45.4   | .025 |
| Mar. ....  | 3.11  | 94.2   | .033 |
| Apr. ....  | 5.17  | 132.0  | .039 |
| May ....   | 2.02  | 41.9   | .048 |
| June ....  | 3.22  | 51.7   | .062 |
| July ....  | 4.84  | 94.3   | .051 |
| Aug. ....  | 1.28  | 32.9   | .039 |
| Sept. .... | 1.83  | 47.8   | .038 |
| Oct.....   | 2.53  | 77.0   | .033 |
| Nov. ....  | 1.48  | 34.0   | .044 |
| Dec. ....  | 3.84  | 90.2   | .043 |
| Year ....  | 34.75 | 842.5  | .041 |

*Almeley, Herefordshire.D***B. G. Ronalds, Esq., F.R.Met.Soc.**

N. &amp; Z.'s Hyetograph. 396 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 3.45  | 65.2   | .053 |
| Feb. ....  | 1.24  | 24.2   | .051 |
| Mar. ....  | 4.09  | 61.2   | .067 |
| Apr. ....  | 4.50  | 84.5   | .053 |
| May ....   | 1.63  | 33.3   | .049 |
| June ....  | 3.89  | 40.7   | .096 |
| July ....  | 4.89  | 50.9   | .096 |
| Aug. ....  | .99   | 17.0   | .058 |
| Sept. .... | 2.49  | 31.4   | .079 |
| Oct.....   | 3.77  | 64.3   | .059 |
| Nov. ....  | 1.33  | 20.6   | .065 |
| Dec. ....  | 3.18  | 65.6   | .048 |
| Year ....  | 35.45 | 558.9  | .063 |

*Mayfield House, Ashbourne, Staffs.D***Graham C. Lawson, Esq.**

Casella's Recorder. 374 ft. above Sea.

|            | mm.   | hours. | mm.  |
|------------|-------|--------|------|
| Jan. ....  | 106.7 | 80.1   | 1.33 |
| Feb. ....  | 75.0  | 55.5   | 1.35 |
| Mar. ....  | 51.0  | 58.4   | .87  |
| Apr. ....  | 126.6 | 136.1  | .93  |
| May ....   | 92.0  | 74.7   | 1.23 |
| June ....  | 110.5 | 45.2   | 2.45 |
| July ....  | 135.6 | 93.6   | 1.45 |
| Aug. ....  | 34.1  | 32.5   | 1.05 |
| Sept. .... | 50.8  | 54.2   | .94  |
| Oct.....   | 53.1  | 63.9   | .83  |
| Nov. ....  | 29.2  | 36.9   | .79  |
| Dec. ....  | 81.8  | 76.8   | 1.07 |
| Year ....  | 946.4 | 807.9  | 1.17 |

*Moor Hall, Bidford, Warwickshire.D***E. H. Gubberley, Esq.**

N. &amp; Z.'s Hyetograph. 130 ft. above Sea.

| 1920      | Rainfall | Duration | Rate per hour |
|-----------|----------|----------|---------------|
|           | in.      | hours.   | in.           |
| Jan. .... | 2.16     | 34.0     | .064          |
| Feb. .... | .59      | 11.9     | .050          |
| Mar. .... | 2.54     | 40.4     | .063          |
| Apr. .... | 3.72     | 63.9     | .058          |
| May ....  | 1.66     | 28.6     | .058          |
| June .... | 2.11     | 22.3     | .095          |
| July .... | 4.53     | 47.3     | .096          |
| Aug. .... | 1.33     | 20.9     | .064          |
| Sept. ... | 2.48     | 26.9     | .092          |
| Oct. .... | 2.75     | 29.9     | .092          |
| Nov. .... | .51      | 6.5      | .078          |
| Dec. .... | 1.76     | 30.0     | .059          |
| Year .... | 26.14    | 362.6    | .072          |

*Cranwell, Lincolnshire.D***Air Ministry.**

N. &amp; Z.'s Hyetograph. 237 ft. above Sea.

| 1920      | Rainfall | Duration | Rate per hour |
|-----------|----------|----------|---------------|
|           | mm.      | hours.   | mm.           |
| Jan. .... | 47.8     | 79.9     | .60           |
| Feb. .... | 33.5     | 42.5     | .79           |
| Mar. .... | 58.9     | 57.2     | 1.02          |
| Apr. .... | 110.4    | 122.7    | .90           |
| May ....  | 66.5     | 45.3     | 1.47          |
| June .... | 50.3     | 50.7     | .99           |
| July .... | 51.7     | 48.4     | 1.17          |
| Aug. .... | 35.6     | 23.6     | 1.51          |
| Sept. ... | 36.1     | 31.8     | 1.14          |
| Oct. .... | 34.6     | 27.1     | 1.28          |
| Nov. .... | 21.5     | 16.7     | 1.29          |
| Dec. .... | 54.2     | 41.9     | 1.29          |
| Year .... | 601.1    | 587.8    | 1.02          |

*Trent Lane, Nottingham.D***A. Brown, Esq., C.E., F.R.Met.Soc.**

Halliwell Recorder. 85 ft. above Sea.

|           | in.   | hours. | in.  |
|-----------|-------|--------|------|
| Jan. .... | 2.61  | 52.7   | .050 |
| Feb. .... | 1.97  | 38.5   | .051 |
| Mar. .... | 1.68  | 39.3   | .043 |
| Apr. .... | 3.99  | 105.0  | .038 |
| May ....  | 2.04  | 42.2   | .048 |
| June .... | 2.37  | 48.8   | .049 |
| July .... | 4.50  | 85.3   | .053 |
| Aug. .... | .87   | 25.0   | .035 |
| Sept. ... | 1.46  | 34.7   | .042 |
| Oct. .... | 1.11  | 45.8   | .024 |
| Nov. .... | .94   | 27.7   | .034 |
| Dec. .... | 2.38  | 53.3   | .045 |
| Year .... | 25.92 | 598.3  | .043 |

*Hodsock Priory, Nottinghamshire.D***Lt.-Col. H. Mellish, C.B., F.R.Met.Soc.**

Halliwell Recorder. 56 ft. above Sea.

|           | in.   | hours. | in.  |
|-----------|-------|--------|------|
| Jan. .... | 2.49  | 45.1   | .055 |
| Feb. .... | 2.12  | 31.1   | .068 |
| Mar. .... | 2.22  | 48.5   | .046 |
| Apr. .... | 3.74  | 96.5   | .039 |
| May ....  | 2.10  | 35.5   | .059 |
| June .... | 1.99  | 36.4   | .055 |
| July .... | 2.93  | 54.1   | .054 |
| Aug. .... | .65   | 17.3   | .038 |
| Sept. ... | 1.59  | 25.9   | .061 |
| Oct. .... | 1.88  | 36.6   | .051 |
| Nov. .... | 1.05  | 28.5   | .037 |
| Dec. .... | 2.35  | 51.2   | .046 |
| Year .... | 25.11 | 506.7  | .050 |

*Bidston Observatory, Cheshire.D***Mersey Docks and Harbour Board.**

Osler's Gauge. 189 ft. above Sea.

|           | in.   | hours. | in.  |
|-----------|-------|--------|------|
| Jan. .... | 2.66  | 73.3   | .036 |
| Feb. .... | 2.22  | 56.2   | .040 |
| Mar. .... | 3.54  | 82.1   | .043 |
| Apr. .... | 3.97  | 127.5  | .031 |
| May ....  | 2.71  | 84.6   | .032 |
| June .... | 3.68  | 47.5   | .077 |
| July .... | 5.37  | 105.3  | .051 |
| Aug. .... | 1.63  | 39.4   | .041 |
| Sept. ... | 2.58  | 57.3   | .045 |
| Oct. .... | 2.07  | 25.1   | .082 |
| Nov. .... | .65   | 20.7   | .031 |
| Dec. .... | 2.26  | 40.8   | .055 |
| Year .... | 33.34 | 759.8  | .044 |

*Blundellsands, Lancashire.D***Hugh Montgomery, Esq., F.R.Met.Soc.**

N. &amp; Z.'s Hyetograph. 35 ft. above Sea.

|           | in.   | hours. | in.  |
|-----------|-------|--------|------|
| Jan. .... | 3.48  | 68.0   | .051 |
| Feb. .... | 2.36  | 64.5   | .037 |
| Mar. .... | 4.20  | 80.3   | .052 |
| Apr. .... | 4.18  | 109.5  | .038 |
| May ....  | 3.56  | 86.2   | .041 |
| June .... | 3.57  | 41.5   | .086 |
| July .... | 5.92  | 113.8  | .052 |
| Aug. .... | 2.12  | 45.7   | .046 |
| Sept. ... | 3.31  | 58.8   | .056 |
| Oct. .... | 1.50  | 30.2   | .050 |
| Nov. .... | .91   | 17.5   | .052 |
| Dec. .... | 2.24  | 50.5   | .044 |
| Year .... | 37.35 | 766.5  | .049 |

*Queen's Park, Bolton, Lancashire.D*  
**Thos. Midgley, Esq., F.R.Met.Soc.**  
 Casella's Recorder. 342 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | mm.      | hours.   | mm.           |
| Jan. ....  | 115.5    | 84.5     | 1.37          |
| Feb. ....  | 99.2     | 53.5     | 1.85          |
| Mar. ....  | 103.9    | 88.0     | 1.18          |
| Apr. ....  | 141.4    | 134.8    | 1.05          |
| May ....   | 192.2    | 136.5    | 1.41          |
| June ....  | 71.1     | 44.7     | 1.59          |
| July ....  | 195.8    | 143.5    | 1.36          |
| Aug. ....  | 64.9     | 43.3     | 1.50          |
| Sept. .... | 87.7     | 84.0     | 1.04          |
| Oct. ....  | 42.0     | 31.7     | 1.32          |
| Nov. ....  | 45.7     | 32.3     | 1.42          |
| Dec. ....  | 95.2     | 60.0     | 1.59          |
| Year ....  | 1254.6   | 936.8    | 1.34          |

*Worden Hall, Leyland, Lancashire.D*  
**H. Nowell Farington, Esq., F.R.Met.Soc.**  
 N. & Z.'s Hyetograph. 125 ft. above Sea.

|            | mm.    | hours. | mm.  |
|------------|--------|--------|------|
| Jan. ....  | 97.3   | 83.1   | 1.17 |
| Feb. ....  | 68.6   | 52.9   | 1.30 |
| Mar. ....  | 101.0  | 89.3   | 1.13 |
| Apr. ....  | 108.8  | 109.5  | .99  |
| May ....   | 175.5  | 101.2  | 1.73 |
| June ....  | 67.4   | 43.8   | 1.54 |
| July ....  | 136.2  | 111.8  | 1.22 |
| Aug. ....  | 51.1   | 43.7   | 1.17 |
| Sept. .... | 80.2   | 64.3   | 1.25 |
| Oct. ....  | 25.2   | 27.9   | .90  |
| Nov. ....  | 39.6   | 27.7   | 1.43 |
| Dec. ....  | 63.4   | 58.8   | 1.08 |
| Year ....  | 1014.3 | 814.0  | 1.25 |

*Greg Observatory, Lancaster, Lancashire.*  
**Neville Holden, Esq.**  
 Beckley Gauge. 312 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 4.17  | 82.5   | .051 |
| Feb. ....  | 3.02  | 66.8   | .045 |
| Mar. ....  | 5.53  | 96.6   | .057 |
| Apr. ....  | 4.73  | 107.4  | .044 |
| May ....   | 5.97  | 91.5   | .065 |
| June ....  | 2.50  | 36.3   | .069 |
| July ....  | 6.95  | 113.8  | .061 |
| Aug. ....  | 2.35  | 45.0   | .052 |
| Sept. .... | 3.06  | 61.5   | .050 |
| Oct. ....  | 1.43  | 34.2   | .042 |
| Nov. ....  | 3.08  | 52.1   | .059 |
| Dec. ....  | 3.08  | 64.7   | .048 |
| Year ....  | 45.87 | 852.4  | .054 |

*Manchester Aerodrome, Lancashire.D*  
**Air Ministry.**  
 N. & Z.'s Hyetograph. 100 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | mm.      | hours.   | mm.           |
| Jan. ....  | ..       | ..       | ..            |
| Feb. ....  | ..       | ..       | ..            |
| Mar. ....  | ..       | ..       | ..            |
| Apr. ....  | ..       | ..       | ..            |
| May ....   | ..       | ..       | ..            |
| June ....  | ..       | ..       | ..            |
| July ....  | 160.9    | 132.8    | 1.21          |
| Aug. ....  | 45.8     | 54.9     | .83           |
| Sept. .... | 61.4     | 60.3     | 1.02          |
| Oct. ....  | 34.1     | 35.9     | .95           |
| Nov. ....  | 23.5     | 20.1     | 1.17          |
| Dec. ....  | 65.2     | 63.0     | 1.04          |
| Year ....  | ..       | ..       | ..            |

*Hesketh Park, Southport, Lancashire.D*  
**J. Baxendell, Esq., F.R.Met.Soc.**  
 N. & Z.'s Fernley Gauge. 39 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 3.48  | 71.0   | .049 |
| Feb. ....  | 2.10  | 61.3   | .034 |
| Mar. ....  | 3.83  | 83.0   | .046 |
| Apr. ....  | 4.07  | 109.1  | .037 |
| May ....   | 3.57  | 87.7   | .041 |
| June ....  | 2.62  | 43.7   | .060 |
| July ....  | 4.73  | 102.3  | .046 |
| Aug. ....  | 1.46  | 37.6   | .039 |
| Sept. .... | 3.15  | 64.4   | .049 |
| Oct. ....  | 1.13  | 25.9   | .044 |
| Nov. ....  | 1.40  | 24.1   | .058 |
| Dec. ....  | 2.54  | 52.5   | .048 |
| Year ....  | 34.08 | 762.6  | .045 |

*Huddersfield Cemetery, Yorkshire.*  
**J. Firth, Esq.**  
 Halliwell Recorder. 410 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 4.73  | 87.4   | .054 |
| Feb. ....  | 4.43  | 62.7   | .071 |
| Mar. ....  | 2.80  | 70.2   | .040 |
| Apr. ....  | 4.44  | 147.3  | .030 |
| May ....   | 4.12  | 77.3   | .053 |
| June ....  | 2.93  | 55.9   | .052 |
| July ....  | 6.52  | 108.0  | .060 |
| Aug. ....  | 1.23  | 31.2   | .039 |
| Sept. .... | 1.48  | 28.9   | .051 |
| Oct. ....  | 2.65  | 57.7   | .046 |
| Nov. ....  | 2.25  | 46.8   | .048 |
| Dec. ....  | 3.66  | 86.7   | .042 |
| Year ....  | 41.24 | 860.1  | .048 |



*Lower Laithe Res., Haworth, Yorkshire.D***M. R. Barnett, Esq., M.Inst.C.E.**

N. &amp; Z.'s Hyetograph. 772 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | in.      | hours.   | in.           |
| Jan. ....  | 6.53     | 147.0    | .044          |
| Feb. ....  | 4.55     | 96.5     | .047          |
| Mar. ....  | 4.58     | 122.3    | .037          |
| Apr. ....  | 6.04     | 220.5    | .027          |
| May ....   | 5.48     | 145.2    | .038          |
| June ....  | 2.32     | 62.3     | .037          |
| July ....  | 6.92     | 140.7    | .049          |
| Aug. ....  | 1.84     | 60.8     | .030          |
| Sept. .... | 1.89     | 63.2     | .030          |
| Oct. ....  | 3.02     | 79.3     | .038          |
| Nov. ....  | 3.29     | 121.0    | .027          |
| Dec. ....  | 4.44     | 122.5    | .036          |
| Year ....  | 50.90    | 1381.3   | .037          |

*Town Hall, Skipton, Yorkshire.D***A. E. W. Aldridge, Esq.**

N. &amp; Z.'s Hyetograph. 367 ft. above Sea.

|            | in.   | hours. | n.   |
|------------|-------|--------|------|
| Jan. ....  | 4.30  | 93.8   | .046 |
| Feb. ....  | 2.74  | 58.5   | .047 |
| Mar. ....  | 2.76  | 59.8   | .046 |
| Apr. ....  | 3.58  | 92.0   | .039 |
| May ....   | 3.91  | 89.5   | .044 |
| June ....  | 1.37  | 23.7   | .058 |
| July ....  | 4.84  | 78.5   | .062 |
| Aug. ....  | 1.98  | 33.3   | .059 |
| Sept. .... | 1.40  | 30.0   | .047 |
| Oct. ....  | 2.88  | 52.0   | .055 |
| Nov. ....  | 2.54  | 44.2   | .057 |
| Dec. ....  | 3.44  | 59.0   | .058 |
| Year ....  | 35.74 | 714.3  | .050 |

*Mount St. John, Felixkirk, Yorkshire.D***A. J. Walker, Esq., F.R.Met.Soc.**

Halliwell Recorder. 542 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 3.26  | 50.1   | .065 |
| Feb. ....  | .77   | 24.6   | .031 |
| Mar. ....  | 2.22  | 49.9   | .044 |
| Apr. ....  | 2.85  | 68.8   | .041 |
| May ....   | 2.28  | 40.0   | .057 |
| June ....  | 1.81  | 12.3   | .147 |
| July ....  | 4.48  | 76.9   | .058 |
| Aug. ....  | 2.54  | 41.4   | .061 |
| Sept. .... | 1.30  | 29.1   | .045 |
| Oct. ....  | 2.52  | 36.4   | .069 |
| Nov. ....  | 1.16  | 24.1   | .048 |
| Dec. ....  | 3.56  | 59.3   | .060 |
| Year ....  | 28.75 | 512.9  | .056 |

*Earby Sewage Works, Yorkshire.D***J. E. Aldersley, Esq.**

N. &amp; Z.'s Hyetograph. 426 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | in.      | hours.   | in.           |
| Jan. ....  | 4.88     | 80.2     | .061          |
| Feb. ....  | 3.68     | (66.0)   | .056          |
| Mar. ....  | 3.71     | (64.8)   | .057          |
| Apr. ....  | 5.55     | 86.5     | .064          |
| May ....   | 5.59     | 74.5     | .075          |
| June ....  | 2.02     | 23.7     | .085          |
| July ....  | 7.64     | 89.3     | .086          |
| Aug. ....  | 3.02     | 35.5     | .085          |
| Sept. .... | 2.09     | 37.4     | .056          |
| Oct. ....  | 2.14     | 35.2     | .061          |
| Nov. ....  | 3.06     | 41.0     | .075          |
| Dec. ....  | 4.01     | 60.8     | .066          |
| Year ....  | 47.39    | (694.9)  | .068          |

*Howden Airship Station, Yorkshire.D***Air Ministry.**

N. &amp; Z.'s Hyetograph. 20 ft. above Sea.

|            | mm.   | hours. | mm.  |
|------------|-------|--------|------|
| Jan. ....  | ..    | ..     | ..   |
| Feb. ....  | ..    | ..     | ..   |
| Mar. ....  | ..    | ..     | ..   |
| Apr. ....  | 82.4  | 95.0   | .87  |
| May ....   | 45.0  | 35.5   | 1.27 |
| June ....  | 37.5  | 20.8   | 1.80 |
| July ....  | 112.2 | 86.0   | 1.30 |
| Aug. ....  | 35.6  | 26.3   | 1.35 |
| Sept. .... | 25.8  | 27.0   | .96  |
| Oct. ....  | 56.5  | 24.7   | 2.29 |
| Nov. ....  | 22.7  | 19.8   | 1.15 |
| Dec. ....  | 50.7  | 44.4   | 1.14 |
| Year ....  | ..    | ..     | ..   |

*Mount St. John, Felixkirk, Yorkshire.D***A. J. Walker, Esq., F.R.Met.Soc.**

N. &amp; Z.'s Hyetograph. 542 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 3.26  | 49.6   | .066 |
| Feb. ....  | .77   | 20.6   | .037 |
| Mar. ....  | 2.22  | 47.7   | .047 |
| Apr. ....  | 2.85  | 59.3   | .048 |
| May ....   | 2.28  | 36.2   | .063 |
| June ....  | 1.81  | 10.7   | .169 |
| July ....  | 4.48  | 70.8   | .063 |
| Aug. ....  | 2.54  | 37.9   | .067 |
| Sept. .... | 1.30  | 25.3   | .051 |
| Oct. ....  | 2.52  | 34.2   | .074 |
| Nov. ....  | 1.16  | 23.0   | .050 |
| Dec. ....  | 3.56  | 57.1   | .062 |
| Year ....  | 28.75 | 472.4  | .061 |

*Mount St. John, Felixkirk, Yorkshire.D***A. J. Walker, Esq., F.R.Met.Soc.**

Casella's Recorder. 542 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | in.      | hours.   | in.           |
| Jan. ....  | 3.26     | 50.6     | .065          |
| Feb. ....  | .77      | 18.3     | .042          |
| Mar. ....  | 2.22     | 42.5     | .052          |
| Apr. ....  | 2.85     | 61.6     | .046          |
| May ....   | 2.28     | 36.0     | .063          |
| June ....  | 1.81     | 11.0     | .165          |
| July ....  | 4.48     | 66.4     | .067          |
| Aug. ....  | 2.54     | 38.2     | .066          |
| Sept. .... | 1.30     | 25.7     | .051          |
| Oct. ....  | 2.52     | 34.8     | .072          |
| Nov. ....  | 1.16     | 23.6     | .049          |
| Dec. ....  | 3.56     | 60.1     | .059          |
| Year ....  | 28.75    | 468.8    | .061          |

*Cray Reservoir, Breconshire.D***Lt. G. R. Collinson, C.E.**

Halliwell Recorder. 1,044 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 11.79 | 277.0  | .043 |
| Feb. ....  | 3.39  | 160.2  | .021 |
| Mar. ....  | 9.64  | 215.9  | .045 |
| Apr. ....  | 12.26 | 327.6  | .037 |
| May ....   | 5.32  | 142.6  | .037 |
| June ....  | 5.24  | 97.2   | .054 |
| July ....  | 9.36  | 198.6  | .047 |
| Aug. ....  | 3.52  | 82.4   | .043 |
| Sept. .... | 5.48  | 89.8   | .061 |
| Oct. ....  | 7.90  | 117.7  | .067 |
| Nov. ....  | 4.16  | 126.5  | .033 |
| Dec. ....  | 11.28 | 205.8  | .055 |
| Year ....  | 89.34 | 2041.3 | .044 |

*Eskdalemuir Observatory, Dumfries.***Meteorological Office.**

Beckley Gauge. 799 ft. above Sea.

|            | mm.    | hours. | mm.  |
|------------|--------|--------|------|
| Jan. ....  | 213.3  | 186.2  | 1.15 |
| Feb. ....  | 171.4  | 138.6  | 1.24 |
| Mar. ....  | 188.3  | 154.4  | 1.22 |
| Apr. ....  | 107.7  | 104.3  | 1.03 |
| May ....   | 200.2  | 134.7  | 1.49 |
| June ....  | 70.9   | 45.7   | 1.55 |
| July ....  | 152.8  | 114.3  | 1.34 |
| Aug. ....  | 151.6  | 74.5   | 2.03 |
| Sept. .... | 76.8   | 87.8   | .87  |
| Oct. ....  | 53.8   | 43.4   | 1.24 |
| Nov. ....  | 106.5  | 75.7   | 1.41 |
| Dec. ....  | 157.5  | 126.5  | 1.24 |
| Year ....  | 1650.8 | 1286.1 | 1.29 |

*Swansea, Victoria Park, Glamorgan.D***Mr. D. Bliss.**

N. &amp; Z.'s Hyetograph. 26 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | mm.      | hours.   | mm.           |
| Jan. ....  | 190.0    | ..       | ..            |
| Feb. ....  | 46.2     | ..       | ..            |
| Mar. ....  | 140.3    | ..       | ..            |
| Apr. ....  | 191.3    | ..       | ..            |
| May ....   | 101.6    | ..       | ..            |
| June ....  | 83.6     | ..       | ..            |
| July ....  | 200.3    | ..       | ..            |
| Aug. ....  | 54.9     | 45.7     | 1.20          |
| Sept. .... | 124.6    | 74.2     | 1.68          |
| Oct. ....  | 124.7    | 83.9     | 1.48          |
| Nov. ....  | 85.9     | 58.5     | 1.47          |
| Dec. ....  | 125.0    | 97.0     | 1.29          |
| Year ....  | 1468.4   | ..       | ..            |

*Aber Clyd, Black Mtns., Breconshire.***J. F. Jupp, Esq., C.E.**

N. &amp; Z.'s Hyetograph. 1,880 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 5.66  | 94.7   | .060 |
| Feb. ....  | 2.31  | 46.4   | .050 |
| Mar. ....  | 6.29  | 82.6   | .076 |
| Apr. ....  | 9.57  | 134.6  | .071 |
| May ....   | 4.28  | 50.4   | .085 |
| June ....  | 5.17  | 57.3   | .090 |
| July ....  | 7.79  | 76.5   | .102 |
| Aug. ....  | 2.22  | 29.3   | .076 |
| Sept. .... | 5.76  | 48.5   | .119 |
| Oct. ....  | 7.89  | 81.0   | .097 |
| Nov. ....  | 2.48  | 41.0   | .060 |
| Dec. ....  | 6.55  | 81.0   | .081 |
| Year ....  | 65.97 | 823.3  | .080 |

*Renfrew Aerodrome, Renfrewshire.D***Air Ministry.**

N. &amp; Z.'s Hyetograph. 49 ft. above Sea.

|            | mm.   | hours. | mm.  |
|------------|-------|--------|------|
| Jan. ....  | ..    | ..     | ..   |
| Feb. ....  | ..    | ..     | ..   |
| Mar. ....  | ..    | ..     | ..   |
| Apr. ....  | ..    | ..     | ..   |
| May ....   | ..    | ..     | ..   |
| June ....  | ..    | ..     | ..   |
| July ....  | ..    | ..     | ..   |
| Aug. ....  | 129.4 | 86.9   | 1.49 |
| Sept. .... | 58.8  | 64.6   | .91  |
| Oct. ....  | 37.5  | 25.8   | 1.45 |
| Nov. ....  | 110.4 | 89.7   | 1.23 |
| Dec. ....  | 106.3 | 88.9   | 1.20 |
| Year ....  | ..    | ..     | ..   |

*Blackwater Dam, Glenleven, Argyll.D\****The British Aluminium Co.**

N. &amp; Z.'s Hyetograph. 1,072 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | in.      | hours.   | in.           |
| Jan. ....  | 13.15    | 210.2    | .063          |
| Feb. ....  | 18.43    | 235.9    | .078          |
| Mar. ....  | 9.55     | 160.1    | .060          |
| Apr. ....  | 3.48     | 75.3     | .046          |
| May ....   | 8.85     | 152.4    | .058          |
| June ....  | 3.93     | 61.0     | .064          |
| July ....  | 5.79     | 96.6     | .060          |
| Aug. ....  | 5.53     | 96.8     | .057          |
| Sept. .... | 4.64     | 92.4     | .050          |
| Oct. ....  | 4.88     | 59.8     | .082          |
| Nov. ....  | 11.80    | 191.7    | .062          |
| Dec. ....  | 8.79     | 145.5    | .060          |
| Year ....  | 98.82    | 1577.7   | .063          |

*King's College, Aberdeen.***Meteorological Office.**

Beckley Gauge.

44 ft. above Sea.

| 1920       | Rainfall | Duration | Rate per hour |
|------------|----------|----------|---------------|
|            | mm.      | hours.   | mm.           |
| Jan. ....  | 33.5     | 27.2     | 1.23          |
| Feb. ....  | 26.0     | 32.6     | .80           |
| Mar. ....  | 69.3     | 67.2     | 1.03          |
| Apr. ....  | 53.9     | 57.1     | .94           |
| May ....   | 104.1    | 74.3     | 1.40          |
| June ....  | 20.1     | 17.4     | 1.15          |
| July ....  | 89.1     | 71.7     | 1.24          |
| Aug. ....  | 50.4     | 52.4     | .96           |
| Sept. .... | 43.7     | 32.5     | 1.34          |
| Oct. ....  | 72.3     | 55.2     | 1.31          |
| Nov. ....  | 41.5     | 40.3     | 1.03          |
| Dec. ....  | 91.9     | 80.0     | 1.15          |
| Year ....  | 695.8    | 607.9    | 1.14          |

*University College, Cork.D***H. N. Walsh, Esq.**

N. &amp; Z.'s Hyetograph. 66 ft. above Sea.

|            | in.   | hours. | in.  |
|------------|-------|--------|------|
| Jan. ....  | 5.94  | 111.3  | .053 |
| Feb. ....  | 1.67  | 83.4   | .020 |
| Mar. ....  | 4.14  | 70.5   | .059 |
| Apr. ....  | 5.54  | 120.1  | .046 |
| May ....   | 5.36  | 65.5   | .082 |
| June ....  | 3.22  | 36.8   | .088 |
| July ....  | 3.96  | 77.3   | .051 |
| Aug. ....  | 2.28  | 42.5   | .054 |
| Sept. .... | 2.66  | 30.3   | .088 |
| Oct. ....  | 3.96  | 48.8   | .081 |
| Nov. ....  | 4.16  | 56.2   | .074 |
| Dec. ....  | 5.12  | 66.8   | .077 |
| Year ....  | 48.01 | 809.5  | .059 |

*Valentia Observatory, Co. Kerry.***Meteorological Office.**

Beckley Gauge.

30 ft. above Sea.

|            | mm.    | hours. | mm.  |
|------------|--------|--------|------|
| Jan. ....  | 196.5  | 123.5  | 1.59 |
| Feb. ....  | 63.7   | 59.6   | 1.07 |
| Mar. ....  | 161.1  | 90.6   | 1.78 |
| Apr. ....  | 156.1  | 94.8   | 1.65 |
| May ....   | 121.6  | 69.3   | 1.75 |
| June ....  | 77.7   | 50.2   | 1.55 |
| July ....  | 123.1  | 70.2   | 1.76 |
| Aug. ....  | 53.9   | 35.5   | 1.52 |
| Sept. .... | 124.6  | 66.9   | 1.86 |
| Oct. ....  | 203.0  | 86.1   | 2.36 |
| Nov. ....  | 184.7  | 94.0   | 1.97 |
| Dec. ....  | 183.1  | 83.1   | 2.21 |
| Year ....  | 1649.1 | 923.8  | 1.79 |

*Armagh Observatory, Co. Armagh.***Meteorological Office.**

Beckley Gauge. 196 ft. above Sea.

|            | mm.   | hours. | mm.  |
|------------|-------|--------|------|
| Jan. ....  | 104.5 | 75.2   | 1.39 |
| Feb. ....  | 62.8  | 49.0   | 1.28 |
| Mar. ....  | 81.2  | 64.4   | 1.26 |
| Apr. ....  | 73.4  | 62.1   | 1.18 |
| May ....   | 75.3  | 53.3   | 1.41 |
| June ....  | 60.2  | (27.0) | 2.23 |
| July ....  | 75.9  | 64.4   | 1.18 |
| Aug. ....  | 48.8  | 32.2   | 1.52 |
| Sept. .... | 57.6  | 38.9   | 1.48 |
| Oct. ....  | 136.1 | 66.7   | 2.04 |
| Nov. ....  | 69.0  | 54.0   | 1.28 |
| Dec. ....  | 77.3  | (58.1) | 1.33 |
| Year ....  | 922.1 | 645.3  | 1.43 |

*Glenedra Lodge, Co. Londonderry.D\****M. A. Robinson, Esq., C.E.**

N. &amp; Z.'s Hyetograph. 950 ft. above Sea.

|            | in.   | hours. | n.   |
|------------|-------|--------|------|
| Jan. ....  | 7.66  | 147.3  | .052 |
| Feb. ....  | 4.42  | 113.5  | .039 |
| Mar. ....  | 4.91  | 132.2  | .037 |
| Apr. ....  | 4.71  | 104.8  | .045 |
| May ....   | 5.75  | 124.3  | .046 |
| June ....  | 2.74  | 49.7   | .055 |
| July ....  | 4.61  | 110.1  | .042 |
| Aug. ....  | 3.58  | 81.3   | .044 |
| Sept. .... | 3.93  | 61.4   | .064 |
| Oct. ....  | 8.04  | 84.3   | .095 |
| Nov. ....  | 6.73  | 124.6  | .054 |
| Dec. ....  | 6.13  | 106.3  | .058 |
| Year ....  | 63.21 | 1239.8 | .051 |

to the difficulty which is felt in interpreting and generalizing upon duration records on account of the want of uniformity which they are found to exhibit. This want of uniformity was traced to two main causes which may be summed up briefly under the headings of the personal and the instrumental equations.

The records in question are obtained by measuring the traces on the charts of self-recording rain gauges, giving an indication of the incidence of rain by a continuous line which is horizontal when rain is not falling and inclined at an angle during rain.

The need for standardization arises from the fact that the gradation from a state when it is not raining to one in which it is distinctly raining is infinitely gradual, so that it is impossible to define exactly at what stage the transition from not-rain to rain occurs. No increase in sensibility either on the part of the computer or of the instrument increases the degree of definition; the only effect of a high sensitiveness being to shift the transition point and to include as measured duration rain of an intensity smaller than would otherwise be perceptible and which would therefore have been ignored. The duration of rainfall of this debatable intensity is unfortunately large in comparison with the total duration, so that uncertainty in measuring it has a disproportionately great effect on the total duration values.

With regard to the range of the personal equation it is impossible to dogmatize, but experience has shown that it is considerable. The instrumental equation is probably equally great but less variable. Broadly speaking the older patterns of self-recording rain gauge, such as the Casella Standard and the Beckley, are of low sensitiveness, principally on account of their rather heavy moving parts. More modern gauges are of greater sensitiveness, the Hyetograph readily responding to rain of an intensity which makes no impression on the Casella Standard, and the Halliwell and Fernley gauges being even more responsive. In consequence, although no numerical values can be assigned, it may be taken as fairly certain that, other things being equal, the duration values yielded by a modern gauge will be greater than those derived from a gauge of older design. The extreme limit of variation due to the instrument alone is probably of the order of from 15 to 20 per cent. of the total duration. The effect is most readily seen in studying the mean rate of rainfall per hour, since the regional variation of the latter is smaller than that of total duration and any discrepancy is more readily noticed. The effect of want of sensitiveness in the gauge is of course to increase the indicated rate per hour.

The fact that the observed discrepancies between rainfall duration records arise solely from uncertainty in regard to the allowance which should be made for very light rainfall, whether this is due to the computer or to the instrument, points the way to the remedy. The minimum intensity of rainfall which should be readily perceptible to

any computer and easily visible on the trace of any gauge is fortunately a fairly low one, and it appears to be clear that if any rain of a smaller intensity is entirely excluded in measuring the duration most of the uncertainty will disappear. Test measurements have suggested that the greater part of the debatable duration of an intensity less than 0.1 mm. per hour, equivalent to about .004 in. per hour or .02 in. per five hours. Rain at any smaller rate is so insignificant that, even though some sensitive gauges will record it, it can hardly be regarded as of meteorological importance. The practice was therefore introduced a few years ago of excluding from official records of rainfall duration made for the Meteorological Office all periods when the intensity fell below 0.1 mm. per hour. These records have been printed in *British Rainfall* in special type in order to distinguish them from the records made for the British Rainfall Organization in which all rainfall visible on the traces was included.

Until the method had been fairly tested we have hesitated to recommend its general adoption, but the experience gained by the trained computers who have had long experience in this work has now been sufficient to show that the official method reduces the personal equation to a minimum and to some extent diminishes the instrumental uncertainty, though it probably does not entirely eliminate it.

In view of these considerations it appears that a step towards uniformity would be made were the use of the older method, that of including all visible duration, to be entirely discontinued, and the newer or standardized method introduced for general use. In order to further this, and to obtain the advantage of the views of experienced voluntary Observers the following letter has been addressed to British Rainfall Observers known to be recording rainfall duration.

### MEASUREMENT OF RAINFALL DURATION.

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In comparing records of the duration of rainfall measured from the charts of self-recording rain gauges it has been found that there is a want of uniformity with regard to the estimates of the duration of very light rainfall. Some Observers appear to make a very full allowance for light rainfall; others only a slight allowance. The duration of very light rainfall is so considerable that this difference in practice introduces a great disparity between the total numbers of hours of rainfall shown for different stations even when the meteorological conditions are very similar.

The difficulty is partly due to the fact that some self-recording rain gauges are more sensitive than others and therefore show light rain more readily.

It is found that the discrepancies between records are eliminated to a great extent by adopting a standard minimum intensity of rainfall below which no duration should be counted. For official purposes this minimum has been fixed after experiment at the rate of 0.1 mm. per hour, which is equivalent to .004 in. per hour. It is important to note that the standard is set not by the amount of rain but by the *rate* at which it falls. Thus if rain were

to fall at a uniform rate for an hour producing 0·1 mm. or ·004 in., or more, the whole hour would be included in the count; whereas, if the rate of fall varied, only the time during which the rate exceeded the minimum would be counted as duration. For most of the self-recording rain gauges in common use (*see list below*) celluloid scales showing the minimum rate are to be obtained at a cost of a few shillings.

It is hoped that Observers will avail themselves of these scales. It is necessary in ordering these to state the pattern of gauge used.

Hyetograph.

Negretti and Zambra's Natural Syphon gauge. } Price 8s. 6d.

Halliwell. } Price 10s. 6d.

Fernley.

I should be much obliged if you would kindly let me know whether, commencing with *January 1st, 1922*, you would be willing to measure your records on the new plan. You will, I am sure, recognize the desirability of increasing the scientific value of the records of rainfall duration by adding to their precision.

Full details of the approved methods of measuring traces are being drafted and when ready copies will be sent on application.

It will be observed that it is not proposed to suggest the introduction of the new method by unofficial Observers until *January, 1922*.

It is hoped that as many Observers as possible will take advantage of the new standard scales being made by Messrs. Negretti and Zambra, the use of which greatly facilitates the measurements and increases the uniformity of the records. It is, of course, important to make sure that the scale is designed for the same gauge as that in use, as on account of the want of uniformity in the charts of various instruments a special scale is generally necessary for each pattern.

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## HEAVY RAINS IN SHORT PERIODS IN 1920.

Measurements of exceptionally intense rainfalls may be obtained either from the traces of self-registering instruments or by means of specially timed readings of an ordinary rain gauge. They are so local in their occurrence that the comparatively small number of self-recording gauges at work affords small hope of catching more than an insignificant fraction of those which take place; and they are often so unexpected and abrupt that unless the ordinary observer is constantly on the watch he may frequently fail to get an observation, either of the amount or of the time, at the critical moment.

It is, therefore, to be expected that only a part of those which occur can be put on record, and the observations quoted in this section must be regarded rather in the light of samples than as giving any complete account of the heavy rains of the year.

The records accumulated since 1868 provide a basis for a rough classification of heavy rainfalls of durations up to two hours, and for convenience these have been divided into three classes, the upper limits of which are defined in the following table. In the list referring to records in 1920, as in previous years, the "noteworthy" falls are distinguished by a cross, and the few "very rare" falls by a double cross.

TABLE I.—*Limits of Exceptional 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           |
| 70 ....  | 1.07              | .92            | 1.81        | 1.55           | 2.54       | 2.18           |
| 80 ....  | 1.12              | .84            | 1.85        | 1.39           | 2.57       | 1.93           |
| 90 ....  | 1.15              | .77            | 1.89        | 1.26           | 2.60       | 1.73           |
| 100 .... | 1.18              | .71            | 1.92        | 1.15           | 2.62       | 1.57           |
| 110 .... | 1.21              | .66            | 1.93        | 1.05           | 2.64       | 1.44           |
| 120 .... | 1.23              | .61            | 1.94        | .97            | 2.65       | 1.33           |

On account of the facts mentioned above, the number of noteworthy rains put on record in any year is not necessarily an index of frequency, though, with so large a number of potential observers of intense falls as is provided by the 5,000 contributors to *British Rainfall*, it must give a rough approximation by means of which one year can be compared with another.

The year 1920 was, in striking contrast to 1919, one of rather frequent heavy rains.

*Number of Noteworthy Rains of Two Hours' Duration or less.*

| Average<br>1868-1919 | } | England and Wales. |      |      |      |        | Scotland. | Ireland. | British<br>Isles. | Per cent.<br>of records<br>received. |
|----------------------|---|--------------------|------|------|------|--------|-----------|----------|-------------------|--------------------------------------|
|                      |   | S.E.               | S.W. | N.E. | N.W. | Total. |           |          |                   |                                      |
|                      |   | 15·9               | 7·3  | 4·3  | 2·0  | 29·5   | 2·1       | 1·2      | 32·8              | 1·0                                  |
| 1920                 |   | 16                 | 16   | 10   | 5    | 47     | 3         | 9        | 59                | 1·2                                  |

They were exceptionally numerous in the west of England and in Wales, and more so than usual in Ireland ; but in Scotland only three noteworthy rains of less than two hours' duration were recorded.

The intense rainfalls of 1920 occurred mainly in three well-marked spells of thunderstorm weather. The first of these was in the last week of May, culminating in the great rainstorm at Louth on the 29th ; the second in the middle of June, and the third at the beginning of July. Several isolated falls, none of which was of a very remarkable nature, occurred in the first half of October, an unusually late date for such phenomena.

The first and most notable of the three thunderstorm periods of 1920 commenced on May 25th, when heavy rains occurred in a west-to-east line across the British Isles. Records are quoted from Athlone in Co. Westmeath, Lampeter in Cardiganshire, and Barrington Hall in the west of Essex, the last-mentioned reaching the nearly unprecedented fall of 2·79 in. in 45 minutes. On the following day the storms were principally in the neighbourhood of the Thames Valley, the most remarkable being 1·72 in. in 45 minutes at Nettlebed, near Henley-on-Thames, and 2·56 in. in 1 hour 10 minutes at Barnes. The Barnes rainfall also exceeds the " very rare " limit, though by a narrow margin. On the 27th the thunderstorm area was more to the northward ; the most noteworthy event was a fall of 1·59 in. in 1 hour 30 minutes at Hackthorn Hall, near Lincoln, that is within the district affected by the great storms of two days later.

The heavy rainfalls of May 29th were widespread, and, like those of the 25th, appeared to affect tracts stretching from west to east across the British Isles. In the most southerly tract a group of records from the south of Ireland gave 1·02 in. in about 30 minutes at Newmarket-on-Fergus, 1·72 in. in 1 hour 30 minutes at Hurdlestown, near Broadford, both in Co. Clare, and 1·75 in. in 3 hours at Cork. In England ·75 in. fell in 15 minutes at St. Ives, Hunts. Farther to the north several stations in North Wales experienced noteworthy falls, the most remarkable being 1·02 in. in 15 minutes at Llandysilio, Montgomeryshire. The most intense rainfalls of the day, however, occurred in a tract extending from Lancashire to Lincolnshire, particularly at the two extremities. At the western end the principal centre was to the south



of Preston. At Worden Hall, Leyland, out of a total of 3·23 in. during the day, ·60 in. fell in 20 minutes from 16.40 to 17 h. (G.M.T.) and 1·65 in. from 17.55 to 18.15 h., the latter being well above the "very rare" limit. A copy of the Hyetograph trace covering the most important phase of the day's rainfall is reproduced. At Walton-le-Dale, out of a total of 3·25 in., nearly 3 in. fell during an hour and a half from 17 h., but no precisely timed measurement appears to have been made. Local accounts suggest that the rainfall was at least equally severe on Bleasdale Fells and Beacon Fell, and an extraordinary rise took place in the Barton Brook, a tributary of the River Wyre. At the eastern end of the rain belt, in Lincolnshire, the storms were more widespread, and locally even more intense. They culminated on the wolds to the west of Louth and southward to Horncastle. In this region no fewer than five "very rare" records were obtained, the most remarkable being that of 4·59 in. in 3 hours at Elkington Hall. At Hallington the gauge unfortunately overflowed at 4·10 in., but this amount fell in 2 hours. Ten miles to the south Horncastle had 3·95 in. in 3 hours. Further details of the great disaster to the town of Louth, in which 22 lives were lost and damage to the extent of £100,000 was done, will be found in the section dealing with Heavy Rains on Rainfall Days.

The thunder rains of June 11th to 18th were of far less remarkable character than those of May, being for the most part of short duration. On the 16th 1·97 in. fell in 1 hour at Wolverton, Bucks, and 1·02 in. fell in an hour at Newmarket-on-Fergus, Co. Clare; and on the following day 1·07 in. in 30 minutes at Perrystone Court, near Ross. The few instances on the 18th were more northerly, including one of the very few noteworthy intense rains recorded during the year in Scotland.

On July 3rd a fall of 2·50 in. in about two hours is reported as having occurred at Horningsham, Wiltshire, but the information is too indefinite to justify inclusion in the table. Not far distant, 1·75 in. fell in 1 hour 45 minutes at Kilmington; and on the 4th falls of a noteworthy character occurred at Liss and near East Grinstead.

The majority of the very intense rainfalls of 1920 were of greater duration than an hour, and are therefore excluded from the following list, which includes those of "very rare" intensity up to one hour since 1868. Two records are added, those of May 25th at Barrington Hall, Essex, and of May 29th at Leyland, Lancs., both ranking high, but neither being unprecedented.

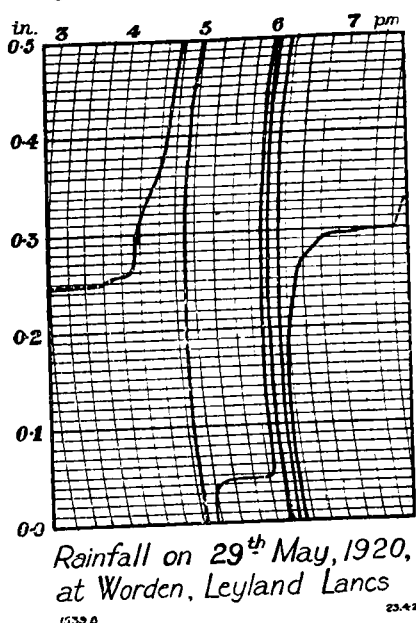


TABLE II.—*Rainfalls of Very Rare Intensity lasting for One Hour or less.*

| Year. | Date.   | Div.  | Station.                         | Amount. | Duration | Rate per Hour. |
|-------|---------|-------|----------------------------------|---------|----------|----------------|
|       |         |       |                                  | in.     | hr. min. | in.            |
| 1912  | May 8   | XV.   | Alexandria .....                 | ·26     | 0 1½     | 10·40          |
| 1888  | Mar. 24 | XI.   | Chepstow, Shirenewton Hall ...   | ·33     | 0 2      | 9·90           |
| 1917  | July 14 | IV.   | Norwich, Ipswich Road .....      | ·47     | 0 2½     | 11·28          |
| 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           |
| 1912  | July 22 | VII.  | Wirksworth, Manor House.....     | 1·00    | 0 10     | 6·00           |
| 1918  | " 16    | II.   | Purley, Oakwood Avenue .....     | 1·10?   | 0 11     | 6·00?          |
| 1914  | Aug. 14 | XI.   | Guernsey, St. Martin's Road ..   | 1·50    | 0 15     | 6·00           |
| 1906  | " 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           |
| 1920  | May 29  | VIII. | Leyland, Worden Hall .....       | 1·65    | 0 20     | 4·95           |
| 1878  | June 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           |
| 1915  | " 4     | XI.   | Abergavenny, The Chain .....     | 2·20    | 0 30     | 4·40           |
| 1918  | " 17    | I.    | Shad Thames Pumping Station.     | 2·07    | 0 30     | 4·14           |
| 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           |
| 1920  | May 25  | IV.   | Hatfield Broad Oak, Barrington   | 2·79    | 0 45     | 3·72           |
| 1904  | July 27 | II.   | 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           |
| 1915  | " 30    | IV.   | Mildenhall .....                 | 2·63    | 0 50     | 3·16           |
| 1903  | July 18 | VI.   | Crewe, Betley Hall .....         | 2·53    | 0 50     | 3·04           |
| 1905  | " 9     | III.  | Enfield, Carisbrooke .....       | 2·44    | 0 50     | 2·93           |
| 1911  | May 31  | II.   | Epsom, Ashley Road .....         | 2·44    | 0 50     | 2·93           |
| 1901  | July 29 | "     | Wadhurst, Lower Cousley Wood     | 3·25?   | 0 55     | 3·55?          |
| 1913  | June 17 | IV.   | Elveden Hall .....               | 2·85    | 0 58     | 2·95           |
| 1901  | July 12 | II.   | Maidenhead, Lowood .....         | 3·63    | 1 0?     | 3·63?          |
| 1903  | May 30  | "     | Beddington Corner .....          | 3·50    | 1 0      | 3·50           |
| 1911  | " 26    | "     | Fareham, The Mount .....         | 3·00    | 1 0      | 3·00           |
| 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*.

TABLE III.—*Heavy Rains in Short Periods in 1920.*

| Date.       | Div.   | Station.                      | Amount. |     | Duration. |      | Rate per Hour. |
|-------------|--------|-------------------------------|---------|-----|-----------|------|----------------|
|             |        |                               | in.     | mm. | hr.       | min. | in.            |
| Sep. 17 ..  | VIII.  | Lancaster, Greg Observatory   | ·05     | 1   | 0         | 1    | 3·00           |
| ✓ Oct. 3 .. | XXIII. | Armagh Observatory .....      | ·05     | 1   | 0         | 1    | 3·00           |
| Dec. 28 ..  | XX.    | Valentia Observatory .....    | ·05     | 1   | 0         | 1    | 3·00           |
| Feb. 10 ..  | XII.   | Eskdalemuir Observatory ..    | ·04     | 1   | 0         | 1    | 2·40           |
| June 16 ..  | III.   | Benson Observatory .....      | ·20     | 5   | 0         | 2    | 6·00 x         |
| June 14 ..  | VI.    | Cirencester, Dollarward Ho.   | ·17     | 4   | 0         | 2    | 5·10           |
| June 25 ..  | XVII.  | Aberdeen Observatory ....     | ·12     | 3   | 0         | 2    | 3·60           |
| July 12 ..  | VIII.  | Lancaster, Greg Observatory   | ·12     | 3   | 0         | 2    | 3·60           |
| + Oct. 3 .. | XXIII. | Armagh Observatory .....      | ·13     | 3   | 0         | 3    | 2·60           |
| Jan. 11 ..  | V.     | Kilminster Rectory .....      | ·30     | 8   | 0         | 5    | 3·60           |
| June 14 ..  | VI.    | Cirencester, Dollarward Ho.   | ·28     | 7   | 0         | 5    | 3·36           |
| June 26 ..  | XXIII. | Glendora Lodge .....          | ·21     | 5   | 0         | 5    | 2·52           |
| July 12 ..  | VIII.  | Lancaster, Greg Observatory   | ·18     | 5   | 0         | 5    | 2·16           |
| June 11 ..  | XX.    | Valentia Observatory .....    | ·18     | 5   | 0         | 5    | 2·16           |
| June 12 ..  | II.    | Kew Observatory .....         | ·25     | 6   | 0         | 5    | 3·00           |
| June 15 ..  | III.   | Benson Observatory .....      | ·43     | 11  | 0         | 5½   | 4·69           |
| July 3 ..   | VI.    | Mickleton, Bank House ....    | ·32     | 8   | 0         | 6    | 3·20           |
| June 16 ..  | III.   | Benson Observatory .....      | ·39     | 10  | 0         | 7    | 3·34           |
| June 12 ..  | II.    | Burgh Heath, Can Hatch ..     | ·25     | 6   | 0         | 7    | 2·14           |
| June 18 ..  | IX.    | Felixkirk, Mount St. John..   | ·39     | 10  | 0         | 8    | 2·93           |
| June 14 ..  | VI.    | Cirencester, Dollarward Ho.   | ·34     | 9   | 0         | 8    | 2·55           |
| Mar. 28 ..  | V.     | Plymouth, Freedom Park ..     | ·29     | 7   | 0         | 8    | 2·17           |
| June 18 ..  | IX.    | York, Museum Gardens....      | ·55     | 14  | 0         | 10   | 3·30           |
| May 26 ..   | V.     | Salisbury Plain, Shrewton ..  | ·46     | 12  | 0         | 10   | 2·76           |
| June 17 ..  | XI.    | Glanwydden Council School     | ·40     | 10  | 0         | 10   | 2·40           |
| June 12 ..  | III.   | Benson Observatory .....      | ·39     | 10  | 0         | 10   | 2·34           |
| Nov. 30 ..  | XX.    | Castletownshend, Seafield..   | ·50     | 13  | 0         | 12   | 2·50           |
| May 29 ..   | XI.    | Llandysilio Rectory .....     | 1·02    | 26  | 0         | 15   | 4·08 x         |
| May 29 ..   | III.   | St. Ives, Boxworth .....      | ·75     | 19  | 0         | 15   | 3·00           |
| Mar. 30 ..  | VI.    | Almeley, The Bungalow....     | ·60     | 15  | 0         | 15   | 2·40           |
| May 29 ..   | VII.   | Boston, Main Ridge .....      | ·58     | 15  | 0         | 15   | 2·32           |
| May 29 ..   | VII.   | Boston, Sleaford Road ....    | ·52     | 13  | 0         | 15   | 2·08           |
| June 11 ..  | XX.    | Cork, University College ..   | ·50     | 13  | 0         | 15   | 2·00           |
| ✓ May 29 .. | VIII.  | Leyland, Worden Hall ....     | 1·65    | 42  | 0         | 20   | 4·95 xx        |
| May 27 ..   | VII.   | Whaley Bridge, Mosley Hall    | ·80?    | 20? | 0         | 20   | 2·40?          |
| June 18 ..  | IX.    | York, Museum Gardens ....     | ·79     | 20  | 0         | 20   | 2·37           |
| ~ May 29 .. | VIII.  | Leyland, Worden Hall ....     | ·60     | 15  | 0         | 20   | 1·80           |
| June 13 ..  | IX.    | Hutton Magna Vicarage....     | ·57     | 14  | 0         | 20   | 1·71           |
| July 2 ..   | XI.    | Denbigh Asylum .....          | ·54     | 14  | 0         | 20   | 1·62           |
| May 29 ..   | VIII.  | Upholland Grammar School      | 1·50?   | 38? | 0         | 30?  | 3·00? x        |
| Oct. 15 ..  | II.    | Bournemouth, Vale View ..     | 1·17    | 30  | 0         | 30   | 2·34           |
| Oct. 15 ..  | II.    | Bournemouth, Rodney House     | 1·15    | 29  | 0         | 30   | 2·30           |
| June 17 ..  | VI.    | Perrystone Court.....         | 1·07    | 27  | 0         | 30   | 2·14           |
| May 29 ..   | XX.    | Newmarket-on-Fergus ....      | 1·02    | 26  | 0         | 30?  | 2·04?          |
| Oct. 15 ..  | IX.    | Huddersfield, Oakes .....     | ·87     | 22  | 0         | 30   | 1·74           |
| June 18 ..  | XIII.  | Balerno, Cockburn Hill ....   | ·75     | 19  | 0         | 30   | 1·50           |
| Mar. 30 ..  | VI.    | Almeley, The Bungalow....     | 1·06    | 27  | 0         | 43   | 1·48           |
| May 25 ..   | IV.    | Hatfield Brd. Oak, Barrington | 2·79    | 71  | 0         | 45   | 3·72 xx        |
| May 26 ..   | III.   | Nettlebed, Joyce Grove ....   | 1·72    | 44  | 0         | 45   | 2·29 x         |
| May 29 ..   | VII.   | Doncaster, Avenue Road ..     | 1·33    | 34  | 0         | 45   | 1·77           |
| June 17 ..  | II.    | Reading, Leighton Park....    | 1·03    | 26  | 0         | 45   | 1·37           |
| July 4 ..   | II.    | Felbridge, Chatham Park..     | 1·00    | 25  | 0         | 48   | 1·25           |

TABLE III.—*Heavy Rains in Short Periods in 1920—(con.)*.

| Date.      | Div.  | Station.                    | Amount. |     | Duration. |      | Rate per Hour. |
|------------|-------|-----------------------------|---------|-----|-----------|------|----------------|
|            |       |                             | in.     | mm. | hr.       | min. | in.            |
| May 25 ..  | XI.   | Lampeter, Falcondale.....   | 1.45    | 37  | 0         | 50   | 1.74           |
| June 16 .. | III.  | Wolverton Council School .. | 1.97    | 50  | 1         | 0    | 1.97 x         |
| May 25 ..  | XXI.  | Athlone, Twyford .....      | 1.43    | 36  | 1         | 0    | 1.43           |
| Oct. 5 ..  | VI.   | Stow-on-the-Wold, IcombPle  | 1.33    | 34  | 1         | 0?   | 1.33?          |
| May 26 ..  | III.  | Slough, Upton .....         | 1.25    | 32  | 1         | 0    | 1.25           |
| June 16 .. | XX.   | Newmarket-on-Fergus ....    | 1.02    | 26  | 1         | 0?   | 1.02?          |
| May 29 ..  | VIII. | Leigh, Leesrigg .....       | 1.00    | 25  | 1         | 0    | 1.00           |
| May 26 ..  | II.   | Barnes, Castlenau .....     | 2.56    | 65  | 1         | 10   | 2.20 xx        |
| May 27 ..  | VII.  | Hackthorn Hall .....        | 1.59    | 40  | 1         | 30   | 1.06           |
| July 4 ..  | II.   | Liss, Kippences .....       | 1.50    | 38  | 1         | 30   | 1.00           |
| Oct. 17 .. | V.    | Newquay, Mount Wise ....    | 1.19    | 30  | 1         | 30   | .79            |
| July 3 ..  | V.    | Kilmington Rectory .....    | 1.75    | 44  | 1         | 45   | 1.00           |
| Oct. 17 .. | V.    | Cadgwith, Coastguard Stat.  | 1.90?   | 48? | 2         | 0    | .85            |
| May 29 ..  | VII.  | Louth, Hallington .....     | 4.10    | 104 | 2         | 0    | 2.05 xx        |
| July 2 ..  | XI.   | Bodfari, Cae Gwyn .....     | 1.31    | 33  | 2         | 0    | .65            |
| Oct. 17 .. | V.    | Newquay, Mount Wise ....    | 2.13    | 54  | 2         | 30   | .85            |
| May 29 ..  | VII.  | Elkington Hall .....        | 4.59    | 117 | 3         | 0    | 1.53 xx        |
| May 29 ..  | VII.  | Horncastle .....            | 3.95    | 100 | 3         | 0    | 1.32 xx        |
| May 29 ..  | VII.  | Wold Newton Manor .....     | 2.50    | 63  | 3         | 0    | .83 x          |
| Aug. 8 ..  | XIII. | Balerno, Cockburn Hill .... | 2.25    | 57  | 3         | 0    | .75 x          |
| May 29 ..  | XX.   | Cork, Magazine Road .....   | 1.75    | 44  | 3         | 0    | .58            |
| Apr. 9 ..  | III.  | Bodicote .....              | 1.50    | 38  | 3         | 0?   | .50            |
| Apr. 9 ..  | V.    | Calne, High Street .....    | 1.78    | 45  | 3         | 15   | .55            |
| May 29 ..  | VII.  | Grainsby Hall .....         | 3.40    | 86  | 3         | 20   | 1.02 xx        |
| Oct. 17 .. | V.    | Newquay, Mount Wise ....    | 2.26    | 57  | 3         | 30   | .65 x          |
| May 29 ..  | VII.  | Woodhall Spa, Galm House    | 2.70    | 69  | 4         | 0    | .67 x          |
| July 2 ..  | XIII. | Coldstream, Lochton .....   | 2.00    | 51  | 5         | 0    | .40            |

## HEAVY FALLS ON RAINFALL DAYS IN 1920.

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The incidence of rainfall is conveniently studied by means of the time-unit known as the "rainfall day," *i.e.*, the period of twenty-four hours commencing at 9 h. G.M.T. on one day and ending at the same time on the following day, because practically all rainfall observers recognize the convenience and utility of making their observations at a uniform hour. So accustomed indeed have we become to handling rainfall records made up of daily readings that it is sometimes difficult to bear in mind that the system is an arbitrary one. The proper unit for the study of rainfall would doubtless be the "shower" which may be defined as a continuous and identifiable rainfall episode. The difficulties are, however, clearly insuperable. The definition of a "shower" would certainly not be capable of being made sufficiently concise to bear the same interpretation at all times and to all persons, and to make use of it would necessitate a continuous watch on the weather which would be intolerable to any but a professional Observer. A greatly extended use of self-recording rain gauges, such as we may still hope to see, would do much to enable records of individual showers to be identified and segregated, but we are at present very far removed from any such consummation. It is necessary to insist on the limitation which the use of the "rainfall day," invaluable as it is for general work, sets to the study of individual rains. When we attempt the task of relating the passage of a barometric depression, for example, to the associated rainfall, this limitation becomes one of importance. Owing to the movement of a low pressure system across the country the rain accompanying it does not occur simultaneously in all parts, and it is not infrequently the case that although in one place the shower may fall within a single rainfall day, at another it may spread over two, or even occur wholly within another day. Again, a shower may last only a comparatively short time and other rain may occur within the same twenty-four hours so that the issue is confused.

In spite of the difficulties mentioned, the study of daily rainfall either in single days or short groups of consecutive days, has proved singularly illuminating, and to it we owe most of our knowledge of the geographical control of rainfall in this country.

The heavy rainfalls of 1920 were much more numerous than those of 1919, but were again rather devoid of incident. During the early months of the year, and to a less marked extent during the closing months also, there was a succession of orographical rainstorms affecting principally the West Highlands and giving in one or two cases unusually heavy amounts, especially on February 9th, when two readings of more than 6 in. occurred within the twenty-four hours. The

thunderstorms of the summer were comparatively few and in all cases very local, but the last week of May was notable for several downpours of unusual severity, including the now famous so-called "cloud-burst" which wrecked the town of Louth in Lincolnshire. Cyclonic rains of any great intensity were also rare and only one of great importance occurred, *viz.*, that of August 17th in Scotland; though the continued rains of the first few days of October, which were partly cyclonic in origin, were locally equally severe and were even more remarkable for the flooding which they caused in some districts.

We print, in continuation of similar lists given in previous volumes, a summary of the number of recorded instances of two or more daily rainfalls of 2·50 in. or more occurring at the same station. Principally owing to the large number of heavy orographical rainfalls during the winter months the list is heavier than usual, though not calling for special comment.

*Number of Stations with Two or more Falls of 2·50 in. or more in 1920.*

| County.         |    |    | Number<br>of<br>Stations. | Number<br>of<br>Falls. | Station with largest number. |                         |
|-----------------|----|----|---------------------------|------------------------|------------------------------|-------------------------|
| Lancashire      | .. | .. | 2                         | ..                     | 4                            | { Coniston .. .. 2      |
|                 |    |    |                           |                        |                              | { Skelwith Fold .. .. 2 |
| Westmorland     | .. | .. | 5                         | ..                     | 11                           | Dungeon Ghyll .. 3      |
| Glamorgan       | .. | .. | 5                         | ..                     | 12                           | Treherbert .. 3         |
| Brecon          | .. | .. | 5                         | ..                     | 11                           | Beacon's Reservoir .. 3 |
| Merioneth       | .. | .. | 3                         | ..                     | 10                           | Llechwedd Quarries .. 5 |
| Carnarvon       | .. | .. | 1                         | ..                     | 2                            | Beddgelert .. 2         |
| Midlothian      | .. | .. | 2                         | ..                     | 4                            | { Harlaw Reservoir .. 2 |
|                 |    |    |                           |                        |                              | { Liberton .. .. 2      |
| Renfrew         | .. | .. | 8                         | ..                     | 16                           | Several .. .. 2         |
| Argyll          | .. | .. | 4                         | ..                     | 12                           | Ardgour .. 5            |
| Perthshire      | .. | .. | 3                         | ..                     | 6                            | Several .. .. 2         |
| Inverness-shire | .. | .. | 7                         | ..                     | 33                           | Kinlochquoich .. 9      |
| Ross-shire      | .. | .. | 2                         | ..                     | 4                            | { Glencarron .. .. 2    |
|                 |    |    |                           |                        |                              | { Ledgowan .. .. 2      |
| Kerry           | .. | .. | 1                         | ..                     | 2                            | Dunkerron .. 2          |
| British Isles   | .. | .. | 48                        | ..                     | 127                          | Kinlochquoich .. 9      |

It may be observed that daily records for the Snowdon stations are not this year available, and that the famous Seathwaite gauges are now read only weekly, so that two districts where numerous large daily falls occur every year are unrepresented.

The year's rainfall records add a number of new entries to the historic lists of heavy daily rainfalls which have been recorded annually to supplement the series going back to 1864, first published in 1910. They include two new records of 6 in. falls and also, owing to the rainfall of August 17th in Scotland, the largest daily amounts yet recorded for any of the three counties of Peebles, Midlothian, and Linlithgow.

| Div.   | County.     | Station.                         | Date.           | Rainfall. |
|--------|-------------|----------------------------------|-----------------|-----------|
| VII.   | Lincoln     | Louth, Hallington.....           | May 29th, 1920  | .. 4.00   |
|        | "           | Elkington Hall .....             | May 29th, 1920  | .. 4.69   |
| X.     | Westmorland | Dungeon Ghyll .....              | Feb. 9th, 1920  | .. 6.81   |
|        | "           | Grasmere, The Wray .....         | Feb. 9th, 1920  | .. 5.12   |
| XI.    | Glamorgan   | Rhondda, Pont Lleust Wen, No. 1  | Nov. 14th, 1920 | .. 4.12   |
| "      | Merioneth   | Blaenau Festiniog, Oakley Quarry | May 5th, 1920   | .. 4.10   |
| "      | "           | Blaenau Festiniog, Llechwedd Q.. | May 5th, 1920   | .. 4.84   |
| "      | Carnarvon   | Beddgelert Council School.....   | Feb. 5th, 1920  | .. 5.85   |
|        | "           | Beddgelert Council School.....   | Aug. 4th, 1920  | .. 4.62   |
| XIII.  | Peebles     | Eddlestone, Portmore Reservoir.. | Aug. 17th, 1920 | .. 3.33   |
| "      | Midlothian  | Pentland Hills, Harperrig.....   | Aug. 17th, 1920 | .. 4.10   |
| "      | Linlithgow  | Bathgate Filters .....           | Aug. 17th, 1920 | .. 4.25   |
|        | "           | Linlithgow Academy .....         | Aug. 17th, 1920 | .. 4.14   |
| XIV.   | Renfrew     | Howwood, Midton House .....      | Feb. 9th, 1920  | .. 4.09   |
| XV.    | Argyll      | Corran Lighthouse .....          | Feb. 2nd, 1920  | .. 4.36   |
| "      | "           | Glen Etive .....                 | Feb. 9th, 1920  | .. 4.32   |
| "      | "           | Ardgour House .....              | Feb. 2nd, 1920  | .. 4.15   |
| "      | "           | Ardgour House .....              | Jan. 16th, 1920 | .. 4.07   |
| "      | "           | Glenleven, Blackwater Dam, S...  | Feb. 2nd, 1920  | .. 4.03   |
| XVI.   | Forfar      | Glen Prosen, Balnaboth .....     | Oct. 4th, 1920  | .. 4.81   |
| XVIII. | Inverness   | Loch Quoich, Kinlochquoich....   | Feb. 9th, 1920  | .. 6.28   |
| "      | "           | Loch Arkaig, Achnacarry .....    | Feb. 2nd, 1920  | .. 4.82   |
| "      | "           | Loch Arkaig, Achnacarry.....     | Jan. 16th, 1920 | .. 4.25   |
| "      | "           | Loch Quoich, Glenquoich.....     | Feb. 9th, 1920  | .. 4.25   |
| "      | "           | Glenelg Manse .....              | Jan. 16th, 1920 | .. 4.22   |
| "      | "           | Loch Quoich, Kinlochquoich....   | Jan. 7th, 1920  | .. 4.18   |
| "      | "           | Loch Quoich, Kinlochquoich....   | Jan. 16th, 1920 | .. 4.18   |
| "      | "           | Loch Quoich, Kinlochquoich....   | Feb. 1st, 1920  | .. 4.16   |
| "      | "           | Loch Quoich, Kinlochquoich....   | Jan. 25th, 1920 | .. 4.01   |
| XXIII. | Down        | Mourne Mts., Fofanny Reservoir.. | Dec. 30th, 1920 | .. 4.37   |

In the "Chronicle" the heavy falls of the year are dealt with in order. The amounts are given in roman type when they are the largest of the year at the station, and in italic when they are not. The percentage values indicate the percentage of the year's total formed by the fall in question.

### Part I.—Chronicle.

#### January 7th.

With relatively high barometric pressure over England and the passage of a deepening depression eastward in the latitude of Iceland, ideal conditions prevailed for heavy orographical rains in the West Highlands. It is interesting to note that the pressure map for the morning of January 7th indicates that the isobars converged somewhat towards the west coast of Scotland, a condition almost invariably associated with heavy rainfall. The rains were followed by a violent gale.

| XV. (Scot. W. Mid.).    | in. or % | XVIII. (Scot. N.W.).         | in. or % |
|-------------------------|----------|------------------------------|----------|
| Ardgour House .....     | 2.89 2.5 | L. Quoich (Kinlochquoich) .. | 4.18 2.9 |
| XVI. (Scot. E. Mid.).   |          | L. Quoich (Glenquoich) ..    | 3.50 2.8 |
| Glengyle .....          | 2.55 2.4 | L. Arkaig (Achnacarry) ..    | 2.75 2.7 |
| Killin (The Manse)..... | 3.05 3.9 | Kinlochmore Gardens ..       | 2.80 2.4 |
|                         |          | Glencarron Lodge .....       | 2.51 3.0 |

#### January 9th—10th.

Orographical rainfalls continued, but were at this time farther to the south, the lowest pressure lying not far north of the mainland of

Scotland. The rainfall was very widespread in Ireland, England, and Wales, and showed an intimate dependence upon the configuration. The heaviest falls occurred on Dartmoor and Exmoor, and in South Wales, in all of which districts some stations recorded more than 4 in. during the two days. Falls exceeding 1·00 in. extended eastward as far as Sussex and northward to the Cheviots.

### January 9th.

V. (*Eng. S.W.*), Chagford (Thornworthy) 2·74 in. or 3·9 per cent.

### January 10th.

| XI. ( <i>Wales</i> ).        | <i>in.</i> or % | XI. ( <i>Wales</i> )— <i>con.</i> | <i>in.</i> or % |
|------------------------------|-----------------|-----------------------------------|-----------------|
| Treherbert (Bute Merthyr C.) | 2·60 2·3        | Ystradfellte Reservoir . . .      | 2·66 2·4        |
| Treherbert (Tyn-y-waun) . .  | 2·58 2·3        | Cardiff W.W. (Beacons R.)         | 2·59 2·5        |
| Rhondda (P. Lluest Wen R.) 3 | 2·96 2·9        | Taff Fechan (Neuadd) 1 . .        | 2·52 2·8        |
| Rhondda (P. Lluest Wen R.) 1 | 3·17 2·9        | Taff Fechan (Neuadd) 4 . .        | 2·73 2·6        |
| Swansea W.W. (Nantyrwydd)    | 2·83 3·0        | Taff Fechan (Neuadd) 4a .         | 2·78 2·7        |

### January 16th.

Another episode of the constant succession of westerly conditions, occasioned by depressions to the far north, which characterized the weather of this period. The circumstances of the great rainfalls in the West Highlands, on January 16th, were an almost precise repetition of those which occurred on January 7th.

### January 16th.

| XV. ( <i>Scot. W. Mid.</i> ). | <i>in.</i> or % | XVIII. ( <i>Scot. N.W.</i> )— <i>con.</i> | <i>in.</i> or % |
|-------------------------------|-----------------|---|-----------------|
| Ardgour House . . . . .       | 4·07 3·5        | Clunes . . . . .                          | 3·58 4·3        |
| Corran Lighthouse . . . . .   | 3·10 3·1        | Kinlochmore Gardens . . .                 | 2·62 2·3        |
| XVIII. ( <i>Scot. N.W.</i> ). |                 | Fort William (Croline) . .                | 3·76 3·9        |
| L. Quoich (Kinlochquoich)     | 4·18 2·9        | Fort William (Atholl Bk)                  | 3·71 4·0        |
| Loch Quoich (Glen Quoich)     | 3·25 2·6        | Skye (Kyleakin, Dunringell)               | 2·76 3·5        |
| Glen Garry (Inchlaggan) .     | 3·50 6·2        | Achnasheen (Ledgowan) . .                 | 2·50 3·1        |
| Glenelg Manse . . . . .       | 4·22 8·0        | Loch Torridon (Bendamph)                  | 2·81 3·2        |
| Loch Arkaig (Achnacarry)      | 4·25 4·1        |   |                 |

### January 25th—26th.

Great orographical rains again occurred in the west, affecting principally the west of Ireland and Scotland.

### January 25th.

| XV. ( <i>Scot. W. Mid.</i> ).           | <i>in.</i> or % | XVIII. ( <i>Scot. N.W.</i> )— <i>con.</i> | <i>in.</i> or % |
|---|-----------------|---|-----------------|
| Dalmally (Manse of Glenorchy) . . . . . | 2·50 2·7        | Kinlochmore Gardens . . .                 | 2·58 2·3        |
| XVIII. ( <i>Scot. N.W.</i> ).           |                 | XXII. ( <i>Connaught</i> ).               |                 |
| L. Quoich (Kinlochquoich)               | 4·01 2·7        | Aasleagh House . . . . .                  | 2·65 2·4        |
| L. Quoich (Glenquoich) . .              | 3·40 2·7        | Delphi Lodge . . . . .                    | 3·08 2·6        |

### January 26th.

XX. (*Munster*), Kenmare (Dunkerron Castle) 2·54 in. or 3·5 per cent.



**February 1st.**

Similar conditions continued with little intermission. For the fourth time in less than four weeks there was a daily rainfall exceeding 4 in. at Kinlochquoich in West Inverness-shire.

| XV. ( <i>Scot. W. Mid.</i> ). |            |             | XVIII. ( <i>Scot. N.W.</i> )— <i>con.</i> |            |             |
|-------------------------------|------------|-------------|---|------------|-------------|
|                               | <i>in.</i> | <i>or %</i> |   | <i>in.</i> | <i>or %</i> |
| Ardgour House .....           | 2.59       | 2.2         | Loch Arkaig (Achnacarry)                  | 3.90       | 3.8         |
| Glen Etive .....              | 3.60       | 3.1         | Clunes .....                              | 3.33       | 4.0         |
| XVIII. ( <i>Scot. N.W.</i> ). |            |             | Achnasheen (Ledgowan) .                   | 2.87       | 3.5         |
| L. Quoich (Kinlochquoich)     | 4.16       | 2.9         | Glencarron Lodge .....                    | 2.73       | 3.3         |
| L. Quoich (Glenquoich)...     | 3.80       | 3.0         |   |            |             |

**February 2nd.**

| XV. ( <i>Scot. W. Mid.</i> ). |            |             | XVIII. ( <i>Scot. N.W.</i> ) |            |             |
|-------------------------------|------------|-------------|------------------------------|------------|-------------|
|                               | <i>in.</i> | <i>or %</i> |                              | <i>in.</i> | <i>or %</i> |
| Ardgour House .....           | 4.15       | 3.6         | L. Arkaig (Achnacarry)...    | 4.82       | 4.7         |
| Corran Lighthouse.....        | 4.36       | 4.4         | Clunes .....                 | 3.58       | 4.3         |
| Glenleven(BlkwaterDam,S.)     | 4.03       | 4.1         | Fort William(Crolinne)...    | 3.21       | 3.3         |
| Glen Etive .....              | 3.30       | 2.9         | Fort William (Atholl Bk.)    | 2.83       | 3.0         |
| Glengyle .....                | 2.70       | 2.6         | XIX. ( <i>Scot. N.</i> ).    |            |             |
|                               |            |             | Loch More (Achfary)....      | 2.76       | 3.6         |

**February 9th.**

Very widespread orographical rain brought the heaviest rainfall of the year in the English Lake District, where no less than 6.81 in. was measured at Dungeon Ghyll in Langdale. There were again very excessive falls in the Highlands, and 6.28 in. fell at Kinlochquoich. Great floods occurred in parts of Scotland.

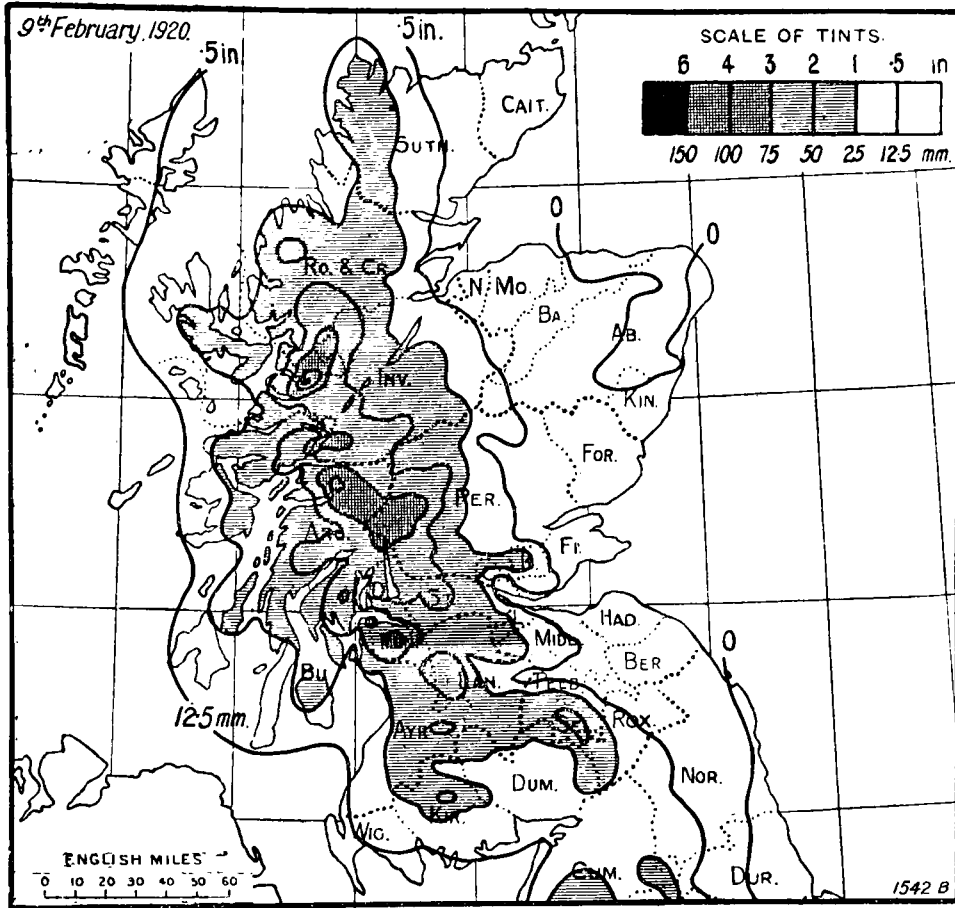
As a matter of interest we have measured the volume of rainfall over the area with more than 1 in. in Scotland.

|                         | Area,<br>sq. miles. | General Rainfall,<br>inches. | Volume of<br>Rainfall,<br>sq. miles × inches. |
|-------------------------|---------------------|------------------------------|---|
| More than 6 in.....     | 7                   | 6.10                         | 45  |
| 4-6 in. ....            | 56                  | 4.57                         | 254   |
| 3-4 „ .....             | 648                 | 3.33                         | 2,157   |
| 2-3 „ .....             | 3,097               | 2.37                         | 7,337   |
| 1-2 „ .....             | 9,472               | 1.42                         | 13,404  |
| Total more than 1 in... | 13,280              |                              | 23,197  |

The general rainfall over the whole of this huge area amounted to 1.75 in.

| VIII. ( <i>Eng. N.W.</i> ). |            |             | X. ( <i>Eng. N.</i> )— <i>con.</i> |            |             |
|-----------------------------|------------|-------------|------------------------------------|------------|-------------|
|                             | <i>in.</i> | <i>or %</i> |                                    | <i>in.</i> | <i>or %</i> |
| Coniston (Holywath).....    | 2.80       | 2.7         | Windermere (Holehird) ..           | 2.85       | 3.6         |
| Hawkshead(EsthwaiteLo.)     | 2.78       | 3.2         | Windermere (Brockhole) .           | 2.98       | 3.9         |
| Ambleside (Skelwith Fold)   | 4.13       | 4.5         | Ambleside (Wansfell) ....          | 3.36       | 4.1         |
| IX. ( <i>Yorks.</i> ).      |            |             | Ambleside (White Craggs)           | 3.54       | 4.2         |
| Sedbergh (Bynac) .....      | 2.78       | 4.2         | Ambleside (Market Sq.) ..          | 3.96       | 4.5         |
| X. ( <i>Eng. N.</i> ).      |            |             | Ambleside (Lesketh Howe)           | 3.30       | 3.6         |
| Patterdale (Greenside Mi.)  | 2.53       | 2.6         | Rydal (Stepping Stones) ..         | 4.35       | 4.6         |

## RAINFALL, FEBRUARY 9th, 1920.



| X. (Eng. N.)—con.                  | in. or % |     |
|------------------------------------|----------|-----|
| Rydal .....                        | 3.10     | 3.3 |
| Rydal (High Close).....            | 4.78     | 5.1 |
| Dungeon Ghyll .....                | 6.81     | 5.4 |
| Grasmere (The Wray)....            | 5.12     | 4.9 |
| Kendal (Potter Tarn Res.)          | 2.97     | 3.2 |
| XI. (Wales).                       |          |     |
| Tan-y-bwlch (Dol-y-Moch)           | 2.58     | 3.0 |
| Bl. Festiniog (Oakley Q.)          | 2.99     | 2.5 |
| Bl. Festiniog (Llechwedd)          | 3.68     | 2.9 |
| XIV. (Scot. S.W.).                 |          |     |
| Glengarnock (Chemical Works) ..... | 2.74     | 4.4 |
| Beith (Filter Station)....         | 3.20     | 6.1 |
| Lochwinnoch (Garthland)            | 3.03     | 4.0 |
| Howwood (Midton H.)...             | 4.09     | 5.7 |
| Kilbarchan (Glentyan)...           | 3.08     | 4.9 |
| XIV. (Scot. S.W.).                 |          |     |
| Houston Manse .....                | 2.51     | 4.5 |
| Shaws W.W. (Comp. Res.)            | 2.69     | 3.6 |
| Shaws W.W. (Hole Glen).            | 3.24     | 4.3 |

| XIV. (Scot. S.W.)—con.               | in. or % |     |
|--------------------------------------|----------|-----|
| Shaws W.W. (New Yett's Dam).....     | 3.21     | 4.4 |
| Greenock (Prospect Hill).            | 2.95     | 4.1 |
| Glen Finlas Reservoir 7              | 2.65     | 2.9 |
| XV. (Scot. W. Mid).                  |          |     |
| Duchray Valley (Comer)...            | 2.50     | 2.5 |
| Stronachlachlar (Invergle)           | 2.80     | 2.8 |
| Ardgour House .....                  | 3.18     | 2.7 |
| Glenleven (Blackwater Dam, S.) ..... | 2.70     | 2.7 |
| Glen Etive .....                     | 4.32     | 3.8 |
| Loch Awe (Dalavich)....              | 2.71     | 2.9 |
| Dunoon Reservoir .....               | 2.62     | 3.1 |
| Holy Loch (Ardnadam)...              | 2.75     | 3.3 |
| Loch Eck (Benmore)....               | 3.00     | 3.0 |
| Lochgoilhead (Ardgoil)...            | 3.03     | 3.1 |
| XVI. (Scot. E. Mid.)                 |          |     |
| Loch Dhu .....                       | 2.95     | 3.2 |
| Balquhidder (Stronvar)...            | 2.70     | 3.2 |
| Killin (The Manse).....              | 3.02     | 3.9 |

| XVIII. ( <i>Scot. N.W.</i> ). | <i>in.</i> or % | XVIII. ( <i>Scot. N.W.</i> )— <i>con.</i> | <i>in.</i> or % |
|-------------------------------|-----------------|---|-----------------|
| L. Quoich (Kinlochquoich)     | 6·28 4·3        | Kinlochmore Gardens . . .                 | 2·61 2·3        |
| L. Quoich (Glenquoich) ..     | 4·25 3·4        | Fort William (Crolinne) ..                | 3·14 3·3        |
| L. Arkaig (Achnacarry) ..     | 2·65 2·6        | Fort William (Atholl Bank)                | 3·20 3·4        |

### February 10th.

Rain was again widespread, but was very heavy only in the north of England. Floods were caused in the Colne district, where many cotton mills were compelled to shut down on account of flooding.

VIII. (*Eng. N.W.*), Barley (Ogden Reservoir) 2·53 in. or 5·3 per cent.

### February 19th.

The first important cyclonic rain of the year was associated with the passage across England of a large V-shaped depression which moved slowly south-eastward, and in which the pressure distribution was complicated by the existence of numerous secondary systems. For this reason it is not possible to lay down the track on the map which is reproduced. More than ·50 in. of rain fell over a well-defined area extending across the north of England and Wales from Cumberland and Cardiganshire to Yorkshire and Lincolnshire, and a compact 1-in. area lay in the centre, stretching from North Wales to the mouth of the Humber. In a few spots in Staffordshire, Derbyshire and the south of Yorkshire the total was rather above 2 in. In these districts much of the precipitation took the form of snow. On the south-east no rain fell on this day beyond a nearly straight line extending from the Wash to Start Point.

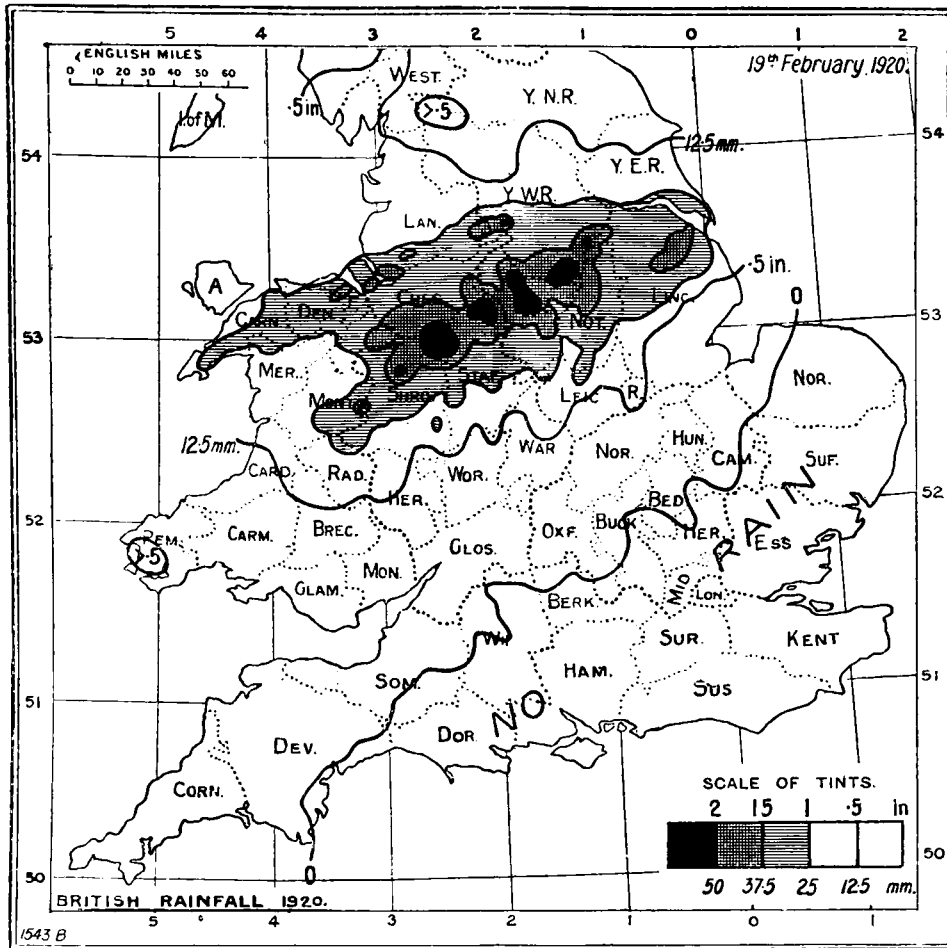
The volume of rainfall over the well-defined 1-in. splash was as follows :—

|                            | Area,<br>sq. miles. | General Rainfall,<br>inches. | Volume<br>of Rainfall,<br>sq. miles × inches. |
|----------------------------|---------------------|------------------------------|---|
| More than 2 in. ....       | 448                 | 2·11                         | 944   |
| 1·50–2 in. ....            | 2,268               | 1·69                         | 3,826   |
| 1–1·50 „ ....              | 7,000               | 1·21                         | 8,501   |
| Total more than 1 in. .... | 9,716               |                              | 13,271  |

The general rainfall over these 9,716 square miles was 1·37 in.

| VI. ( <i>Eng. W. Mid.</i> ). | <i>in.</i> or % | IX. ( <i>Yorks.</i> ).                     | <i>in.</i> or % |
|------------------------------|-----------------|--|-----------------|
| Leek (Hillesden) .....       | 2·58 6·2        | Doncaster (Carr Ho. Hos.)                  | 2·50 10·0       |
|                              |                 | Rotherham (Aldwarke<br>Sewage Works) ..... | 2·74 9·2        |

## RAINFALL, FEBRUARY 19th, 1920.



## February 28th—March 3rd.

Considerable orographical rain continued to fall during this period in the west of Scotland.

## February 28th.

XVIII. (Scot. N.W.), Loch Quoich (Kinlochquoich) 2.64 in. or 1.8 per cent.

## February 29th.

XV. (Scot. W. Mid.), Loch Fyne (Brenchoillie) 2.50 in. or 3.1 per cent.

## March 2nd.

XVIII. (Scot. N.W.), Loch Quoich (Kinlochquoich) 3.92 in. or 2.7 per cent.

## March 3rd.

|                           |          |                           |          |
|---------------------------|----------|---------------------------|----------|
| XVIII. (Scot. N.W.).      | in. or % | XVIII. (Scot. N.W.).—con. | in. or % |
| L. Quoich (Kinlochquoich) | 2.99 2.0 | Loch Quoich (Glenquoich)  | 2.50 2.0 |

**March 15th.**

A minor cyclonic rainfall was recorded in the north Midlands.

| VII. ( <i>Eng. N. Mid.</i> ). | <i>in.</i> or <i>%</i> | VII. ( <i>Eng. N. Mid.</i> )— <i>con.</i> | <i>in.</i> or <i>%</i> |
|-------------------------------|------------------------|---|------------------------|
| Holywell Hall .....           | 1·75 7·8               | Gate Burton Hall.....                     | 2·07 8·1               |

**March 17th.**

| XVIII. ( <i>Scot. N.W.</i> ). | <i>in.</i> or <i>%</i> | XVIII. ( <i>Scot. N.W.</i> )— <i>con.</i> | <i>in.</i> or <i>%</i> |
|-------------------------------|------------------------|---|------------------------|
| L. Quoich (Kinlochquoich)     | 3·38 2·3               | Loch Quoich (Glenquoich)                  | 3·00 2·4               |

**March 27th.**

Orographical rains of less intensity than those of the earlier part of the year gave falls of 2 in. or more in North Wales, the Lakes, and the south-west of Scotland.

| XIII. ( <i>Scot. S.E.</i> ). | <i>in.</i> or <i>%</i> | XIV. ( <i>Scot. S.W.</i> ).    | <i>in.</i> or <i>%</i> |
|------------------------------|------------------------|--------------------------------|------------------------|
| Gameshope Farm.....          | 2·90 3·7               | New Cumnock (Power Stn.)       | 2·55 3·8               |
| Talla Linns Foot.....        | 3·19 4·7               | XVI. ( <i>Scot. E. Mid.</i> ). |                        |
|                              |                        | Balquhidder (Stronvar) ..      | 2·52 3·0               |

**April 9th.**

Secondary cyclonic depressions passing across the south of England brought rain of a thunderstorm type in the south Midlands. More than 2·00 in. fell in parts of Pembrokeshire, Gloucestershire, Wiltshire, and Oxfordshire. Great floods occurred near Calne.\*

| VI. ( <i>Eng. W. Mid.</i> ). | <i>in.</i> or <i>%</i> | VI. ( <i>Eng. W. Mid.</i> )— <i>con.</i> | <i>in.</i> or <i>%</i> |
|------------------------------|------------------------|--|------------------------|
| Lechlade (St. John's Lock)   | 2·00 7·6               | Lechlade (Claydon Ho.)..                 | 2·33 8·2               |

**April 15th.**

On the south-eastern flank of a large depression lying off the west coast of Ireland, south-westerly winds brought copious rains in South Wales. Thunderstorms occurred in the London area and in many other parts of the east of England.

**May 5th.**

The conditions were again ideal for rain of the orographical type, the pressure being low over Iceland and high over France. The principal downpours occurred in the south-western counties of Ireland, in Wales, and the north-west of England. At one or two stations more than 4 in. fell, and at Beddgelert in Carnarvonshire 5·85 in.

| X. ( <i>Eng. N.</i> ). | <i>in.</i> or <i>%</i> | X. ( <i>Eng. N.</i> )— <i>con.</i> | <i>in.</i> or <i>%</i> |
|------------------------|------------------------|------------------------------------|------------------------|
| Dungeon Ghyll.....     | 4·13 3·3               | Kendal (Potter Tarn Res.)          | 2·78 3·0               |

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\* See *Met. Mag.*, Vol. 55, 1920, p. 88.

| XI. ( <i>Wales</i> ).        |            |             | XX. ( <i>Munster</i> ).    |            |             |
|------------------------------|------------|-------------|----------------------------|------------|-------------|
|                              | <i>in.</i> | <i>or %</i> |                            | <i>in.</i> | <i>or %</i> |
| Ponterwyd .....              | 2.70       | 3.4         | Garinish Island .....      | 3.21       | 4.3         |
| Tanybwllch (Gardens) ....    | 3.50       | 4.4         | Caheragh (The Rectory) ..  | 2.65       | 4.0         |
| Tanybwllch (Dol-y-Moch) ..   | 3.50       | 4.1         | Dunmanway (The Rectory) .. | 2.54       | 3.4         |
| Bl. Festiniog (Oakley Q.) .. | 4.10       | 3.5         | Dunmanway (Carbery) ..     | 2.56       | 3.4         |
| Bl. Festiniog (Llechwedd Q)  | 4.84       | 3.8         | Ballinageary (Inchibeg) .. | 2.82       | 2.9         |
| Trawsfynydd Camp .....       | 2.50       | 2.9         | Kenmare (Dromore Castle)   | 2.86       | 3.7         |
| Bettws Garmon .....          | 2.96       | 3.6         |                            |            |             |
| Beddgelert (Council School)  | 5.85       | 5.3         |                            |            |             |

**May 18th.**

X. (*Eng. N.*), Dungeon Ghyll 3.41 in. or 2.8 per cent.

**May 25th—27th.**

The latter part of May was marked by hot weather in all parts of the country and numerous thunderstorms developed. Those of these three days were scattered and only severe locally. They were, however, of considerable interest as the forerunners of the far more widespread and intense storms of the 29th, which formed one of the outstanding features of the summer of 1920 from the point of view of rainfall.

On the 25th, temperatures reaching 82° F. were observed in the Thames Valley, and thunderstorms occurred in Hertfordshire, Essex, and Norfolk, giving, at Barrington Hall, near Hatfield Broad Oak, rainfall of almost unprecedented severity. On the same day, as far away as central Ireland, 1.49 in. fell in an hour at Athlone.

On the 26th, an area of comparatively low barometric pressure, somewhat irregularly distributed, lay across England and Ireland, and began slowly to move northward. Thunderstorms occurred on this day in central Wales, and in parts of the Thames Valley and of East Anglia, being exceptionally severe only in the west of London, where from 2 in. to more than 3 in. fell in the neighbourhood of Barnes, Hanwell, and Ealing. At Hammersmith roads were flooded and wood pavements burst up, though at South Kensington, only a few miles distant, only light showers fell. The rain of this day was, like that of the previous day, too local to enable its distribution to be indicated on a map.

Isolated thunderstorms again took place on the 27th, on this occasion farther to the north. Falls of more than 1 in. occurred in a number of small patches in north Shropshire, Staffordshire, the south of Yorkshire, the north of Lincolnshire, Northumberland, and Berwickshire. At Mosley Hall, near Whalley Bridge, .80 in. fell in 20 minutes.

**May 25th.**

| III. ( <i>Eng. S. Mid.</i> ).      |            |             | IV. ( <i>Eng. E.</i> ).               |            |             |
|------------------------------------|------------|-------------|---------------------------------------|------------|-------------|
|                                    | <i>in.</i> | <i>or %</i> |                                       | <i>in.</i> | <i>or %</i> |
| Littleport (Highfield House) ..... | 1.57       | 8.0         | Hatfield Broad Oak (Barrington) ..... | 2.79       | 11.0        |

**May 26th.**

| II. ( <i>Eng. S.E.</i> ).     | <i>in. or %</i> |      | III. ( <i>Eng. S. Mid.</i> )— <i>con.</i> | <i>in. or %</i> |     |
|-------------------------------|-----------------|------|---|-----------------|-----|
| Barnes (Castelnau) . . . .    | 2.57            | 10.1 | Ealing (Webster Gardens)                  | 1.96            | 7.8 |
| III. ( <i>Eng. S. Mid.</i> ). |                 |      | Ealing (Longefield Aven.)                 | 2.22            | 5.8 |
| Kew Bridge (Waterwks).        | 2.45            | 9.4  | Ealing (St. Stephen's Road)               | 2.15            | 8.1 |
| Hanwell (Oaklands Rd.)        | 3.16            | 12.0 | Cambridge (Hills Rd. S.) .                | 1.98            | 8.7 |

**May 29th.**

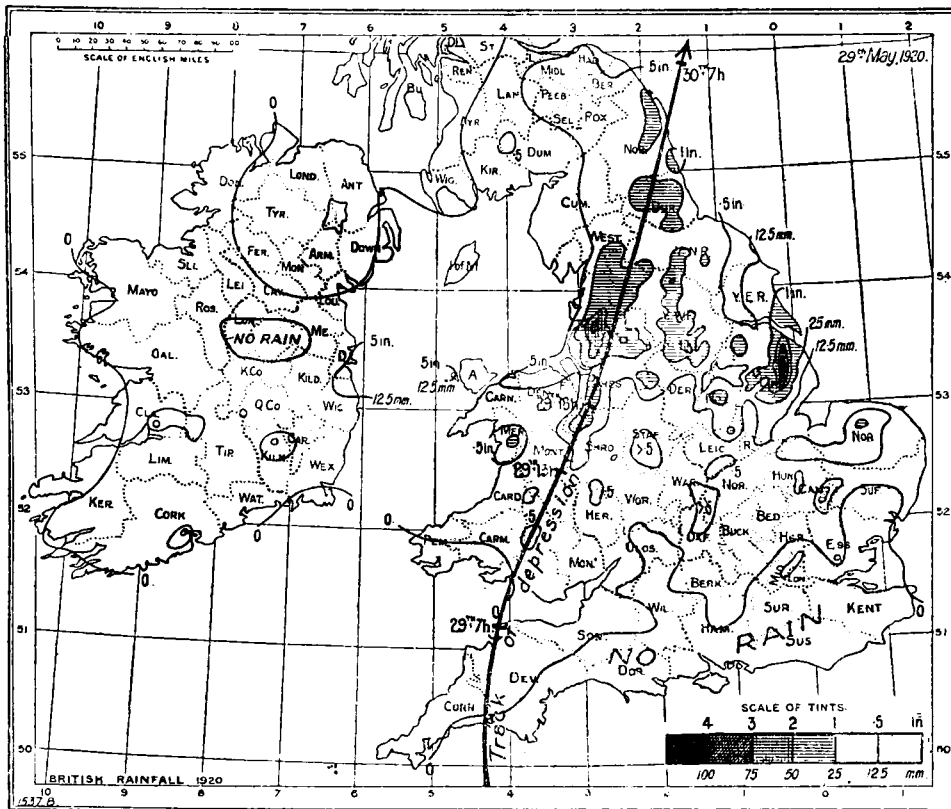
The distribution of atmospheric pressure following on the events described in the preceding paragraphs continued to be irregular. At 7 h. G.M.T. on the 28th, there were well-developed anticyclones over Scandinavia and the Azores, and a number of shallow depressions had formed over the north of the British Isles, as well as over the Bay of Biscay. During this day the temperature was high in the south, but low in the north, and although there was not at this time the great contrast of temperature between the coastal and inland regions of Lincolnshire which developed later, and which was clearly associated with the great local rainfall at Louth, there was already some evidence of atmospheric instability in this district. From Cranwell a waterspout was observed on the coast a few miles distant from Louth.

By 18 h. on the 28th, the depression which had been situated over the Bay of Biscay in the morning was moving towards the English Channel. By the morning of the 29th it was over the south-west of England and was deepening, whilst at 13 h. the centre was over Wales. During the following night this depression passed away in the direction of Scandinavia.

On the rainfall day of the 29th, practically no rain fell to the south of a line drawn from Plymouth to the mouth of the Thames. In the north no rain was observed over the centre and west of Scotland and in Ulster, and in the west the south coast of Wales and the west coast of Ireland were rainless. The southern half of Ireland, Wales, and the Midlands of England were marked by isolated patches of rainfall of considerable, but not remarkable, intensity. These patches tended to fall into the characteristic linear arrangement so often seen in thunderstorms. In a southern strip, splashes occurred at Cork, in Breconshire, Northamptonshire, and Cambridgeshire, and, slightly farther to the north, a second strip included parts of Cos. Clare and Tipperary, and more or less isolated falls at Kilkenny, Dolgelly, Oswestry, Birmingham, Market Harborough, Peterborough and central Norfolk. The most remarkable rains were, however, grouped in a third line, extending eastward from Dublin and stretching across the north of England. The centres of heaviest rainfall were in England, and more than 2 in. fell in three districts respectively in Lancashire, South Yorkshire, and Lincolnshire. To the south of Preston more than 3 in. fell and the intensity of the rain at Leyland was for a time almost unprecedented for the British Isles. In the district surrounding this

centre of great rainfall more than 1 in. was observed over an unbroken area stretching from the Mersey to near Kirkby Stephen, and from the coast at Southport inland to Rochdale. To the east lay another irregular 1-in. patch stretching from Northallerton to Sheffield and including 2-in. falls at Birstwith, near Harrogate, and in the district between Barnsley and Rotherham.

# RAINFALL, MAY 29th, 1920.



The Lincolnshire rainfall was even more severe ; more than 2 in. fell as far west as Lincoln, but the extremely intense fall appears to have been confined to part of the low hills known as the Lincolnshire Wolds. In Louth itself the fall amounted to only 1·42 in., but at Elkington Hall, 3 miles to the west, 4·69 in. was measured, of which 4·59 in. fell in 3 hours. About 2 miles south of this 4·10 in. fell in 2 hours at Hallington, but the gauge overflowed at this point so that the precise amount of the fall was lost. There is reason to think that it was at least as great as at Elkington. Ten miles farther south, at Horncastle, 3·95 in. fell in 3 hours. The evidence suggests that the fall of rain somewhat farther west than the points of observation near Louth may possibly have been even more remarkable, but in the absence of any direct confirmation this cannot be stated positively.



The amount certainly fell off somewhat abruptly towards the north-west, only 1·82 in. falling in the 24 hours at Kirmond, some 11 miles W.N.W. of Louth, and only ·61 in. at Market Rasen. It is extremely unfortunate that no records are available for the district between Hallington and Horncastle, as it is a matter of interest to enquire whether the enormous rainfall occurred along the whole ridge or only at intervals. The statement of a witness at the inquest, that a large part of the rain ran into the River Bain, indicates some extension westward, and it appears probable that the area of intense rain was widest at its northern extremity, which one may assume to have been near Welton-le-Wold.

Further 1-in. rainfalls occurred in the north, stretching almost to Berwick-on-Tweed, but there appears to have been no recrudescence of very violent storms.

Little definite information is available bearing on the time relations of the storms. It is clear that more than one storm occurred during the day, and that the Louth flood was associated with rainfall which commenced about 13 h. G.M.T. In the district lying immediately to the east and west it was distinctly later, at Heckington to the south, earlier. At Horncastle, however, nearly midway between Heckington and Louth, and, therefore, in the direct line of the storm, the rain is said not to have commenced until 14 h. The heaviest rain seems to have been over by 16 h. The storm at Preston occurred considerably later, heavy rain commencing at Leyland at 16 h. G.M.T., and ceasing soon after 18 h.

The effect of the remarkable rainfall in the Lincolnshire Wolds was felt in a disastrous manner in the town of Louth. Towards the town several streams flowing from the Wolds converge and form the River Lud. The water in this normally placid rivulet rose extremely rapidly, by report, as much as 6 ft. in 10 minutes, and was at one time 15 ft. above its usual level, and a torrent 200 yards wide was sweeping through the town. Twenty-two people are known to have been drowned, and an enormous amount of damage to property was caused, the cost in Louth alone being estimated at £100,000. Much loss to stock and the destruction of several bridges were also reported from the neighbourhood.

A good deal of controversy has been aroused as to the cause of the great suddenness of the flood in Louth. As to the rainfall itself, it was certainly remarkably heavy, though by no means unprecedented, either for total amount or for intensity, so far as it is possible to judge from the few records obtained from the Wolds. It was clearly an exceptionally severe case of local "cyclonic" rainfall associated with the interaction of two air currents of different temperatures travelling respectively from south-east and south-west, both conveying a good deal of moisture. This is clear from meteorological records, and receives strong confirmation from the following letter from Rear-Admiral Sir Francis

Harrison-Smith, of Stamford, which we quote from Mr. E. V. Newnham's official report (M.O. 240g.) :—

“ . . . . . the wind was fitful and uncertain in its direction, but the upper clouds were travelling slowly from S.E. At 14 h. 45 m. a very heavy warm squall struck us from S.W., driving great masses of dense low cloud before it. In England I have never seen the cloud so extraordinary, rolling and tumbling over and over exactly as I have seen it do in cyclones, hurricanes, and the like abroad, and reminding me of the clouds from which I have seen waterspouts descend at sea or down the valley of the Yangtse. This warm disturbance travelled right over Easton and Stamford in a direct line for Louth, and I have very little doubt that as it approached the coast it met a colder current from the North Sea, which caused the sudden precipitation of the masses of obviously dense vapour which the shift of wind was collecting in its course.”

The mere volume of water flowing down the streams which converge on the outskirts of the town would probably have been sufficient to account for the extremely serious nature of the damage inflicted, but it appears from such information as we have been able to obtain, that it is probable that the stream was temporarily blocked with débris brought down by the earlier rains, and that the devastating flood which poured through the town was the result of the sudden breaking down of this obstacle, which had been able to hold up a considerable volume of water owing to the comparatively gentle gradient of the valley at that point. This hypothesis is confirmed by the observed fact that the rate of subsidence to the west of Louth was extremely rapid, whereas in the town and to the east it was slow.

The distribution of rainfall during the day is indicated in the map which we reproduce. The areas affected by excessive rainfall were so small that volumetric estimates can only be very rough. We have attempted to calculate the volume of water which was precipitated over the valley of the Lud above Louth, but it can be accepted only with reserve.

*Valley of Lud above Louth, May 29th, 1920.*

|                         | Area,<br>sq. miles. | General Rainfall,<br>inches. | Volume of<br>Rainfall,<br>sq. miles × inches. |
|-------------------------|---------------------|------------------------------|---|
| More than 4 in. . . . . | 15·7                | 4·25                         | 66·7  |
| 3–4 in. . . . .         | 3·2                 | 3·69                         | 11·6  |
| 2–3 „ . . . . .         | 1·7                 | 2·50                         | 4·3   |
| Less than 2 in. . . . . | 1·6                 | 1·75                         | 2·8   |
| Total ..                | 22·2                |                              | 85·4  |

This gives a general rainfall for the 22 square miles of 3·85 in., and a volume of precipitation amounting to the enormous total of 1,236 million gallons or 5½ million tons of water. Whilst this figure cannot be accepted as more than a rough approximation, it may be

taken as certain that the actual volume of water flowing off immediately was considerably less, and it might be put with some justification at less than 5 million tons.

It is abundantly clear that whilst the amount of rainfall in three hours was of an extremely remarkable nature, the disaster to the town of Louth must be attributed in an almost equal degree to the accident of its geographical position. A similar rainfall in many districts would have undoubtedly drained away without causing exceptional damage, but the valley of the Lud and its tributaries form a veritable bottle-neck, and if, as is surmised, the bottle was inadvertently corked by a blockage in the stream, the awful suddenness of the disaster may be to some extent explained.

| VII. ( <i>Eng. N. Mid.</i> ). | <i>in.</i> | <i>or</i> | <i>%</i> | VIII. ( <i>Eng. N.W.</i> ). | <i>in.</i> | <i>or</i> | <i>%</i> |
|-------------------------------|------------|-----------|----------|-----------------------------|------------|-----------|----------|
| Woodhall Spa (Galm Ho.)       | 2.83       | 11.4      |          | Brindle (Whiteholme) . . .  | 2.86       | 7.0       |          |
| Horncastle . . . . .          | 3.95       | 13.6      |          | Preston (Corporation Off.)  | 2.82       | 7.2       |          |
| Lincoln (Sessions House)      | 2.06       | 8.3       |          | Leyland (Worden Hall) . .   | 3.23       | 8.1       |          |
| Louth (Hallington) . . . .    | *4.00      | —         |          | Bamber Bridge (Cuerden H.)  | 2.50       | 6.4       |          |
| S. Elkington (Elkington H.)   | 4.69       | 15.6      |          |                             |            |           |          |
| Wold Newton . . . . .         | 2.50       | 9.1       |          | IX. ( <i>Yorks.</i> )       |            |           |          |
| Grainsby Hall . . . . .       | 3.40       | 11.9      |          | Barnsley (Jordan Hill) . .  | 2.60       | 8.5       |          |
| Grimsby (Abbey Road) . .      | 2.00       | 8.1       |          |                             |            |           |          |

#### June 12th—19th.

From June 12th to 19th, thundery conditions prevailed over the greater part of the British Isles except the north. Thunderstorms of uncommon severity followed each other in quick succession, but no rainfall of a remarkable nature appears to have been recorded. Hailstones of considerable size were reported at Croydon, Ewhurst, and Peaslake in Surrey on the 12th.

#### June 16th.

III. (*Eng. S. Mid.*), Stony Stratford (Calverton Limes) 2.20 in. or 8.2 per cent.

#### June 17th.

V. (*England S.W.*), Clutton (Council School) 2.54 in. or 6.6 per cent.

#### July 2nd—3rd.

A small depression passed over the Midlands in an easterly direction, and thundery conditions developed from the south of Scotland to the Midlands on the 2nd and locally in the south-east of England on the 3rd.

#### July 2nd.

| IX. ( <i>Yorks.</i> )    | <i>in.</i> | <i>or</i> | <i>%</i> | XIII. ( <i>Scotland S.E.</i> ). | <i>in.</i> | <i>or</i> | <i>%</i> |
|--------------------------|------------|-----------|----------|---------------------------------|------------|-----------|----------|
| Whitby (Mulgrave Castle) | 2.46       | 8.7       |          | Coldstream (Lochton) . . . .    | 2.00       | 7.5       |          |
|                          |            |           |          | Liberton (The Inch) . . . .     | 2.71       | 9.4       |          |

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\* Gauge overflowed. More than 4.00 in. certainly fell.

**July 3rd.**

| IV. ( <i>England E.</i> ).   | <i>in.</i> | <i>or</i> | <i>%</i> | IX. ( <i>Yorks.</i>       | <i>in.</i> | <i>or</i> | <i>%</i> |
|------------------------------|------------|-----------|----------|---------------------------|------------|-----------|----------|
| Southminster (Dudswell).     | 1.96       | 7.6       |          | Kildale Hall.....         | 2.84       | 8.1       |          |
| Lexden (Hill House) ....     | 1.85       | 8.1       |          | X. ( <i>England N.</i> ). |            |           |          |
| Lexden Rectory .....         | 1.90       | 7.7       |          | West Hartlepool (Lynn     |            |           |          |
| Sudbury (Gt. Cornard) ..     | 1.95       | 8.3       |          | Street) .....             | 1.80       | 8.3       |          |
| Great Cornard (The Limes)    | 1.98       | 8.8       |          | IX. ( <i>Wales.</i>       |            |           |          |
| VI. ( <i>Eng. W. Mid.</i> ). |            |           |          | Talybont (Pentir-rhiw) .. | 2.56       | 3.4       |          |
| Worcester (Water Wks) ..     | 2.01       | 7.5       |          | Waenfawr (Council School) | 2.98       | 4.4       |          |

**July 4th.**

II. (*England S.E.*), Jevington (Church Farm) 2.48 in. or 8.3 per cent.

**July 9th.**

A primary depression travelling northward across the Irish Sea was associated with local thunderstorms in the south of Scotland.

XII. (*Scotland S.*), Dalton (Kirkwood) 3.89 in. or 6.9 per cent.

**July 21st.**

III. (*Eng. S. Mid.*) Edmonton, 3.24 in. (?)

[N.B.—This record receives no confirmation from neighbouring stations and we print it without any guarantee as to its accuracy.]

**July 23rd.**

A heavy local rainstorm during the afternoon near Maidstone.

II. (*England S.E.*), Maidenhead (Hall Place) 2.38 in. or 8.4 per cent.

**July 25th.**

Minor pressure irregularities brought heavy downpours of a local nature in Co. Dublin.

XXI. (*Leinster*), Stillorgan (Farmleigh) 2.91 in. or 6.2 per cent.

**July 31st.**

Shortly after 5.30 on Saturday evening, writes our Stone correspondent, there was a curious happening over the town of Stone. The sky commenced to "rain" hay—or was it clover?—and continued to do so for several minutes over a wide area, and as far as one could see in any direction. The hay fell from a tremendous height. It could be seen coming out of a bank of dark clouds, and it came down, some of it, in spiral form, and some in the shape of parachutes.—*Staffordshire Weekly Sentinel*.

**August 4th.**

A depression moving over the north-west coast in a north-easterly direction caused continuous rain in the north-west of England and over Wales generally, reaching noteworthy amounts in elevated districts.

| VIII. ( <i>Eng., N.W.</i> ). | <i>in.</i> | <i>or</i> | <i>%</i> | VIII. ( <i>Eng. N.W.</i> )— <i>con.</i> | <i>in.</i> | <i>or</i> | <i>%</i> |
|------------------------------|------------|-----------|----------|---|------------|-----------|----------|
| Ulpha .....                  | 2.61       | 3.1       |          | Coniston (Holywath) ....                | 3.12       | 3.0       |          |
| Duddon Valley (Seath-        |            |           |          | Ambleside (Skelwith Fold)               | 2.54       | 2.7       |          |
| waite Vicarage) .....        | 2.80       | 3.4       |          |   |            |           |          |

| X. ( <i>England, N.</i> ). |            |             | IX. ( <i>Wales.</i> )— <i>con.</i>       |            |             |
|----------------------------|------------|-------------|--|------------|-------------|
|                            | <i>in.</i> | <i>or %</i> |  | <i>in.</i> | <i>or %</i> |
| Egremont (The Grange) ..   | 2·84       | 4·8         | Treherbert (Bute Merthyr Colliery) ..... | 2·87       | 2·6         |
| Whitehaven (Scragill Res.) | 2·60       | 5·5         | Treherbert (Tyn-y-waun).                 | 2·84       | 2·5         |
| Whitehaven (Irish Street)  | 2·66       | 5·4         | Haverfordwest (Portfield)                | 2·80       | 4·9         |
| Rydal (Stepping Stones).   | 2·69       | 2·9         | Bl. Festiniog (Oakley Q.)                | 3·32       | 2·8         |
| Rydal .....                | 2·84       | 3·0         | Bl. Festiniog (Llechwedd Q.)             | 2·87       | 2·2         |
| Grasmere (The Wray) ....   | 2·56       | 2·4         | Lake Eigiau (Dam Site) ..                | 2·74       | 2·6         |
| IX. ( <i>Wales.</i> ).     |            |             | Llanberis (Bryntirion) ...               | 3·12       | 3·2         |
| Pontardawe (P.Cilybebyll)  | 2·71       | 3·4         | Beddgelert (Council School)              | 4·62       | 4·2         |
| Glyncorrwg Colliery ....   | 2·58       | 2·5         |  |            |             |

### August 8th.

Very heavy falls in a short period occurred on the Pentland Hills, as much as 2·25 in. in 3 hours being recorded at Cockburn Hill, Balerno.

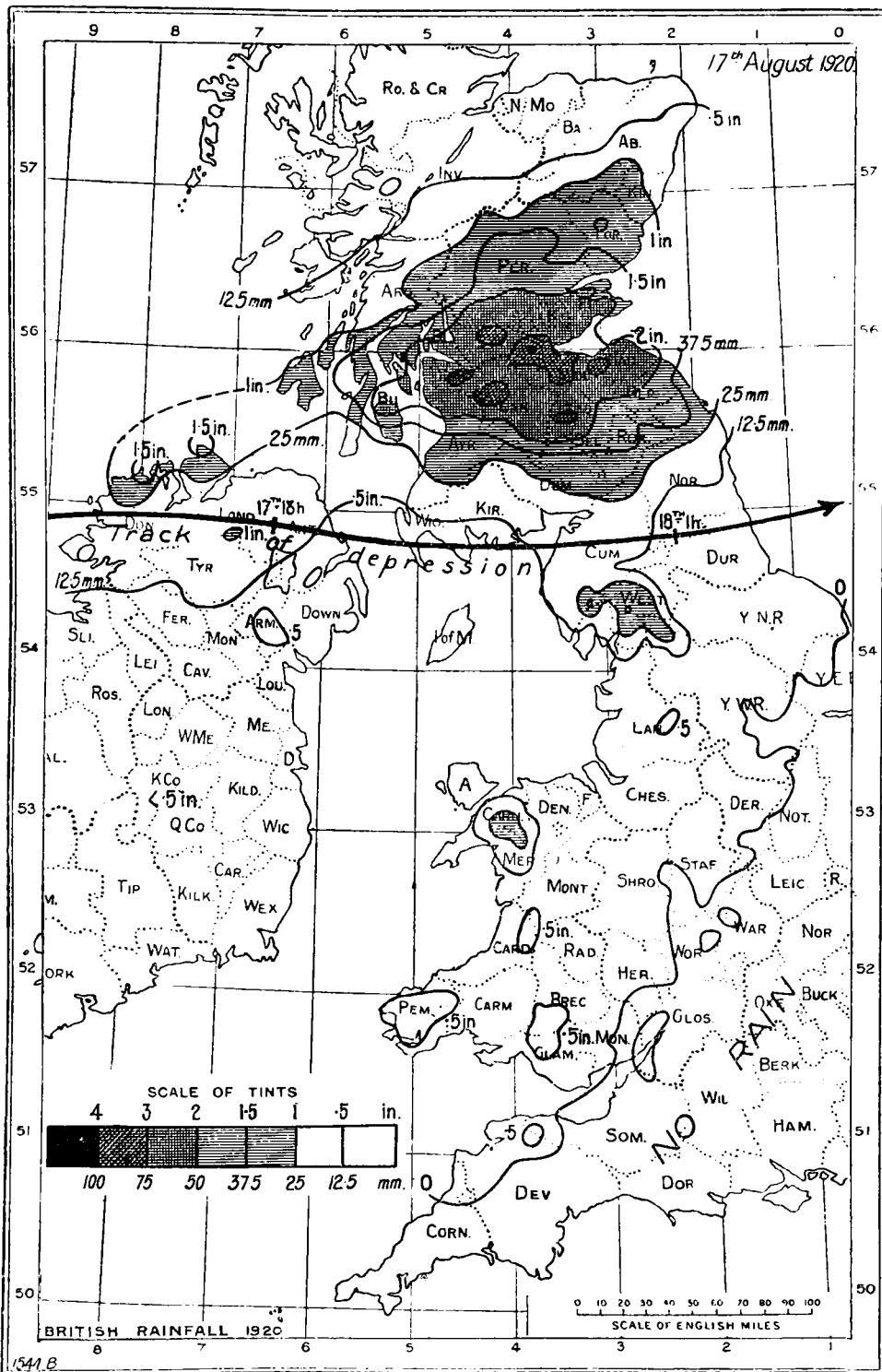
XIII. (*Scotland, S.E.*), Pentland Hills (Harlaw Res.) 2·88 in. or 7·9 per cent.

### August 17th.

A depression passed in an easterly direction across the north of Ireland and England on the 17th, its passage being associated with the most widespread cyclonic rain of the year. The distribution of rainfall was peculiarly interesting, the heaviest rain falling in the central plain of Scotland with an apparent disregard of the configuration, while on the outskirts of the rain area in England and Ireland the distribution showed clear indications of orographical influence. No rain fell east of a well-defined line roughly from Launceston to Scarborough, but the zero line to the north of Scotland was ill-defined. Apart from Scotland, falls of more than 1 in. were confined to the English Lake District, Carnarvonshire and local areas in the north-west of Ireland. In Scotland a broad band, from Islay to near Aberdeen in the north and to the Cheviots in the south, received more than 1 in. of rain; the area with 2 in. also stretched across Scotland, being limited on the north by Perth and Rothesay, and on the south by Leadhills and Galashiels. More than 3 in. fell locally in this area, the largest patch stretching from about Airdrie to Leith, and from Dunfermline to West Linton. As much as 4 in. was recorded at Bathgate and Linlithgow, and also at Harperrig in the Pentland Hills. At the Coats Observatory, Paisley, 3·20 in. fell, being the heaviest daily fall registered since the Observatory was opened in 1883. Rain fell at a remarkably steady rate from 13 h. to midnight during which period at least 2·75 in. was registered. As a result of the rain of this day serious flooding occurred in Edinburgh and Glasgow and along the Forth-Clyde belt generally.

Extensive flooding was reported yesterday in West and Central Scotland. In East Lothian a great deal of corn was badly damaged by

RAINFALL, AUGUST 17th, 1920.



the heavy rainfall, and many fields were under water. In Strathallan (South Perthshire) the incessant rain caused severe flooding, and the River Allan overflowed its banks at many points. Grain crops were submerged, and farmers, who were in the midst of the hay harvest, had their fields flooded.

The River Esk at Musselburgh was in high flood yesterday, and several sheep were drowned in a low-lying field just outside the town. One of the tiers of the iron bridge over the river, in the heart of the town, was knocked clear away by a water-borne tree, and the bridge was closed to traffic. Great flooding also took place at Penicuik. The roadway at Valleyfield Mill was completely under water, which poured into the lower parts of the mill, papermaking having to be suspended.

For the second time within ten days Roseburn Public Park, Edinburgh, along with its adjacent surroundings, was yesterday the scene of serious flooding. As the result of heavy rains, the Water of Leith overflowed its banks, and a vast area was flooded. Roseburn Park was soon converted into a sea of water, the depth at some places being estimated at six feet and more. In several of the houses in Roseburn Street the water attained a depth of from 4 to 5 ft. Very serious flooding also occurred in the Turnhouse district. Along the main road all traffic was completely held up, and no passengers or vehicles could get past the Boathouse Bridge. The water extended right across the roads, and was over three feet in depth.

The scenes at Newbridge were even worse. The Almond, in overflowing its banks, uprooted several large trees. In one place two large trees, 60 ft. in height, were carried away and blocked the roadway. The strength of the floods was so great that many walls and fences were levelled.

Throughout the day there was no cessation of the downpour in Edinburgh, and conditions were rendered more wretched by a low temperature and an easterly wind.

Considerable anxiety was caused to the N.B.R. officials in Edinburgh by the reports that at several points the railway track had been submerged and traffic delayed. Owing to the main line being blocked at Heriot, the 8.50 p.m. train from St. Pancras to Waverley had to be run over the Berwickshire route via Renton. The main line to Carlisle was also affected, and trains had to run "at caution." One of the worst delays occurred on the branch line at Penicuik, where a landslide between Auchendinny and Rosslyn Castle caused a complete block of the line. Traffic was also interrupted on the Dolphinton branch by a block on the line to the south of Lamanca, where about 20 tons of ballast were washed away.

Great flooding also took place in Glasgow and district. The River Cart overflowed its banks at several points in the Battlefield and Cathcart areas. Dundrennon Road and the areas around Sinclair Drive and Homelea resembled a large lake, the water in some parts being over 6 ft. deep. Basements of houses were flooded, and residents in the district who lived in bottom flats had hurriedly to remove their furniture upstairs. The Corporation plots at Balmoral Avenue, Cathcart, were also flooded, the Cart water overflowing the plots and flooding some of the houses in Balmoral Avenue. All the low-lying ground in the neighbourhood of Pollokshaws was covered with water.—*The Scotsman, August 18th, 1920.*

The area of the great 1-in. splash extending from Bloody Foreland to the North Sea is given below. The measurement excludes the sea-area where no observations, of course, are available.

|                            | Area,<br>sq. miles. | General Rainfall,<br>inches. | Volume of<br>Rainfall,<br>sq. mile × inches. |
|----------------------------|---------------------|------------------------------|--|
| More than 4 in. ....       | 7                   | 4.03                         | 28   |
| 3-4 in. ....               | 759                 | 3.25                         | 2,463  |
| 2-3 „ ....                 | 4,214               | 2.38                         | 10,043                                       |
| 1.50-2 in. ....            | 3,571               | 1.73                         | 6,191  |
| 1-1.50 „ ....              | 5,465               | 1.24                         | 6,797  |
| Total more than 1 in. .... | 14,016              |                              | 25,522                                       |

The general rainfall of the area with more than 1 in. of rain was 1.82 in.

| XIII. (Scot., S.E.).         | in.  | or % | XIII. (Scot., S.E.)—con.    | in.  | or % |
|------------------------------|------|------|-----------------------------|------|------|
| Barnsness Lighthouse ..      | 2.35 | 11.0 | Edinburgh (City Obs.)..     | 3.10 | 12.4 |
| Stobo Castle.....            | 2.80 | 6.3  | Leith (Starbank Park)..     | 2.82 | 9.9  |
| West Linton (Dalziel Ho.)    | 3.04 | 7.0  | Davidson's Mains            |      |      |
| Eddleston (Portmore Res.)    | 3.33 | 8.5  | (Broomfield) .....          | 1.96 | 7.7  |
| Prestonkirk (Ninewar) ..     | 2.38 | 9.8  | Uphall (Bangour Asylum)     | 3.22 | 9.8  |
| Prestonkirk (Knowes) ..      | 2.29 | 8.9  | Dalmeny House.....          | 2.90 | 10.6 |
| Prestonkirk (Smeaton) ..     | 1.88 | 7.5  | Bathgate (Filters).....     | 4.25 | 12.0 |
| North Berwick Res.....       | 2.05 | 8.8  | Linlithgow (Grange)....     | 3.70 | 10.7 |
| Oxenfoord Castle Gardens     | 3.15 | 9.8  | Linlithgow (Preston H.).    | 3.35 | 8.7  |
| Moorfoot Hills (Glad-        |      |      | Linlithgow Academy....      | 4.14 | 10.1 |
| house Res.).....             | 3.76 | 9.4  | XIV. (Scot., S.W.)          |      |      |
| Moorfoot Hills (Rosebery)    | 3.66 | 10.3 | Biggar .....                | 2.65 | 6.7  |
| Moorfoot Hills (Edgelaw)     | 3.60 | 9.9  | Glasgow (Tollcross Park)    | 2.60 | 6.1  |
| Penicuik (Brunstane Cot.)    | 2.78 | 6.3  | Glasgow Observatory ..      | 2.64 | 6.0  |
| Gorebridge (Deanbank) .      | 3.01 | 9.3  | Airdrie (Hillend Res.) ..   | 2.96 | 7.3  |
| Milton Bridge (Bush) ..      | 3.71 | 9.9  | Gartcosh (Gartloch Hos.)    | 2.67 | 6.1  |
| Pentland H. (Martyrs Cross)  | 3.49 | 9.0  | Strathaven (Glengavel Res.) | 2.63 | 4.9  |
| Pentland Hills (Loganlea)    | 2.50 | 7.9  | Strathaven (Dungavel) ..    | 2.88 | 4.4  |
| Pentland Hills (Glen-        |      |      | Strathaven (Kype) ....      | 2.90 | 5.5  |
| corse Filters) .....         | 3.35 | 8.8  | Strathaven (E. Overton Ho.) | 3.52 | 7.0  |
| Pentland H. (Glen Cottage)   | 3.58 | 9.0  | Stonehouse Sanatorium ..    | 3.21 | 7.1  |
| Newbattle (Public Sch.)      | 2.67 | 9.5  | Stonehouse (Glassford Fil.) | 2.98 | 6.7  |
| Dalkeith Gardens .....       | 3.06 | 11.0 | Hamilton W.W. (Townhill)    | 3.15 | 7.6  |
| Pentland H. (Crosswood)      | 3.52 | 7.8  | Hamilton (Laighstone Hall)  | 2.85 | 6.8  |
| Pentland H. (Harperrig)      | 4.10 | 8.8  | Hamilton (St. James' Manse) | 2.93 | 7.8  |
| Pentland Hills (Morton)      | 3.63 | 8.4  | Busby (Thornton Hall) ..    | 2.71 | 6.0  |
| W. Calder (Addiewell) ..     | 2.63 | 6.7  | Carmunnock (Carnbooth)      | 2.74 | 5.7  |
| Balerno (Cockburn Hill)      | 3.78 | 9.0  | Cambusland (Greenlees Fil.) | 2.72 | 5.7  |
| Mid-Calder (Calder Hall)     | 3.23 | 10.5 | Glasgow (Elder Park) ..     | 2.64 | 5.8  |
| Pentland Hills (Harlaw Res.) | 3.25 | 8.9  | Glengarnock (Chem. Wks.)    | 2.57 | 4.1  |
| Pentland Hills (Club-        |      |      | Kilmarnock (Agric. Col.)    | 2.52 | 5.7  |
| biedean Res.).....           | 3.20 | 9.7  | Kilwinning (Eglinton Cas.)  | 2.50 | 5.5  |
| Pentland Hills (Swanston)    | 3.31 | 11.5 | Lochwinnoch (Garthland)     | 2.94 | 3.9  |
| Pentland Hills (Fairmile-    |      |      | Howwood (Midton House)      | 3.47 | 4.9  |
| head) .....                  | 3.50 | 11.2 | Pollokshaws (Rouken Glen)   | 2.96 | 5.7  |
| Colinton (Northfield)....    | 3.63 | 11.7 | Kilbarchan (Milliken Pk.)   | 3.17 | 5.4  |
| Pentland Hills (Firhill) ..  | 3.40 | 11.1 | Kilbarchan (Glentyan) ..    | 3.23 | 5.1  |
| Liberton (Alnwick Hill) ..   | 3.26 | 10.9 | Paisley (The Coats Obs.)    | 3.20 | 6.4  |
| Liberton (College Gdn.) ..   | 3.19 | 11.1 | Renfrew Aerodrome ....      | 2.79 | ..   |
| Liberton (The Inch)....      | 2.79 | 9.7  | Shaws W.W. (Gryfe Res.)     | 2.55 | 3.5  |
| Edinburgh (Royal Obs.)       | 3.00 | 10.9 | Shaws W.W. (Mansfield).     | 2.83 | 4.0  |
| Edinburgh (Univ. Eng. Lab.)  | 3.17 | 11.0 | Shaws W.W. (Comp. Res.)     | 2.93 | 3.9  |



| XIV. ( <i>Scot., S.W.</i> ).— <i>con.</i> |      |     | XVI. ( <i>Scot. E. Mid.</i> ). <i>in.</i> or % |      |      |
|---|------|-----|--|------|------|
| Shaws W.W. (Loch Thom)                    | 2·85 | 3·6 | Alloa House . . . . .                          | 2·66 | 8·1  |
| Shaws W.W. (Hole Glen)                    | 2·77 | 3·7 | Dollar (Wellhall, Dollarbeg)                   | 2·70 | 6·7  |
| Shaws W.W. (New Yett's D.)                | 2·77 | 3·8 | Dollar (Blairingone Manse)                     | 2·86 | 6·7  |
| Greenock (Prospect Hill)                  | 2·52 | 3·5 | Loch Leven Sluice . . . .                      | 2·79 | 8·3  |
| XV. ( <i>Scot., W. Mid.</i> ).            |      |     | Milnathort (Ledlanet) . . .                    | 2·68 | 5·2  |
| Linlithgow (Muiravonside)                 | 3·55 | 9·0 | Rosyth (H.M. Dockyard) . .                     | 2·92 | 10·8 |
| Polmont (Vellore) . . . . .               | 3·10 | 8·2 | Dunfermline (Broomhall)                        | 3·07 | 10·4 |
| Falkirk (Laurieston) . . . .              | 3·00 | 7·9 | Kincardine (Tulliallan) . .                    | 2·92 | 8·1  |
| Falkirk (Westbank) . . . .                | 3·38 | 8·5 | Kirkcaldy . . . . .                            | 2·55 | 9·1  |
| Falkirk (Burgh Chambers)                  | 3·36 | 8·6 | Cowdenbeath (Stenhouse St.)                    | 2·81 | 7·9  |
| Stirling (Touch W.W.) No. 3               | 3·19 | 5·2 | Cleish Hills (Deanhead Farm)                   | 2·90 | 8·2  |
| Stirling (Touch W.W.) No. 2               | 3·05 | 5·1 | Leven (The Rectory) . . . .                    | 2·12 | 8·5  |
| Stirling (Touch W.W.) No. 1               | 3·12 | 5·1 | Leslie (Lothrie Reservoir)                     | 2·91 | 8·0  |
| Stirling (Sauchie House)                  | 2·50 | 5·9 | Carnbee (Overstone W.W.)                       | 3·00 | 8·2  |
| Kippen (Arngomery) . . . .                | 3·25 | 6·1 | Glendevon (Glenquey R.)                        | 2·70 | 4·7  |
| Killearn (Achnagowan) . . .               | 2·57 | 3·7 | Glendevon (Tormaukin) . .                      | 2·78 | 5·1  |
| Kilsyth (Innsbridge) . . . .              | 2·61 | 4·3 |  |      |      |

**September 14th.**

| XI. ( <i>Wales</i> ). <i>in.</i> or % |      |     | XI. ( <i>Wales</i> ).— <i>con.</i> <i>in.</i> or % |      |     |
|---------------------------------------|------|-----|--|------|-----|
| Swansea W.W. (Nantyrwydd)             | 2·51 | 2·6 | Bl. Festiniog (Llechwedd Q.)                       | 2·88 | 2·2 |

**September 15th.**

II. (*England, S.E.*), Dartford (West Hill House) 2·12 in. or 8·3 per cent.

**September 18th.**

A primary depression passed across Scotland during this day, bringing with it widespread, though not remarkably heavy, rainfall. The only areas with as much as 2 in. were in the lower valleys of the Spey and Nairn. They were possibly associated with a secondary cyclone which made the pressure distribution somewhat irregular.

| XVII. ( <i>Scot., N.E.</i> ). <i>in.</i> or % |      |     | XVII. ( <i>Scot., N.E.</i> ).— <i>con.</i> <i>in.</i> or % |      |     |
|---|------|-----|--|------|-----|
| Drummuir Castle . . . . .                     | 2·50 | 8·2 | Brodie (Earlsmill House) . .                               | 1·85 | 7·6 |
| Aberlour Orphanage . . . . .                  | 2·31 | 8·1 | Cawdor Castle . . . . .                                    | 2·28 | 8·7 |
| Darnaway Castle Gdns . . . .                  | 2·15 | 8·6 |  |      |     |

**September 21st.**

Between the 19th and 23rd, owing largely to shallow depressions over France, there were frequent thunderstorms in southern and eastern England. At Margate, on the 21st, rain fell from 6 h. to 23 h., the downpour between 9 h. and 10 h. being torrential, with the result that the lower parts of the town were flooded. A severe thunderstorm and heavy rain was experienced at Lowestoft. Rain and hail fell heavily for nearly an hour and floods resulted, while a waterspout was observed at sea. At Faversham, large hailstones fell, whilst at Greenstreet, near Dunmow, and at Felixstowe, houses were struck by lightning.

| II. ( <i>Eng., S.E.</i> ). <i>in.</i> or % |      |     | IV. ( <i>Eng., E.</i> ). <i>in.</i> or % |      |      |
|--|------|-----|--|------|------|
| Margate (Cliftonville) . . . .             | 1·72 | 9·7 | Southminster (Dudswell)                  | 2·83 | 10·9 |
|  |      |     | Maldon (Hazeleigh Rec.)                  | 1·88 | 8·3  |

**October 2nd—3rd.**

A large shallow secondary depression lay over England and Wales on the morning of the 2nd, but disappeared during the day, giving place to an unusually steep west to east pressure gradient between low pressure off the west of Ireland and an anticyclone in Scandinavia. Strong southerly winds prevailed over the whole of the British Isles and widespread orographical rainfall occurred, giving the greatest falls, as might be expected, in the south, particularly on Dartmoor and in South Wales.

**October 2nd.**

XX. (*Munster*), Kenmare (Dunkerron Castle) 3·08 in. or 4·3 per cent.

**October 3rd.**

| V. ( <i>Eng., S.E.</i> ). | <i>in. or %</i> |     | XI. ( <i>Wales</i> )— <i>con.</i> | <i>in. or %</i> |     |
|---------------------------|-----------------|-----|-----------------------------------|-----------------|-----|
| Princetown (H.M.Prison).  | 2·53            | 2·7 | Black Mts. (Blaen-y-cwm)          | 2·93            | 4·3 |
| XI. ( <i>Wales</i> ).     |                 |     | EbbwValeW.W.(Carno,S.)            | 2·82            | 3·6 |
| CardiffW.W.(CantrefRes.)  | 2·53            | 2·8 | EbbwValeW.W.(Carno,E.)            | 2·79            | 3·8 |
| CardiffW.W.(BeaconsRes.)  | 2·66            | 2·6 | EbbwValeW.W.(Carno,W.)            | 2·84            | 3·5 |
| EbbwV.WW(Llangunider)1    | 2·64            | 3·5 | EbbwValeW.W.(Carno,N.)            | 2·80            | 3·7 |
| EbbwV.WW(Llangunider)3    | 3·00            | 3·6 | XV. ( <i>Scot., W. Mid.</i> ).    |                 |     |
| EbbwV.WW(Llangunider)2    | 2·95            | 3·6 | Ardkinglas .....                  | 2·88            | 3·1 |

**October 4th.**

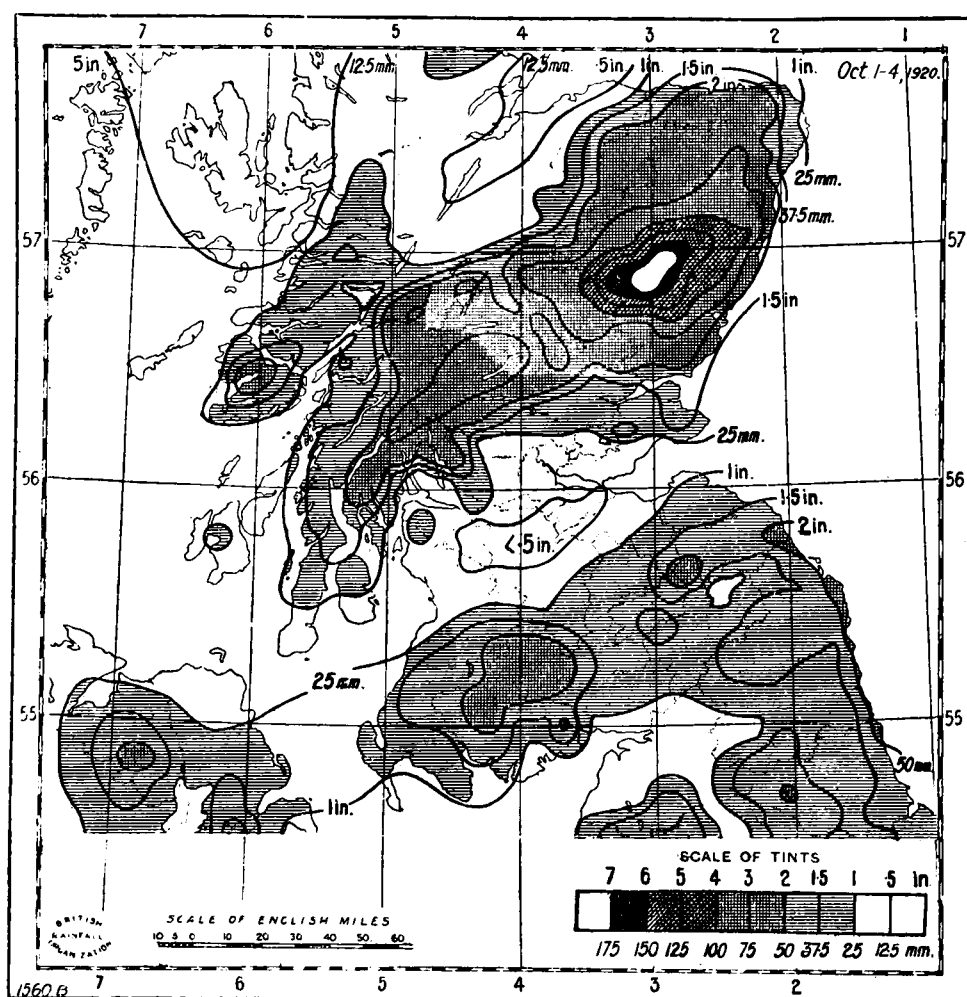
The southerly gale of the previous day continued and developed into a south-easterly gale bringing heavy rainfall in the east of Scotland. In the Dee Valley in Aberdeenshire, and part of Forfarshire, there is some evidence that the fall was unduly augmented by local pressure irregularities.

| XVI. ( <i>Scot., E. Mid.</i> ).       | <i>in. or %</i> |     | XVII. ( <i>Scot., N.E.</i> ). | <i>in. or %</i> |     |
|---------------------------------------|-----------------|-----|-------------------------------|-----------------|-----|
| Glen Prosen (Balnaboth Gardens) ..... | 4·81            | 9·1 | Glen Muick .....              | 2·57            | 4·8 |
|                                       |                 |     | Glen Tanner (Aitnach) ..      | 3·35            | 6·9 |
|                                       |                 |     | Ballater (Irrigation F.) ..   | 2·50            | 6·8 |

**October 1st—4th.**

The fall of rain on these four days, taken together, although of remarkable severity only in the district to the south of the River Dee, was very widespread. Less than ·50 in. was recorded only locally along the coast of the north of Scotland, the central plain of Scotland, the usually dry area of Cheshire and Lancashire, and in the extreme east of England. Falls of 2 in. or more were widespread in the Devon and Cornwall peninsula, the English Lake District, the greater part of Wales, and the south and extreme north-west of Ireland. The rain area of the north of Ireland was continued in a west-north-westerly direction over Scotland where more than 2 in. fell widely in the high land to the west of Moffat. The main belt of heavy rain occurred farther north where more than 2 in. fell from Inveraray and Fort William across Scotland to the east coast between Montrose and Banff in a belt roughly parallel to that farther to the south.

## RAINFALL, OCTOBER 1st-4th, 1920.



More than 3 in. fell over considerable areas in the west of this belt, the main area of heavy rain being situated to the east, stretching from Blair Athol nearly to the coast. Falls of 4 in. or more occurred along the River Dee from Bramear to Drum, and as far south as Brechin. In this area falls exceeding 7 in. in the four days were recorded, the most noteworthy totals being in Glen Muick, to the south of Ballater, 5.55 in., at Aitnach a few miles farther east, 7.25 in., and at Balnaboth about 10 miles north of Kirriemuir, 7.07 in. The height of the water at Bridge of Dee, Aberdeen, is said to have been 2 ft. above that in the famous floods of 1829, which, however, were more remarkable in the Spey and Don farther to the north.

the submerged area was probably more extensive in 1913, but all the reports seem to indicate that the damage done in Aberdeenshire is greater than it has been on any former occasion within living memory. Indeed, it is doubtful whether at any time since "the big spate of '29" the destruction has been so extensive as during the past few days. Harvest was in full swing when the weather broke, and on the low-lying straths and haughs the stooks were still in the fields. The floods could scarcely have come at a more inopportune moment, and many thousands of sheaves of grain have been swept out to sea as well as ricks of hay and straw. Hundreds of acres on Deeside and Donside have been inundated, and sheep, cattle, and poultry and other kinds of live stock have perished. The damage in the agricultural districts must be enormous—apart altogether from the ordinary loss occasioned by a spell of inclement weather in the "heid o' hairst." In the vicinity of Aberdeen the Bleachfield Works were flooded, and the damage will amount to many hundreds of pounds, and other industrial establishments in the flood area have also suffered. But serious though the rainstorm has been, the great Moray floods of 1829 were more extensive as well as more disastrous. They are still the high water mark of Scottish deluges.—*Aberdeen Evening Gazette*.

There was a continuance of the heavy rain on the 5th and 6th, principally the 5th, and during these two days more than 2 in. was measured at a considerable number of stations, chiefly in the east of Ireland and south-west of Scotland. Little further rain fell, however, in the Dee Valley. The accompanying map shows the distribution of rainfall during the four days, October 1st to 4th, over Central Scotland, including the area where the greatest intensity was reached.

An attempt has been made to arrive at an approximate computation for the total volume of rainfall over the main area with more than 1 in., extending from Kintyre to Peterhead.

|                          | Area,<br>sq. miles. | General Rainfall,<br>inches. | Volume of<br>Rainfall,<br>sq. miles × inches. |
|--------------------------|---------------------|------------------------------|---|
| More than 7 in. ....     | 107                 | 7·10                         | 762   |
| 6-7 in. ....             | 166                 | 6·50                         | 1,082   |
| 5-6 „ ....               | 237                 | 5·50                         | 1,302   |
| 4-5 „ ....               | 433                 | 4·50                         | 1,948   |
| 3-4 „ ....               | 1,917               | 3·41                         | 6,529   |
| 2-3 „ ....               | 3,804               | 2·48                         | 9,451   |
| 1·50-2 in. ....          | 1,875               | 1·73                         | 3,251   |
| 1-1·50 „ ....            | 3,345               | 1·23                         | 4,129   |
| Total more than 1 in. .. | 11,884              |                              | 28,454  |

The general rainfall of the area with more than 1 in. of rain was 2·40 in., corresponding to 412,000 million gallons of water.

#### October 15th.

IX. (*Yorks*), Clifton Castle Gardens 2·72 in. or 7·7 per cent.

#### October 17th.

A local thunderstorm of unusual severity for the district occurred

in western Cornwall during the evening. The rainfall was heaviest in a strip about 5 miles wide stretching from Newquay to the Lizard, where the total for the day reached 2 in. In some parts the rainfall fell off remarkably rapidly to the east and west of this belt, thus at Trevince, near Gwennap, the fall was 2·64 in., whilst at Killiow about 4 miles east, only ·76 in. fell, and at Truro 6 miles north-east only ·53 in. East of Liskeard there was little or no rain, and at Penzance on the west only ·73 in.

The storm began at Newquay about 16 h. G.M.T., and lasted until 19 h. During the first hour ·93 in. fell and 1·19 in. in the succeeding hour and a half. To the south the storm was later, rain falling at Helston from 17 h. to 22 h., and at Cadgwith from 18 h. 30 m. to 20 h. 30 m., at Falmouth ·39 in. fell from 14 h. 40 m. to 16 h. 35 m., and ·96 in. from 17 h. 40 m. to 20 h. 30 m. A great deal of damage was done by flooding. At Mullion a large culvert burst, hundreds of tons of stones and earth being carried into the harbour, whilst roads were rendered impassable. Floods of 2 or 3 ft. accumulated on roads near Perranporth.

We are indebted to Mr. A. P. Jenkin of the Cornwall Rainfall Association for the foregoing details.

#### **October 17th.**

V. (*Eng., S.W.*), Gwennap (Trevince) 2·64 in. or 5·1 per cent.

#### **October 30th.**

XV. (*Scot., W. Mid.*), Mull (Gruline) 3·05 in. or 3·6 per cent.

#### **November 8th.**

X. (*Eng., N.*), Eskdale Green (Gatehouse) 2·70 in. or 4·0 per cent.

#### **November 12th.**

XV. (*Scot., W. Mid.*), Skye (Scalpay Island) 2·50 in. or 2·8 per cent.

#### **November 14th.**

A very deep depression passed well to the north of Scotland during the night of the 14th, associated with strong south-westerly gales on the 15th over the whole of the British Isles, which were especially severe in the north and west of Scotland. Winter thunderstorms occurred during the night in the Shetlands and Outer Hebrides, St. Kilda, 40 miles to the west of North Uist, being visited by a devastating storm of almost unprecedented violence. From Strathpeffer to Rothesay trees were uprooted by the wind, which caused exceptionally high tides in some of the lochs. Falls of 2·50 in. or more of rain were confined almost entirely to Wales, especially the south.

| IX. ( <i>Wales</i> ).         |            |              | IX. ( <i>Wales</i> )— <i>con.</i> |            |              |
|-------------------------------|------------|--------------|-----------------------------------|------------|--------------|
|                               | <i>in.</i> | <i>or 1%</i> |                                   | <i>in.</i> | <i>or 1%</i> |
| Ogmore Vale . . . . .         | 2.50       | 2.6          | RhonddaWW(LlynFawrR.)             | 3.37       | 3.1          |
| Glyncorrgw Colliery . . . . . | 2.60       | 2.5          | Ystradfellte Reservoir . . .      | 2.53       | 2.3          |
| Treherbert(ButeMerthyrC.)     | 2.80       | 2.5          | CardiffW.W.(Beacons Res.)         | 2.74       | 2.7          |
| Treherbert (Tyn-y-waun).      | 2.81       | 2.5          | Taff Fechan(NeuaddRes.)4          | 2.56       | 2.5          |
| Rhondda(P.LluestWenR.)3       | 2.86       | 2.8          | Taff Fechan(NeuaddRes.)4a         | 2.54       | 2.5          |
| Rhondda(P.LluestWenR.)1       | 4.12       | 3.8          | Bl.Festiniog(LlechweddQ.)         | 3.14       | 2.4          |

**November 26th.**

XX. (*Munster*), Killarney (Flesk Mills) 2.60 in. or 4.6 per cent.

**December 3rd.**

With the passage of a large depression over the north of England in a north-easterly direction, gales were experienced in most parts of the Kingdom. Much damage was done to shipping, more than 20 persons losing their lives, including 5 lifeboatmen who went out in the lifeboat to a steamer in distress in Carnarvon Bay.

**December 30th.**

Heavy widespread rain occurred of the normal winter type.

XXIII. (*Ulster*), Mourne Mountains (Fofanny Res.) 4.37 in. or 5.2 per cent.

**Part II.—Abstract of Heavy Daily Falls.**

It is convenient for comparative purposes to bring together in summary form the outstanding daily rainfalls of each year. Table I gives the twenty largest falls recorded in 1920, including, however, only one for any one station. But for one entry occasioned by the great thunderstorm at Louth on May 29th, and two by the cyclonic rain of August 17th, culminating at Linlithgow, the table is composed entirely of records of the numerous orographical rainfalls which occurred chiefly in the winter months. The largest fall recorded was 6.81 in. at Dungeon Ghyll, Westmorland, on February 9th; 6.28 in. was measured at Kinlochquoich, Inverness-shire on the same day. There were two other falls of more than 5 in., both in May, an unusually late date in the spring for so heavy an orographical rainfall.

In Table II, the twenty largest percentage values are dealt with in a similar manner. The highest figure, 15.6 per cent., of the year's fall occurred at South Elkington, near Louth, on May 29th, and several other entries in the table refer to the same series of storms, but the majority are due to the more widespread rainfall of August 17th, affecting the south and centre of Scotland.

Table III compares the maximum values for the year with those for previous years. Viewed in comparison with the imposing list of remarkable daily rainfalls which have occurred from time to time since 1865, the largest values for 1920 do not call for particular comment.

TABLE I.—*The largest Daily Rainfalls in 1920.*

| Date.   | Div.   | Station.                            | Depth. | Per cent. | Total. |
|---------|--------|-------------------------------------|--------|-----------|--------|
| Feb. 9  | X.     | Dungeon Ghyll .....                 | 6·81   | 5·4       | 126·30 |
| Feb. 9  | XVIII. | Loch Quoich (Kinlochquoich) .....   | 6·28   | 4·3       | 145·81 |
| May 5   | XI.    | Beddgelert (Council School) .....   | 5·85   | 5·3       | 109·90 |
| May 9   | X.     | Grasmere (The Wray) .....           | 5·12   | 4·9       | 105·10 |
| May 5   | XI.    | Blaenau Festiniog (Llechwedd Q.)..  | 4·84   | 3·8       | 128·65 |
| Feb. 2  | XVIII. | Loch Arkaig (Achnacarry).....       | 4·82   | 4·7       | 103·74 |
| Oct. 4  | XVI.   | Glen Prosen (Balnaboth Gardens) ..  | 4·81   | 9·1       | 53·04  |
| Feb. 9  | X.     | Rydal (High Close) .....            | 4·78   | 5·1       | 94·01  |
| May 29  | VII.   | S. Elkington (Elkington Hall) ..... | 4·69   | 15·6      | 30·08  |
| Dec. 30 | XXIII. | Mourne Mountains (Fofanny Res.) ..  | 4·37   | 5·2       | 83·23  |
| Feb. 2  | XV.    | Corran Lighthouse .....             | 4·36   | 4·4       | 99·56  |
| Feb. 9  | X.     | Rydal (The Stepping Stones) .....   | 4·35   | 4·6       | 94·25  |
| Feb. 9  | XV.    | Glen Etive .....                    | 4·32   | 3·8       | 114·36 |
| Aug. 17 | XIII.  | Bathgate (Filters) .....            | 4·25   | 12·0      | 35·38  |
| Feb. 9  | XVIII. | Loch Quoich (Glenquoich).....       | 4·25   | 3·4       | 124·57 |
| Jan. 16 | XVIII. | Glenelg Manse .....                 | 4·22   | 8·0       | 52·71  |
| Feb. 2  | XV.    | Ardgour House .....                 | 4·15   | 3·6       | 116·82 |
| Aug. 17 | XIII.  | Linlithgow Academy .....            | 4·14   | 10·1      | 41·07  |
| Feb. 9  | VIII.  | Ambleside (Skelwith Fold) .....     | 4·13   | 4·5       | 92·66  |
| Nov. 14 | XI.    | Rhondda (Pont Lluest Wen.) No. 1..  | 4·12   | 3·8       | 109·51 |

TABLE II.—*The largest Daily Percentages in 1920.*

| Date.    | Div.  | Station.                            | Per cent. | Depth. | Total. |
|----------|-------|-------------------------------------|-----------|--------|--------|
| May 29   | VII.  | S. Elkington (Elkington Hall) ..... | 15·6      | 4·69   | 30·08  |
| May 29   | VII.  | Horncastle .....                    | 13·6      | 3·95   | 29·05  |
| Aug. 17  | XIII. | Edinburgh (City Observatory) .....  | 12·4      | 3·10   | 24·98  |
| Aug. 17  | XIII. | Bathgate (Filters) .....            | 12·0      | 4·25   | 35·38  |
| May 26   | III.  | Hanwell (Oaklands Road) .....       | 12·0      | 3·16   | 26·31  |
| May 29   | VII.  | Grainsby Hall .....                 | 11·9      | 3·40   | 28·48  |
| Aug. 17  | XIII. | Colinton (Northfield) .....         | 11·7      | 3·63   | 30·97  |
| Aug. 17  | XIII. | Pentland Hills (Swanston).....      | 11·5      | 3·31   | 28·82  |
| May 29   | VII.  | Woodhall Spa (Galm House).....      | 11·4      | 2·83   | 24·88  |
| Aug. 17  | XIII. | Pentland Hills (Fairmilehead) ..... | 11·2      | 3·50   | 31·20  |
| Aug. 17  | XIII. | Pentland Hills (Firhill Tank) ..... | 11·1      | 3·40   | 30·55  |
| Aug. 17  | XIII. | Liberton (College Gardens) .....    | 11·1      | 3·19   | 28·73  |
| Aug. 17  | XIII. | Edinburgh (Univ. Eng. Lab.) .....   | 11·0      | 3·17   | 28·87  |
| Aug. 17  | XIII. | Dalkeith Gardens .....              | 11·0      | 3·06   | 27·75  |
| May 25   | IV.   | Hatfield Broad Oak (Barrington) ..  | 11·0      | 2·79   | 25·36  |
| Aug. 17  | XIII. | Barnsness Lighthouse.....           | 11·0      | 2·35   | 21·38  |
| Aug. 17  | XIII. | Liberton (Alnwick Hill) .....       | 10·9      | 3·26   | 29·93  |
| Aug. 17  | XIII. | Edinburgh (Royal Observatory) ....  | 10·9      | 3·00   | 27·51  |
| Sept. 21 | IV.   | Southminster (Dudswell) .....       | 10·9      | 2·83   | 25·90  |
| Aug. 17  | XVI.  | Rosyth (H.M. Dockyard) .....        | 10·8      | 2·92   | 27·08  |

TABLE III.—*Comparison of Maximum Fall and Maximum Percentage with those in previous Years.*

| Year.   | ABSOLUTE HIGHEST RAINFALL. |           |                         |      | ABSOLUTE HIGHEST PERCENTAGE. |        |                           |      | Year. |
|---------|----------------------------|-----------|-------------------------|------|------------------------------|--------|---------------------------|------|-------|
|         | Depth.                     | Per cent. | Station.                | Div. | Per cent.                    | Depth. | Station.                  | Div. |       |
|         | in.                        |           |                         |      |                              | in.    |                           |      |       |
| 1865 .. | 3·67                       | 6·4       | Seathwaite .....        | 10   | 9·9                          | 2·62   | Fleckney .....            | 7    | 1865  |
| 1866 .. | 3·40                       | 4·4       | " .....                 | 10   | 10·0                         | 2·48   | Burton .....              | 6    | 1866  |
| 1867 .. | 4·71                       | 17·7      | Hartlip .....           | 2    | 17·7                         | 4·78   | Hartlip .....             | 2    | 1867  |
| 1868 .. | 3·32                       | 6·1       | Camusinas .....         | 15   | 8·6                          | 2·55   | Tongue .....              | 19   | 1868  |
| 1869 .. | 6·07                       | 4·5       | Seathwaite .....        | 10   | 10·0                         | 3·40   | Tillydesk .....           | 17   | 1869  |
| 1870 .. | 6·00                       | 17·1      | Tongue .....            | 19   | 17·1                         | 6·00   | Tongue .....              | 19   | 1870  |
| 1871 .. | 4·24                       | 9·6       | Melbury .....           | 5    | 11·5                         | 3·62   | Warter .....              | 9    | 1871  |
| 1872 .. | 5·82                       | 3·2       | Seathwaite .....        | 10   | 10·0                         | 3·70   | Hillington Hall .....     | 4    | 1872  |
| 1873 .. | 4·20                       | 2·9       | " .....                 | "    | 11·8                         | 2·77   | Oscott .....              | 6    | 1873  |
| 1874 .. | 5·32                       | 4·4       | Bryn Gwynant .....      | 11   | 11·9                         | 2·50   | Welwyn .....              | 3    | 1874  |
| 1875 .. | 5·33                       | 9·7       | Newport W.W. ....       | "    | 13·2                         | 3·95   | Letheringsett .....       | 4    | 1875  |
| 1876 .. | 4·50                       | 5·5       | Foffany .....           | 23   | 8·5                          | 3·70   | Cragside .....            | 10   | 1876  |
| 1877 .. | 4·98                       | 5·3       | Skye, Portree .....     | 18   | 9·3                          | 3·09   | Wellington .....          | 6    | 1877  |
| 1878 .. | 4·24                       | 8·6       | Springfield .....       | 11   | 11·8                         | 3·90   | Haverstock Hill .....     | 1    | 1878  |
| 1879 .. | 4·05                       | 4·1       | Little Langdale .....   | 10   | 12·3                         | 3·80   | Cambridge, Merton V..     | 3    | 1879  |
| 1880 .. | 4·75                       | 3·9       | Seathwaite .....        | "    | 11·7                         | 3·34   | Marmont Priory Lock ..    | "    | 1880  |
| 1881 .. | 5·42                       | 4·7       | Sligachan .....         | 18   | 10·6                         | 3·20   | Aboyne Castle .....       | 17   | 1881  |
| 1882 .. | 4·51                       | 3·0       | Seathwaite .....        | 10   | 9·1                          | 2·80   | Bothalhaugh .....         | 10   | 1882  |
| 1883 .. | 5·27                       | 9·0       | Glen-na-Smoel .....     | 21   | 12·3                         | 4·31   | Skegness .....            | 7    | 1883  |
| 1884 .. | 6·78                       | 5·0       | Seathwaite .....        | 10   | 13·8                         | 2·66   | Diss, Thelveton .....     | 4    | 1884  |
| 1885 .. | 4·62                       | 3·2       | " .....                 | "    | 9·6                          | 2·62   | Beccles, Ellough .....    | 4    | 1885  |
| 1886 .. | 4·20                       | 9·9       | Little Bredy .....      | 5    | 11·5                         | 4·10   | Leeds, Methley Park ..    | 9    | 1886  |
| 1887 .. | 4·93                       | 13·0      | Galway, Queen's Coll.   | 22   | 13·0                         | 4·93   | Galway, Queen's Coll.     | 22   | 1887  |
| 1888 .. | 5·20                       | 5·4       | Wythburn Vicarage ..    | 10   | 11·8                         | 3·24   | Rothamsted .....          | 3    | 1888  |
| 1889 .. | 4·45                       | 16·5      | North Ockendon .....    | 4    | 16·5                         | 4·45   | North Ockendon .....      | 4    | 1889  |
| 1890 .. | 7·29                       | 3·7       | Ben Nevis Obsy. ....    | 18   | 17·2                         | 3·68   | Slough, Langley .....     | 3    | 1890  |
| 1891 .. | 6·14                       | 4·2       | Seathwaite .....        | 10   | 14·4                         | 4·00   | Montrose, Sunnyside...    | 16   | 1891  |
| 1892 .. | 5·80                       | 4·5       | " .....                 | "    | 15·0                         | 4·27   | Flax Bourton .....        | 5    | 1892  |
| 1893 .. | 4·96                       | 3·5       | " .....                 | "    | 16·2                         | 4·48   | Cranmer Hall .....        | 4    | 1893  |
| 1894 .. | 7·74                       | 5·1       | Ben Nevis Obsy. ....    | 18   | 11·1                         | 3·56   | Sidcup .....              | 2    | 1894  |
| 1895 .. | 4·83                       | 16·1      | Mellington Hall .....   | 11   | 16·1                         | 4·83   | Mellington Hall .....     | 11   | 1895  |
| 1896 .. | 4·59                       | 3·7       | Seathwaite .....        | 10   | 11·1                         | 2·78   | Barkby .....              | 7    | 1896  |
| 1897 .. | 8·03                       | 5·6       | " .....                 | "    | 14·1                         | 2·40   | Chatteris, Horseway L.    | 3    | 1897  |
| 1898 .. | 6·70                       | 18·1      | Angerton Hall .....     | "    | 18·1                         | 6·70   | Angerton Hall .....       | 10   | 1898  |
| 1899 .. | 5·21                       | 5·6       | Grange .....            | "    | 14·6                         | 3·10   | Wallingford .....         | 2    | 1899  |
| 1900 .. | 5·40                       | 11·9      | Ilkley, Cherry Bank ..  | 9    | 13·1                         | 4·50   | Gilstead Filters .....    | 9    | 1900  |
| 1901 .. | 5·66                       | 5·7       | Dungeon Ghyll .....     | 10   | 17·9                         | 4·24   | Maidenhead, The Firs ..   | 2    | 1901  |
| 1902 .. | 5·92                       | 3·8       | Ben Nevis Obsy. ....    | 18   | 15·5                         | 3·51   | Esher Sewage Works ..     | "    | 1902  |
| 1903 .. | 4·78                       | 2·2       | " .....                 | "    | 12·8                         | 4·41   | Dartford, West Hill H.    | "    | 1903  |
| 1904 .. | 5·62                       | 6·0       | Skelwith "Bridge" ..... | 10   | 15·8                         | 3·48   | Leamington, Binswd A.     | 6    | 1904  |
| 1905 .. | 5·71                       | 14·0      | Glen-na-Smoel .....     | 21   | 14·9                         | 3·98   | Cofton Vicarage .....     | 5    | 1905  |
| 1906 .. | 6·15                       | 4·7       | Seathwaite .....        | 10   | 11·9                         | 2·50   | C'mbridge, Herschell H.   | 3    | 1906  |
| 1907 .. | 4·86                       | 9·4       | Kingsbridge .....       | 5    | 12·5                         | 3·40   | Lincoln, St. Botolph's .. | 7    | 1907  |
| 1908 .. | 4·80                       | 9·9       | Treharris .....         | 11   | 16·0                         | 3·45   | Great Glemham .....       | 6    | 1908  |
| 1909 .. | 6·46                       | 5·7       | Kinlochquoich .....     | 18   | 11·1                         | 3·30   | Tidworth House .....      | 2    | 1909  |
| 1910 .. | 4·51                       | 3·4       | Seathwaite .....        | 10   | 13·0                         | 3·93   | Wheatley, Waterstock ..   | 3    | 1910  |
| 1911 .. | 7·00                       | 4·7       | " .....                 | "    | 14·2                         | 3·25   | Haxby, Moorlands .....    | 9    | 1911  |
| 1912 .. | 7·31                       | 21·3      | Brundall .....          | 4    | 22·2                         | 6·67   | Norwich, Carrow Ho...     | 4    | 1912  |
| 1913 .. | 6·06?                      | 26·0?     | Doncaster W.W. ....     | 9    | 26·0?                        | 6·06?  | Doncaster Pump'g Stn.     | 9    | 1913  |
| 1914 .. | 6·35                       | 4·1       | Pen-y-Gwryd .....       | 11   | 14·8                         | 3·35   | Upminster .....           | 4    | 1914  |
| 1915 .. | 7·06                       | 19·7      | Dalcross .....          | 18   | 19·7                         | 7·06   | Dalcross .....            | 18   | 1915  |
| 1916 .. | 8·20                       | 5·7       | Kinlochquoich .....     | 18   | 13·1                         | 3·91   | Portland Bill .....       | 5    | 1916  |
| 1917 .. | 9·56                       | ..        | Bruton .....            | 5    | 21·8                         | 8·39   | Aisholt .....             | 5    | 1917  |
| 1918 .. | 4·95                       | 9·2       | Douglas .....           | 11   | 12·3                         | 3·36   | Woodsetts Grange .....    | 9    | 1918  |
| 1919 .. | 4·50                       | 5·9       | Corran .....            | 15   | 11·1                         | 3·57   | Ayr Cemetery .....        | 15   | 1919  |
| 1920 .. | 6·81                       | 5·4       | Dungeon Ghyll. ....     | 10   | 15·6                         | 4·69   | Elkington Hall .....      | 7    | 1920  |

The largest entry in each column is shown in heavy type and the smallest in italic type.



Table IV deals with frequency rather than magnitude, and although the method is admittedly an imperfect one, it enables a rough comparison to be made between one year and another. The number of instances of falls exceeding the limits laid down were in no case unusual except in Scotland, where they were the highest since data became available in 1915. Table IV includes all daily falls, not only one for each station as in Tables I and II.

TABLE IV.—*Comparison of Heavy Daily Rainfalls.*

|                             |      | No. of<br>Records. | Falls of 7·5 per<br>cent. or more. |                        | Falls of 2·00 in.<br>or more. |                        | Falls of 3·00 in.<br>or more. |                        | Falls of<br>4·00 in.<br>or more. |
|-----------------------------|------|--------------------|------------------------------------|------------------------|-------------------------------|------------------------|-------------------------------|------------------------|----------------------------------|
|                             |      |                    | No.                                | Per cent.<br>of total. | No.                           | Per cent.<br>of total. | No.                           | Per cent.<br>of total. | No.                              |
| <i>England &amp; Wales.</i> | 1915 | 3,745              | 112                                | 3·0                    | 748                           | 20·0                   | 41                            | 1·1                    | 1                                |
|                             | 1916 | 3,626              | 62                                 | 1·7                    | 646                           | 17·8                   | 88                            | 2·4                    | 10                               |
|                             | 1917 | 3,426              | 311                                | 9·1                    | 621                           | 18·1                   | 155                           | 4·5                    | 59                               |
|                             | 1918 | 3,353              | 54                                 | 1·6                    | 469                           | 14·0                   | 60                            | 1·8                    | 7                                |
|                             | 1919 | 3,222              | 25                                 | 0·8                    | 234                           | 7·3                    | 26                            | 0·8                    | 5                                |
|                             | 1920 | 3,381              | 39                                 | 1·2                    | 417                           | 12·3                   | 34                            | 1·1                    | 13                               |
| <i>Scotland.</i>            | 1915 | 550                | 26                                 | 4·7                    | 212                           | 38·5                   | 33                            | 6·0                    | 1                                |
|                             | 1916 | 533                | 17                                 | 3·2                    | 353                           | 66·3                   | 60                            | 11·2                   | 12                               |
|                             | 1917 | 558                | 5                                  | 0·9                    | 209                           | 37·5                   | 36                            | 6·5                    | 9                                |
|                             | 1918 | 541                | 4                                  | 0·7                    | 136                           | 25·1                   | 10                            | 1·8                    | 2                                |
|                             | 1919 | 538                | 21                                 | 3·9                    | 142                           | 26·4                   | 19                            | 3·5                    | 3                                |
|                             | 1920 | 538                | 69                                 | 12·8                   | 391                           | 72·6                   | 100                           | 18·6                   | 19                               |
| <i>Ireland.</i>             | 1915 | 256                | 0                                  | 0                      | 71                            | 27·7                   | 8                             | 3·1                    | 0                                |
|                             | 1916 | 243                | 3                                  | 1·2                    | 118                           | 48·6                   | 21                            | 8·7                    | 7                                |
|                             | 1917 | 239                | 15                                 | 6·3                    | 62                            | 25·9                   | 4                             | 1·7                    | 0                                |
|                             | 1918 | 241                | 0                                  | 0                      | 25                            | 10·4                   | 1                             | 0·4                    | 0                                |
|                             | 1919 | 261                | 17                                 | 6·5                    | 46                            | 17·6                   | 5                             | 1·9                    | 0                                |
|                             | 1920 | 265                | 0                                  | 0                      | 45                            | 17·0                   | 4                             | 1·5                    | 1                                |
| <i>British Isles.</i>       | 1915 | 4,551              | 138                                | 3·0                    | 1,031                         | 22·6                   | 82                            | 1·8                    | 2                                |
|                             | 1916 | 4,402              | 82                                 | 1·9                    | 1,117                         | 25·4                   | 169                           | 3·8                    | 29                               |
|                             | 1917 | 4,223              | 331                                | 7·8                    | 892                           | 21·2                   | 195                           | 4·6                    | 68                               |
|                             | 1918 | 4,135              | 58                                 | 1·4                    | 630                           | 15·2                   | 71                            | 1·7                    | 9                                |
|                             | 1919 | 4,021              | 63                                 | 1·6                    | 422                           | 10·5                   | 50                            | 1·2                    | 8                                |
|                             | 1920 | 4,184              | 108                                | 2·7                    | 853                           | 20·4                   | 138                           | 3·3                    | 33                               |

## MONTHLY RAINFALL IN 1920.

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The detailed study of monthly rainfall is one of the most valuable of the lines of research which are opened out by the collection of the great mass of rainfall data provided year by year by the Observers of the British Rainfall Organization. The distribution of the fall on individual days is in some respects more illuminating since it enables us to trace with some certainty the details of individual episodes, and to see the intimate relationship between the distribution of rainfall and that of barometric pressure; but daily rainfalls are too numerous to admit of the examination of any but selected examples, which are naturally apt to be those of an abnormal character. The rainfall of a month, whilst frequently showing no very clear connection with the pressure conditions of individual days, sums up in a very satisfactory manner the effect of any persistent abnormality in the barometric distribution, and exemplifies admirably the gradual changes which go on from season to season throughout the year.

It is gratifying this year to be able to place the study of monthly rainfall on a more satisfactory basis by bringing into use for the first time the recently completed series of average rainfall values for the period 1881–1915, some account of which is given in a special article in Part IV of this volume. The new averages, besides synchronizing for the first time with the climatological “normals” for all meteorological elements used in the *Monthly Weather Report* of the Meteorological Office, are far more numerous than any series before computed, so that the choice of stations for the comparison of monthly rainfalls with the average is greatly widened and the detail of the percentage maps much improved. As is explained in the article referred to, it has been found possible to prepare maps of the distribution of average monthly rainfall and these enable average values to be extracted with comparative ease, even for records not covering the 35 years in question.

The records for 1920 are presented in the same manner as in previous years, but the tables have again been enlarged. Table II, which gives the monthly rainfall in inches, represents as far as possible all parts of the country. The number of records selected for this purpose is 395. Table III is confined to stations for which averages for the period 1881–1915 are available and is also designed to represent the country equably. The number of records is increased from 106 to 152. In the series of maps given on pp. 86–109 the same data are represented cartographically, the maps of actual rainfall being amplified by other records, bringing the total number on each map to about 2,000.

These maps were drawn on the scale of 20 miles to 1 in. and will therefore bear detailed study. They should be examined in comparison with the percentage maps on the opposite pages, and if possible with maps showing the average barometric pressure for the month. (See *Monthly Weather Report*.)

The general values applicable to the different countries and to the whole British Isles for each month are readily derivable from the tables. They provide the material for the following short summary.

Taking the **British Isles** as a whole, seven months were wet, but one of these, September, was only nominally so. Of the other six, five were the first five months of the year, the other July. These, with December, 1919, constituted a period similar in many respects to the long run of wet months in the winter and spring of 1915-1916, and the less continuous but nearly equally remarkable spell from December, 1912, to May, 1913. Only one month in 1920, April, with 162 per cent., had a general rainfall for the whole country exceeding 150 per cent. of the average, but the fall in January, May, and July was within 3 per cent. of this amount. Whilst the early part of the year was thus excessively wet, the latter part was generally dry, though not remarkably so. August, with 69 per cent. of the average, was the driest month, and October, November, and December all had well below their average fall.

TABLE I.—*Variations of General Monthly Rainfall, the Average being taken as 100. British Isles, 1903-1919.*

| Year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
|-------|------|------|------|------|------|-------|-------|------|-------|------|------|------|
| 1903* | 138  | 119  | 196  | 95   | 124  | 105   | 131   | 145  | 111   | 185  | 76   | 81   |
| 1904* | 117  | 158  | 89   | 116  | 123  | 67    | 92    | 109  | 81    | 48   | 68   | 92   |
| 1905* | 59   | 71   | 176  | 126  | 56   | 101   | 50    | 122  | 67    | 69   | 119  | 49   |
| 1906* | 156  | 117  | 94   | 68   | 158  | 77    | 60    | 86   | 43    | 140  | 114  | 92   |
| 1907* | 57   | 86   | 89   | 133  | 152  | 153   | 78    | 96   | 32    | 140  | 86   | 119  |
| 1908* | 82   | 96   | 156  | 122  | 104  | 70    | 96    | 106  | 118   | 48   | 64   | 96   |
| 1909* | 74   | 52   | 154  | 141  | 90   | 106   | 117   | 77   | 81    | 141  | 47   | 138  |
| 1910† | 119  | 170  | 69   | 131  | 103  | 109   | 109   | 141  | 30    | 76   | 119  | 126  |
| 1911† | 62   | 123  | 77   | 108  | 83   | 107   | 58    | 70   | 79    | 87   | 133  | 175  |
| 1912† | 118  | 107  | 167  | 47   | 80   | 182   | 112   | 161  | 57    | 101  | 94   | 145  |
| 1913† | 143  | 70   | 164  | 165  | 130  | 94    | 36    | 43   | 92    | 94   | 120  | 78   |
| 1914† | 79   | 160  | 162  | 81   | 85   | 68    | 107   | 88   | 67    | 56   | 132  | 180  |
| 1915† | 124  | 185  | 60   | 96   | 79   | 60    | 144   | 76   | 58    | 75   | 80   | 167  |
| 1916† | 107  | 169  | 102  | 117  | 143  | 102   | 82    | 91   | 65    | 162  | 130  | 97   |
| 1917† | 72   | 47   | 92   | 94   | 105  | 100   | 73    | 173  | 87    | 146  | 108  | 58   |
| 1918† | 112  | 138  | 57   | 72   | 95   | 60    | 140   | 84   | 211   | 101  | 93   | 128  |
| 1919† | 128  | 77   | 141  | 112  | 60   | 92    | 55    | 87   | 95    | 58   | 90   | 153  |
| 1920‡ | 147  | 106  | 132  | 162  | 148  | 90    | 148   | 69   | 101   | 80   | 83   | 88   |

\* From 1903 to 1909 the Average used was for 1870-1899.

† " 1910 to 1919 " " " " " 1875-1909.

‡ " 1920 " " " " " 1881-1915.

For a comparison of these averages see *British Rainfall*, 1910, p. [142], and Part IV of this volume.

In **England and Wales** the sequence of wet months in the early part of the year was broken by February being comparatively dry, but in addition June had slightly more than the average fall. The excesses in April and July were respectively 121 and 87 per cent., both these months being especially rainy in Wales where the general excesses were 142 and 125 per cent. respectively. September had an excess for England and Wales of 8 per cent. but the remaining months from August onwards were dry, November being the most conspicuously so with only 52 per cent. of the average. It is an interesting fact in relation to the year's rainfall that in only one month, December, did the general rainfall of Wales show a smaller percentage of the average than that of England; it is clear that this may be regarded as an index of the fact that orographical rainfall was more prevalent than usual, since this type of rainfall invariably affects the westerly districts more than the easterly.

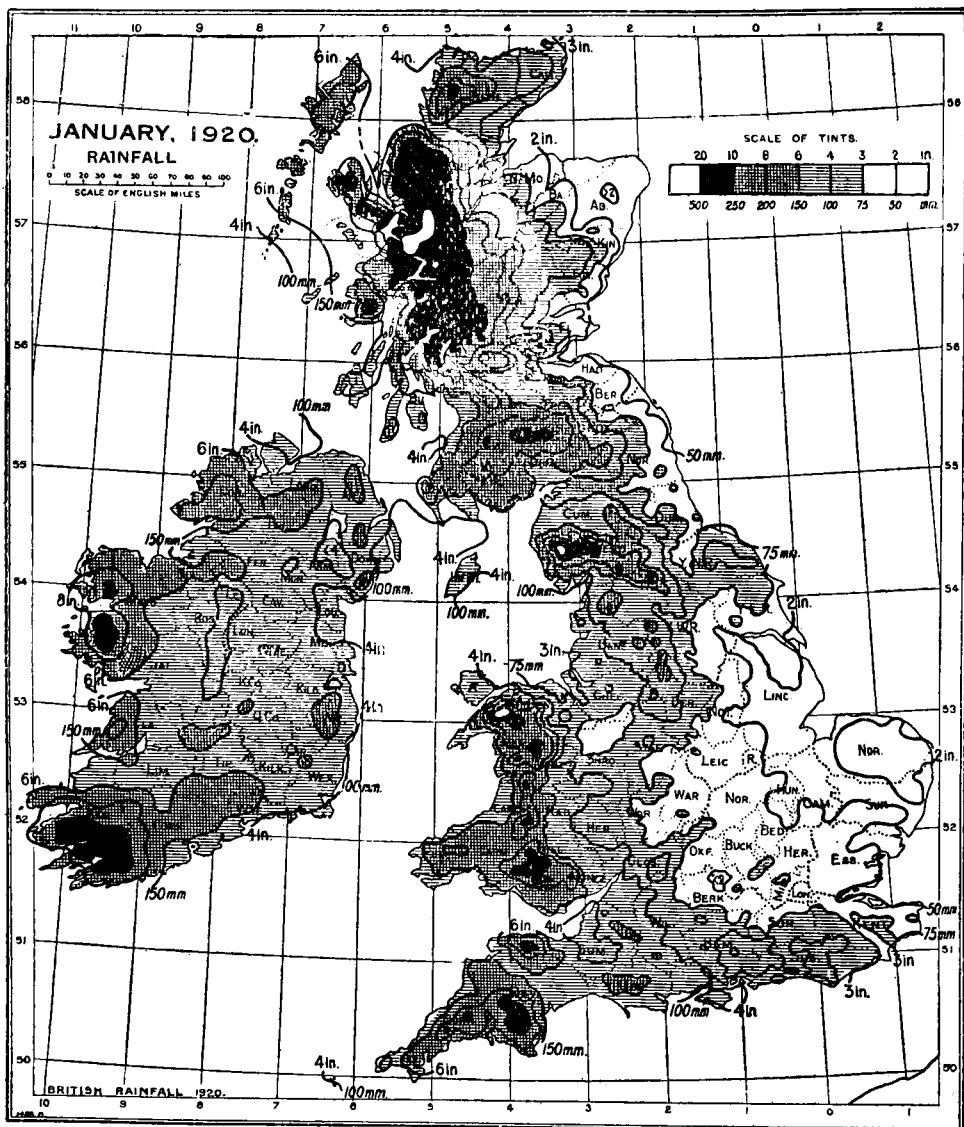
In **Scotland**, April, which was the most conspicuously wet month of the year in the south, had a slight deficiency, and June was notably dry with only 69 per cent. of the average, but otherwise the early months were wet as elsewhere. The excess was greatest in May with 167 per cent., and exceeded 50 per cent. also in February, but in July it was only nominal. In the latter half of the year November showed a trifling excess, but October had a deficiency of 40 per cent. Both dry and wet months were in Scotland less extreme than in England and Wales.

**Ireland** had a dry February and moderately wet October and November, but otherwise the régime differed little from that of Great Britain. January, April, and May were by far the wettest months, with excesses of about 50 per cent., and August by far the driest with a deficiency of 39 per cent.

**January.**—A mild and windy month with an unusual preponderance of westerly and south-westerly winds. Rainfall was frequent and widespread, though, except in the West Highlands, there were no daily falls of great magnitude.

The area with less than 3 in. of rain was practically confined to the east Midlands of England and the east coast of Scotland, part of these districts having less than 2 in. but nowhere less than 1 in. In the west the fall increased more conspicuously than usual and exceeded 6 in. over all hilly districts except part of the Pennines. The areas with more than 10 in., which occurred in all normally rainy regions, were large, particularly in Scotland and the south-west of Ireland. In Inverness-shire more than 20 in. fell over a tract of country about 25 miles long.

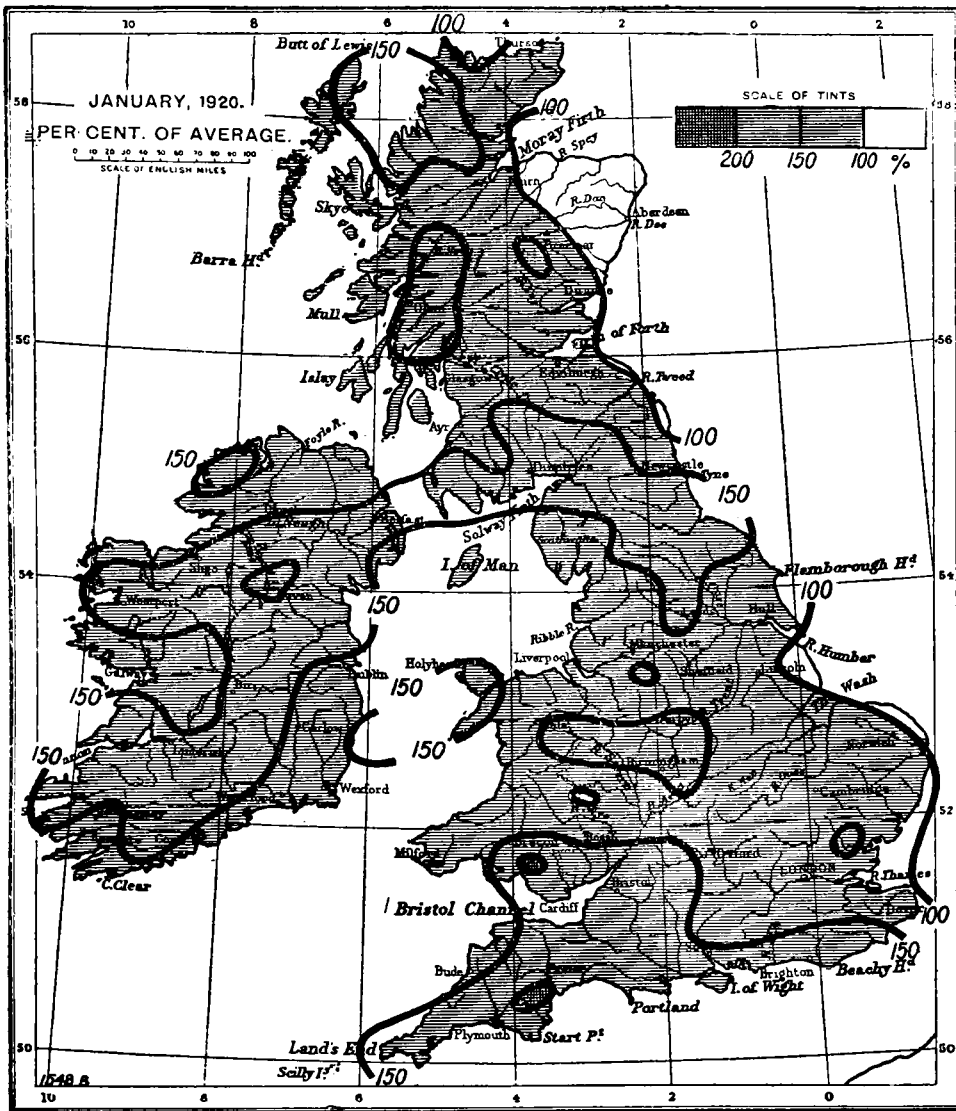
A narrow strip of the east coast of Great Britain had slightly less than its average rainfall for the month, and over the main part of England, Wales, and Scotland the excess above the average was less than



50 per cent. Greater excesses, however, occurred in places, particularly in the south of England and in a wide belt which included the greater part of central Ireland and much of the north of England. In isolated patches in South Wales and Devonshire the fall slightly exceeded double the average.

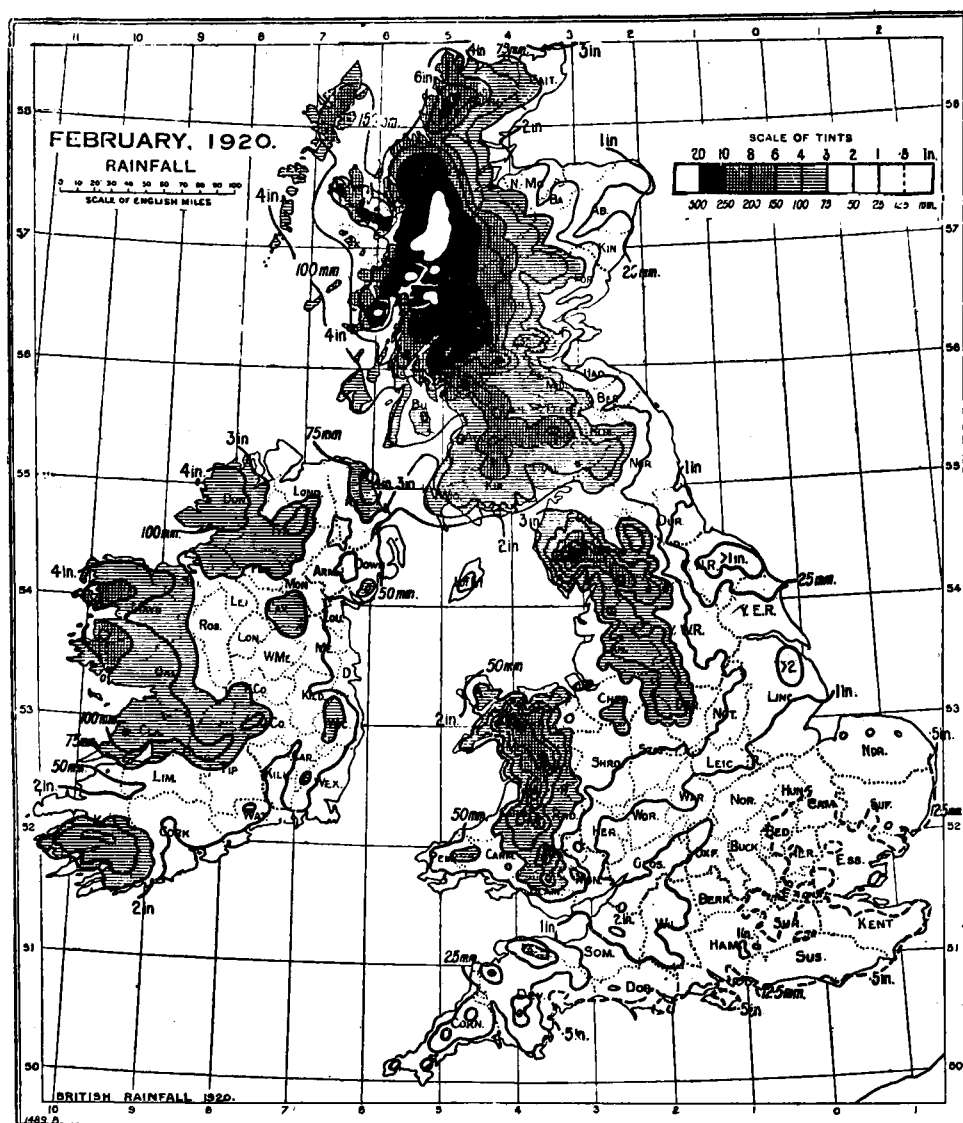
The general excess was very uniform, being 48 for England and Wales, 41 for Scotland, 54 for Ireland, and 47 for the British Isles.

**February.**—Another mild month with high barometric pressure and with few depressions crossing the British Isles, but an unusually large number to the north. The distribution of rainfall was notable for the great contrast between the conditions in the extreme south-east



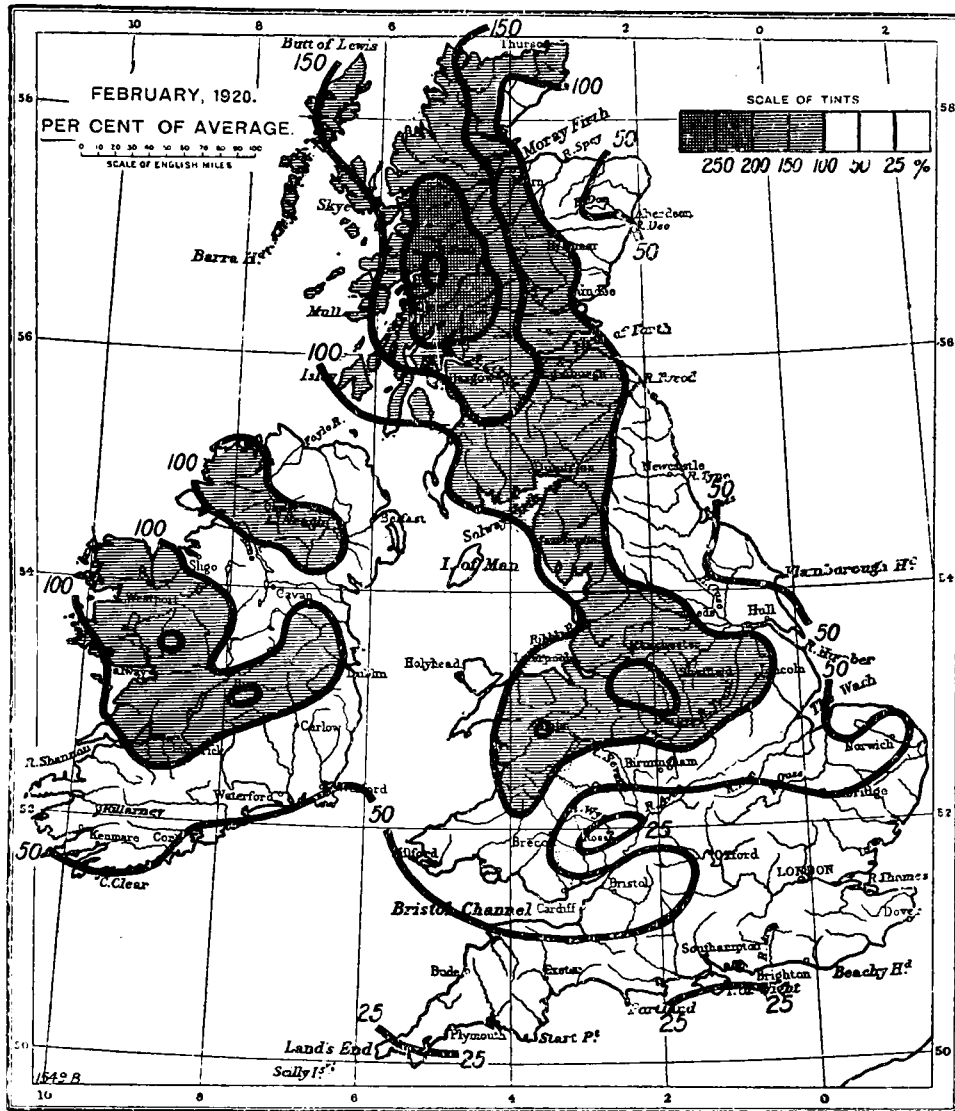
and those in the north-west. As an example, at Margate  $\cdot 37$  in. fell, and at Loan near the head of Glenquoich  $29\cdot 80$  in. or more than 80 times as much.

In the Highlands the wet area was even more conspicuous than in January, more than 10 in. falling over a great tract stretching from West Ross-shire to the mouth of the Clyde, but in England and Wales as much as 10 in. was very local and the 6 in. areas were not unduly large, whilst in Ireland only small patches had more than 6 in. The falling off of total rainfall towards the east was exceptionally abrupt, less than 2 in. falling along the whole of the east coast of Scotland and less than 1 in. in Aberdeenshire. In England the total was below 1 in.



over the whole of the south-eastern counties and on the south coast as far west as Cornwall: strips of the east and south and most of the home counties had less than 50 in. In Ireland the eastern counties were wetter, but less than 2 in. fell on a coastal strip from Co. Cork to Co. Down.

The map showing the fall in relation to the average is very striking. Round Fort William the rainfall was more than 150 per cent. in excess of the average and more than twice the average fell over most of the West Highlands, but in no other district. Areas with more than the average extended southwards as far as Central Wales and Lincolnshire, and there were also large relatively wet areas in the centre and north

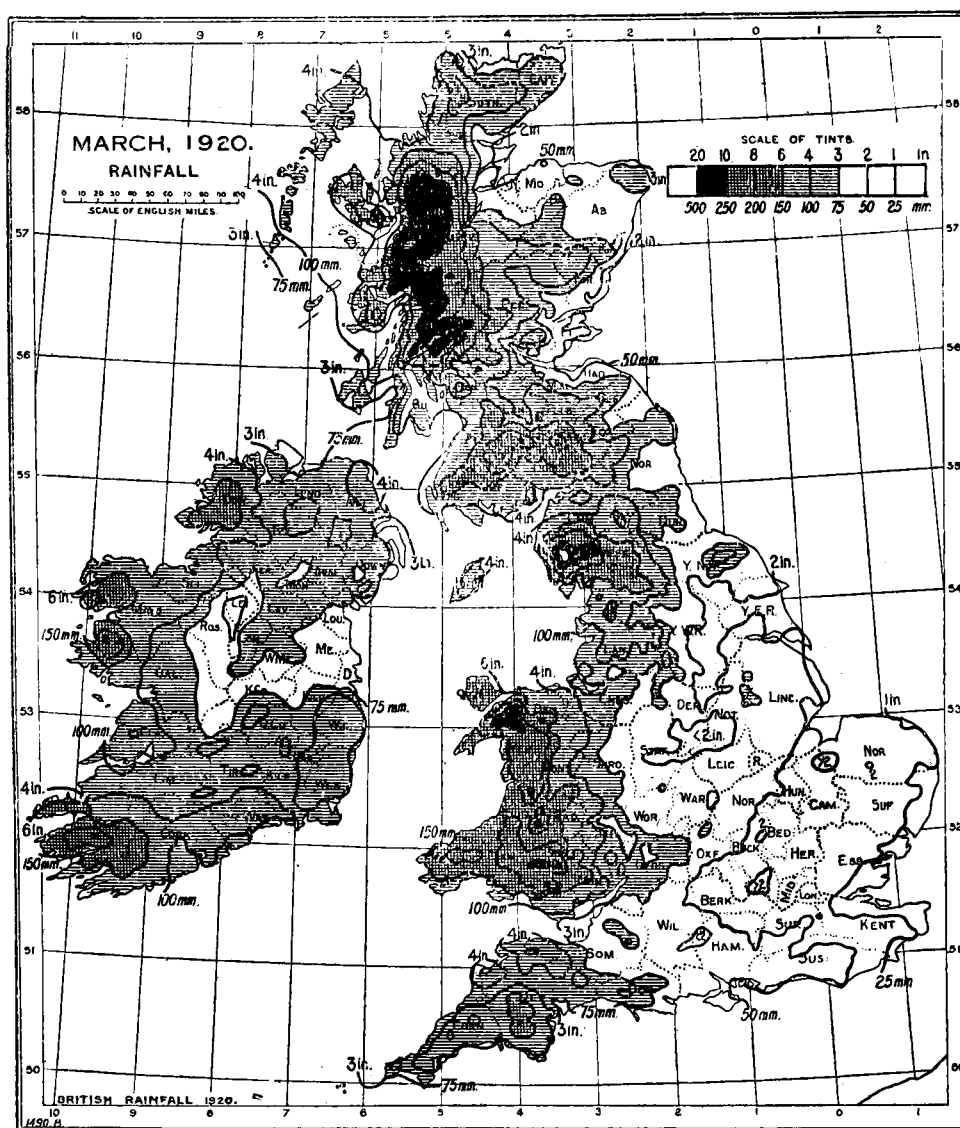


of Ireland, but a line passing from Co. Cork to the Wash, and re-appearing in the east in Yorkshire and Aberdeenshire, cut off a very large district over the whole of which less than half the average fell, with less than a quarter of the average in the extreme south.

Scotland, with an excess of 54 per cent., was the only country with more than the general average. Ireland had a deficiency of 9 per cent., and England and Wales of 26 per cent. For the whole British Isles there was an excess of 6 per cent.

**March** was another mild month with a preponderating south-westerly type of weather. The rainfall was again excessive in the west generally and extremely large areas in Wales and Scotland had





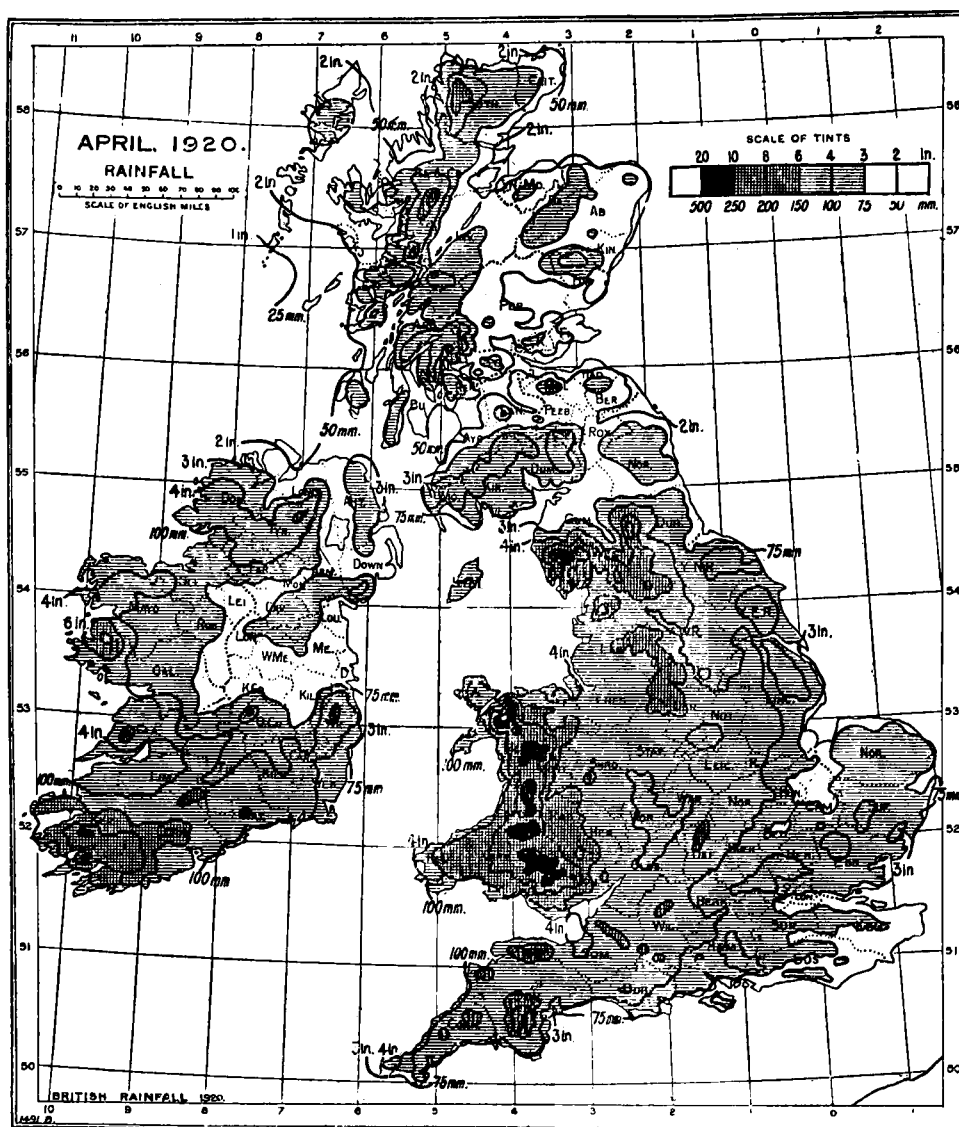
a total fall exceeding 6 in. Although large, the 6-in. areas were less conspicuous in England and Ireland. More than 10 in. occurred in numerous districts in Wales, over the Lake District and at one or two stations in the west of Ireland, but the most noteworthy area with this amount lay, as in January and February, in the Western Highlands, where the rainfall of the first three months of 1920 was very remarkable even for so rainy a district. In Ireland there was a small central area with less than 2 in. in Co. Leitrim, but the area with less than 3 in. in the east was much more restricted than usual. In Great Britain, however, there was a pronounced falling off, especially in the south-east. Less than 2 in. fell over part of the east coast of



Scotland and in most of the east of England south of Yorkshire, the east coast from Norfolk to Kent having less than 1 in.

Areas with less than the average rainfall during the month included a tract of the north-east of Scotland extending from Sutherlandshire to Fifeshire, and the south-eastern counties of England. There was also a small dry patch in central Ireland. In the west, large districts between Ross-shire and Glamorgan had more than 50 per cent. above the average, and the fall was double the average in North Wales, reaching a maximum in Anglesey.

The general excess was greatest in Wales where it reached 84 per cent., but for England and Wales together it was only 35 per cent., for

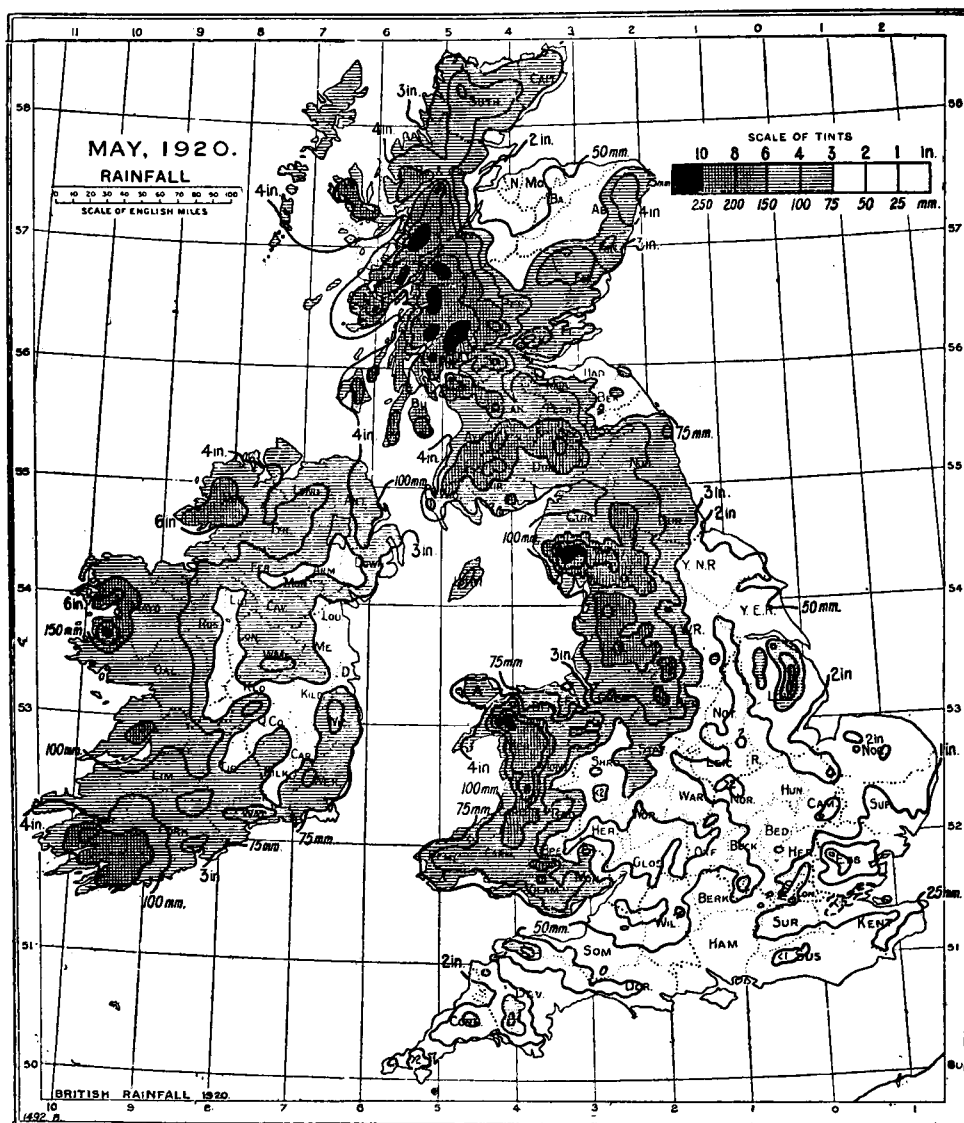


Scotland 33 per cent., for Ireland 25 per cent., and for the British Isles as a whole 32 per cent.

**April.**—Extremely unsettled and wet with lower temperature and numerous depressions, many of which followed abnormal tracks. In Scotland, however, there was a break in the long spell of Atlantic weather which had made the winter rainfall of so unusual a character.

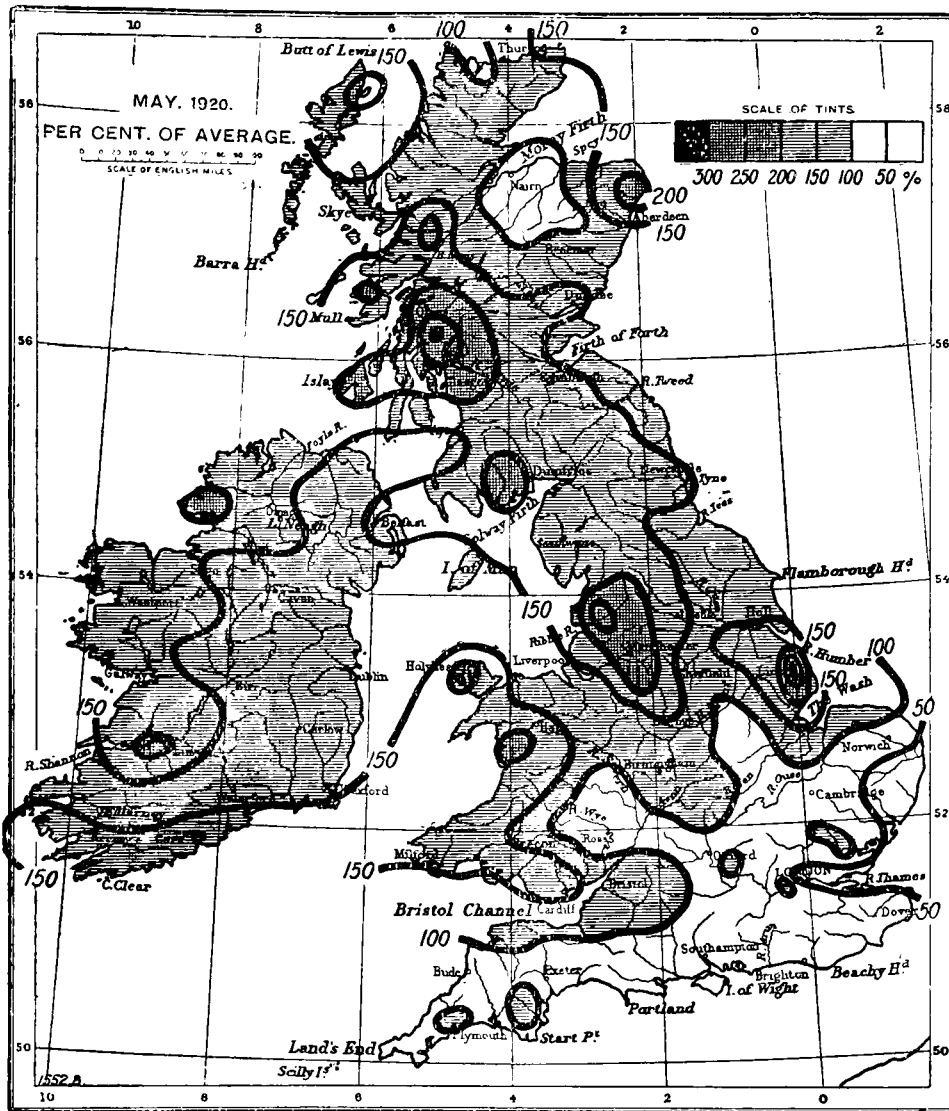
In Scotland the total rainfall hardly anywhere reached 6 in. and over much of the west was below 4 in., but more than 4 in. was very widespread in Ireland, particularly in the south, where more than 10 in. fell in parts of Kerry, and also in England and Wales. More than 6 in. fell over practically the whole of Wales and over most of the Pennines,





Relatively to the average this was by far the wettest month of the year. Wales again had the greatest excess, with 142 per cent. above the average. England and Wales had an excess of 121 per cent. and Ireland of 48 per cent., but in Scotland there was a deficiency of 1 per cent. For the British Isles the rainfall was 62 per cent above the average.

In **May** a partial reversion to the winter type took place and all primary depressions again followed northerly tracks. In the last week remarkable local thunderstorms developed, principally in the English Midlands.



Except very locally the total rainfall was below 3 in. in the south-eastern half of Great Britain, but the areas with less than 3 in. were less extensive in the east of Scotland and Ireland, where more than 4 in. extended unusually far to the east for the season. The English dry area was broken by heavy thunder rains, bringing the total to more than 6 in. in central Lincolnshire. In the west the 6-in. areas were extensive, especially towards the north, and considerable scattered areas experienced more than 10 in.

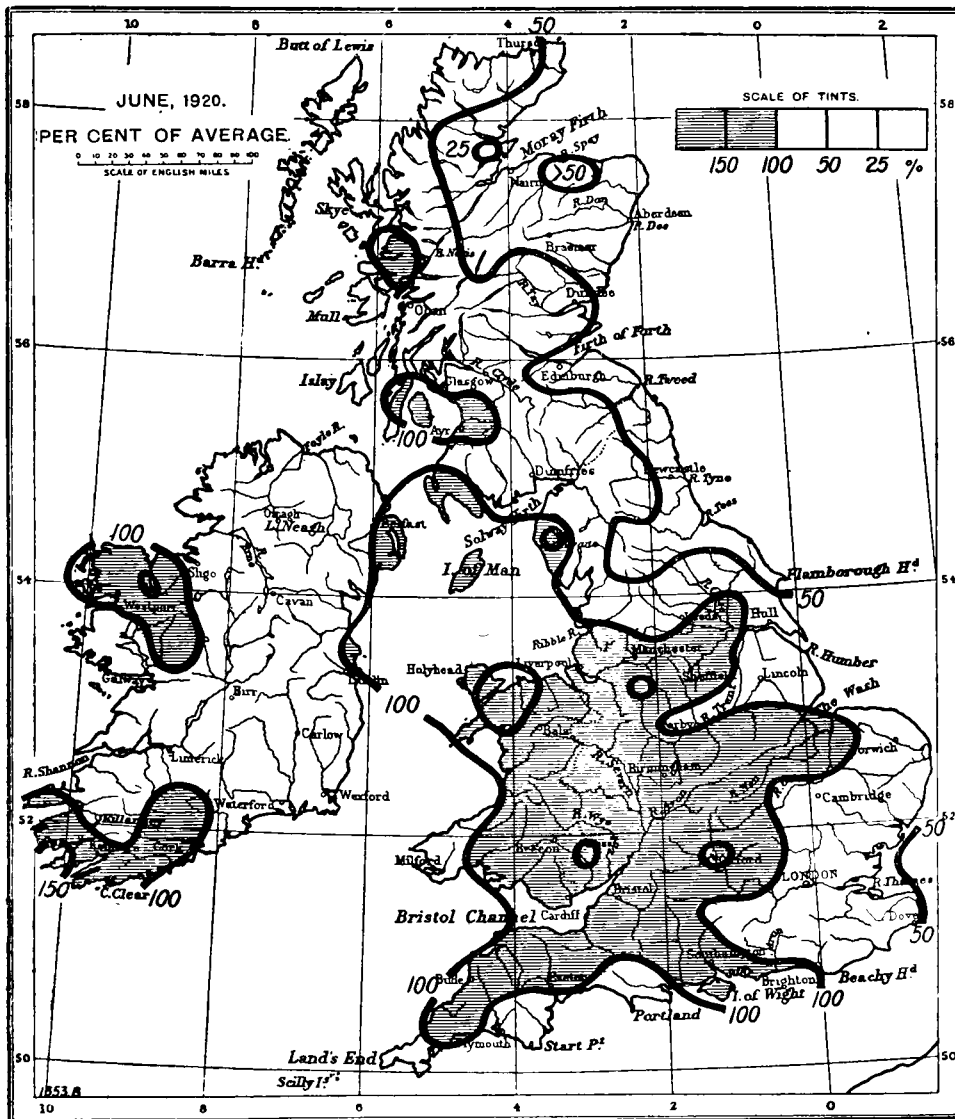
The local storms made the distribution in relation to the average rather involved. Less than the average fell only in small areas in eastern Scotland and in the south and east of England, with less than



half the average in the Thames Estuary. A large number of detached areas in North Wales, Western Ireland, Lancashire, Lincolnshire, Westmorland, and parts of the west of Scotland, had more than twice their average fall, whilst in at least two localities—in central Argyll owing to orographical rains, and in Lincolnshire owing to thunderstorm rain—the total reached three times the average.

The general rainfall was 31 per cent. above the average for England and Wales, 53 per cent. above for Ireland, and 67 per cent. above for Scotland. For the British Isles the excess was 48 per cent.

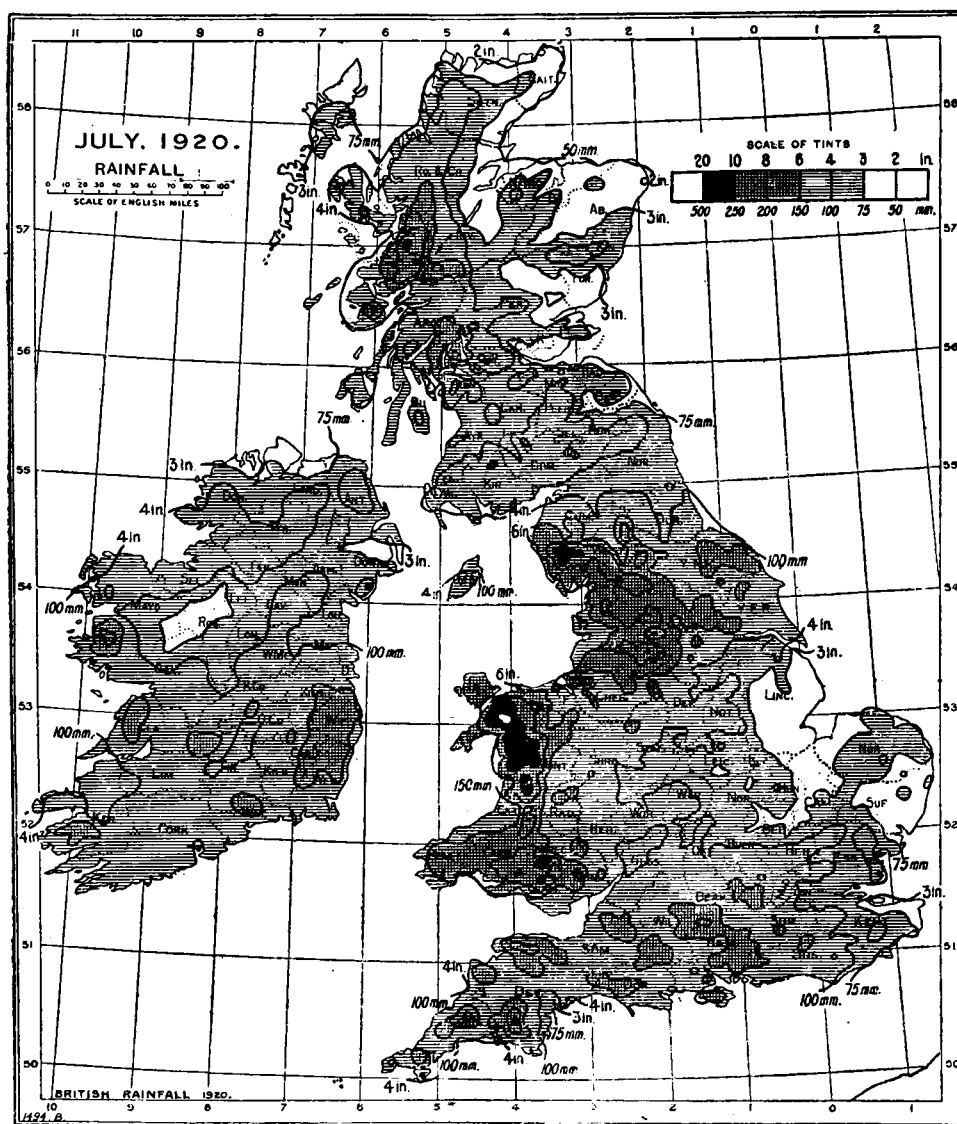
**June.**—The conditions were largely anticyclonic and there was a notable absence of cyclonic depressions, but thunderstorms were fairly frequent, especially about the middle of the month.



In parts of the east of Scotland the total rainfall was less than .50 in., and less than 2 in. was unusually widespread in the north as also in central Ireland. In England the eastern counties although dry were less notably so. More than 3 in. fell over most of Wales, where the central mountains had more than 4 in., but elsewhere 4 in. fell only in scattered and broken patches.

Rather more than the average for the month occurred over a large area extending from Cornwall and Hampshire to Yorkshire and Cumberland, and also in smaller areas in the west of Scotland and Ireland, but the excess reached 50 per cent. only at one or two stations. There was a deficiency of more than 50 per cent. in the east generally.

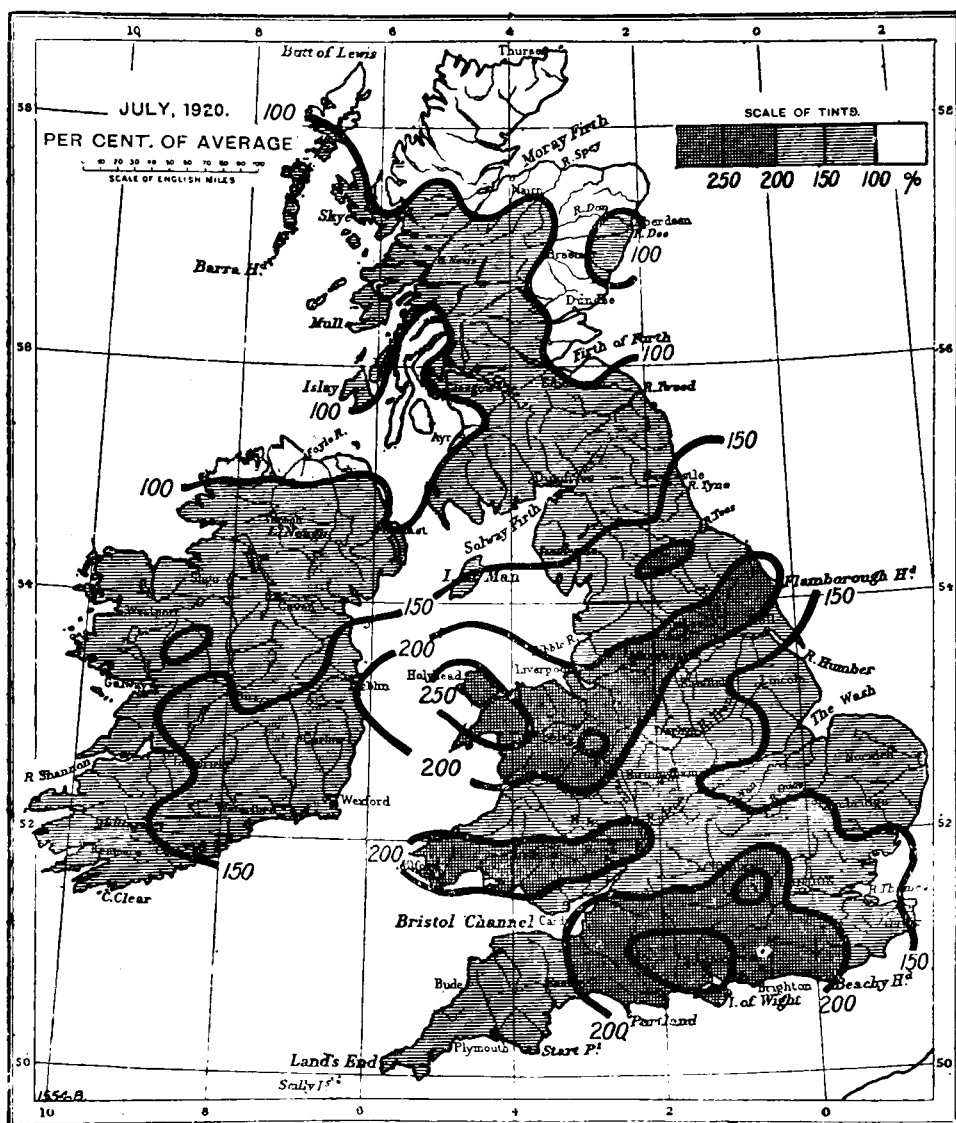




England alone had a general deficiency of 4 per cent., but the excess in Wales brought the combined fall above the average by 3 per cent. Scotland had 31 per cent. less than the average fall, Ireland 10 per cent., and the British Isles as a whole 10 per cent.

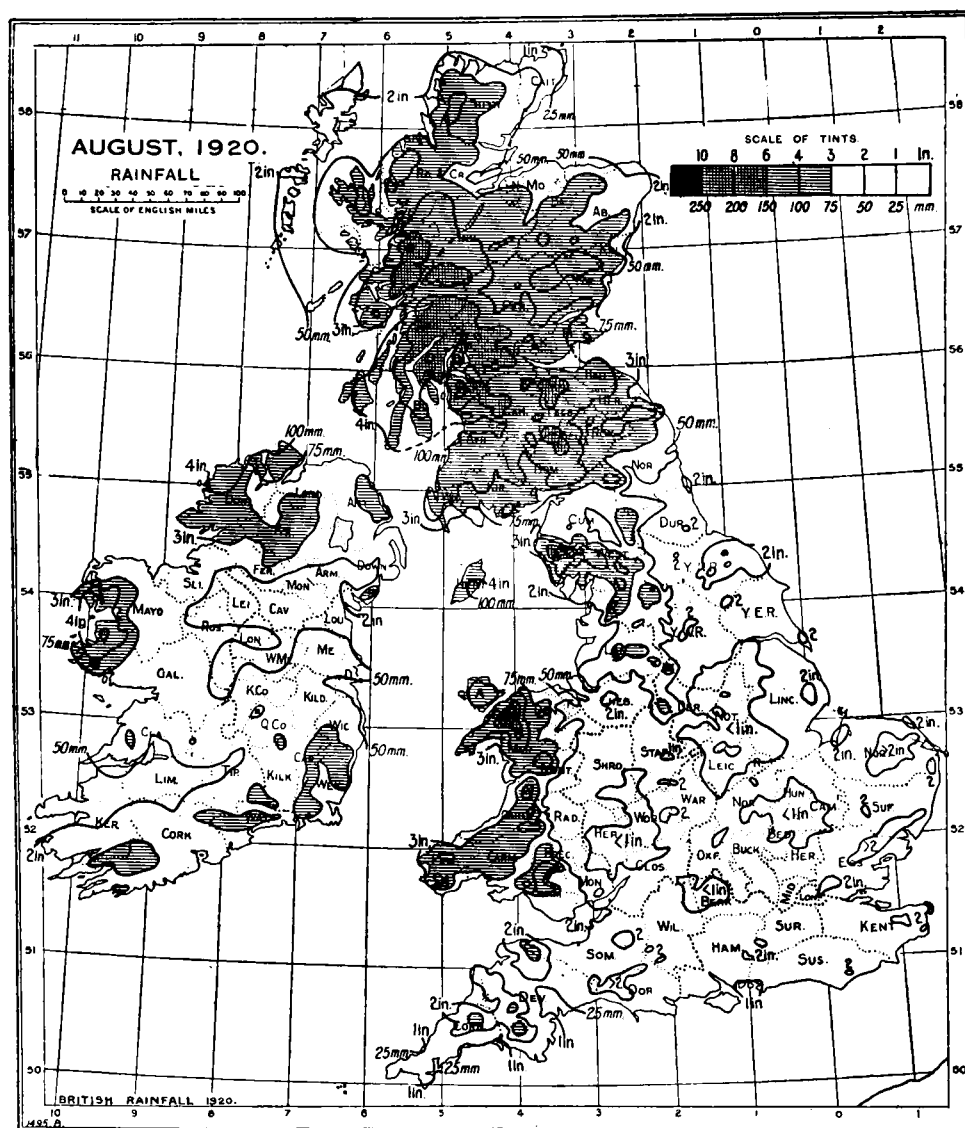
**July.**—A month of frequent depressions and abnormally persistent rainfall, particularly in England and Wales.

In England the only districts with less than 3 in. were in parts of Lincolnshire, the Fens, and East Anglia, and numerous areas with more than 6 in. occurred, particularly in the south and north. In Scotland the east was not notably drier than in England, but the 6-in. areas



in the west were comparatively small and insignificant, whilst in Ireland there was a greater area with more than 6 in. in the east than in the west, an extremely unusual circumstance. The only district of any size with more than 10 in. lay in North Wales and more than 20 in. fell on Snowdon.

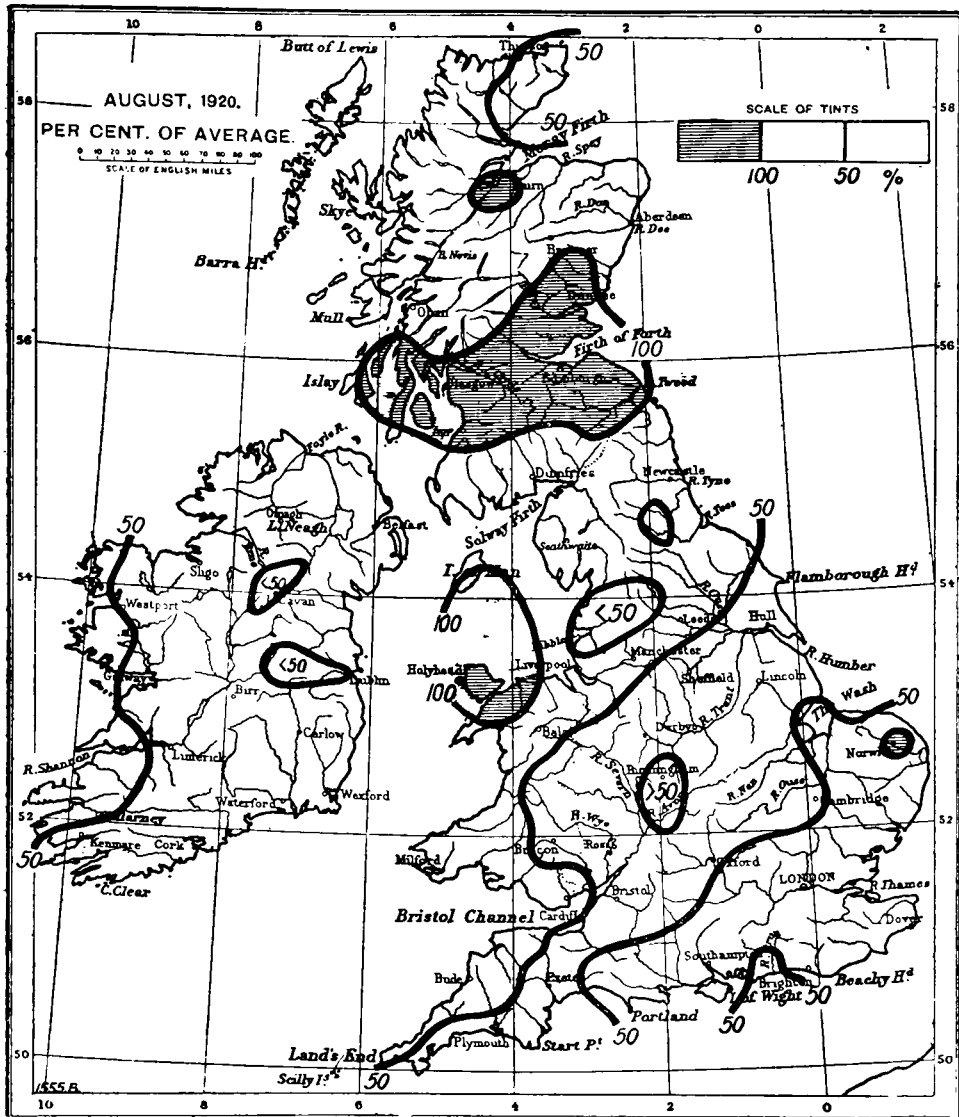
The total fell below the average or rose very little above it in the north generally, but in the more southerly districts large unbroken areas had more than double their average, the most conspicuous extending from Dublin to Scarborough, from Pembrokeshire to Gloucestershire, and from Somerset to Sussex. In Anglesey nearly three times the average fell.



The general excess was again most pronounced in Wales where it reached 125 per cent., whilst England and Wales together had 87 per cent. more than the average. Ireland had an excess of 35 per cent. and Scotland of only 4 per cent., whilst for the whole British Isles there was an excess of 48 per cent.

**August.**—Anticyclonic conditions prevailed during the middle and latter part of the month and the weather, though cool, was on the whole dry. The distribution of rainfall was largely dominated by the great cyclonic rainstorm which occurred on the 17th affecting principally the southern half of Scotland.

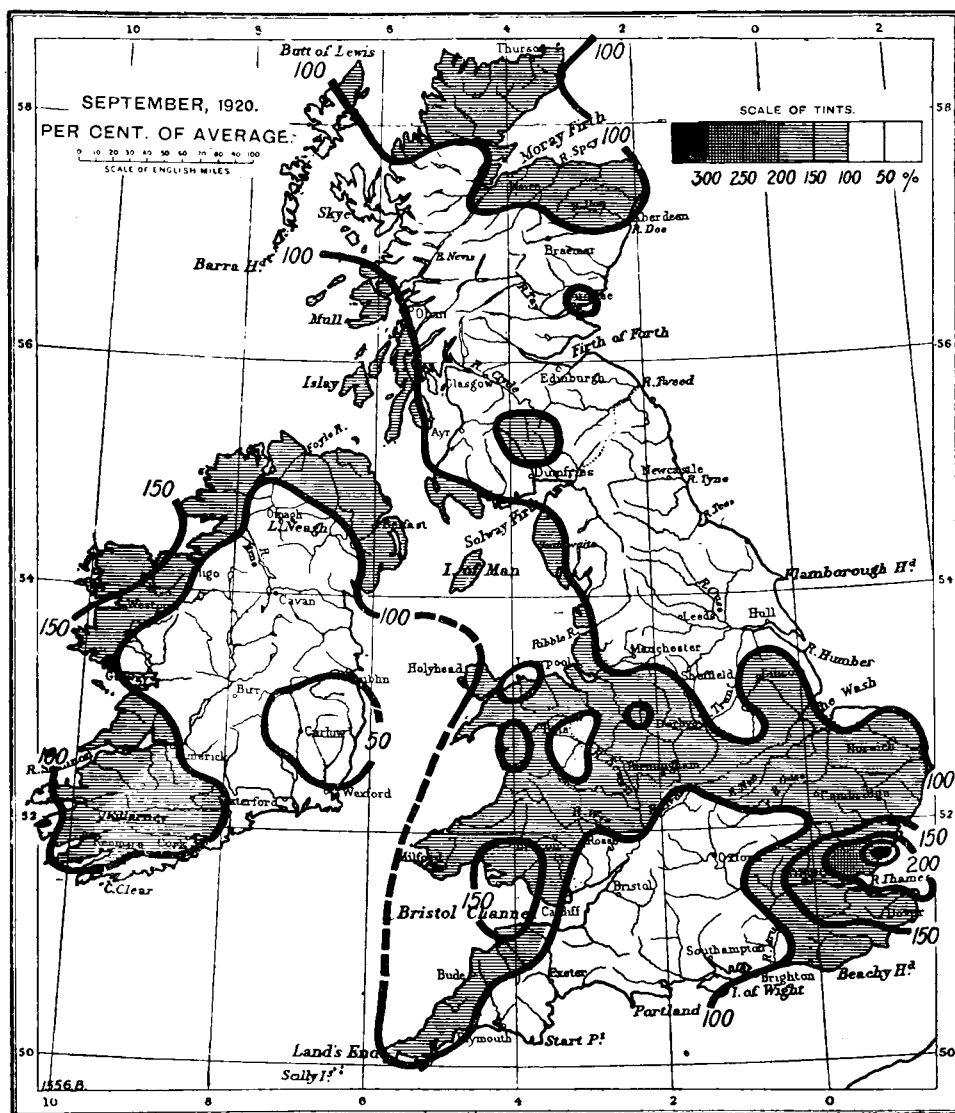
The total fall reached 3 in. only in very restricted areas in England



and Ireland, and in England by far the greatest part had less than 2 in. and considerable areas less than 1 in. In Ireland the fall was nearly everywhere between 2 and 3 in. Scotland was wetter, more than 3 in. falling everywhere except in the extreme east and north. The whole of the south-western half of the country had more than 4 in. and numerous large patches more than 6 in., but the rainfall does not appear to have reached 10 in. anywhere north of the Tweed, although small areas in Snowdonia and the English Lakes had that amount.

The southern half of Scotland generally, and part of North Wales, had a rainfall rather above the average and this was also the case very locally in Norfolk, but otherwise the month's fall was in defect, being

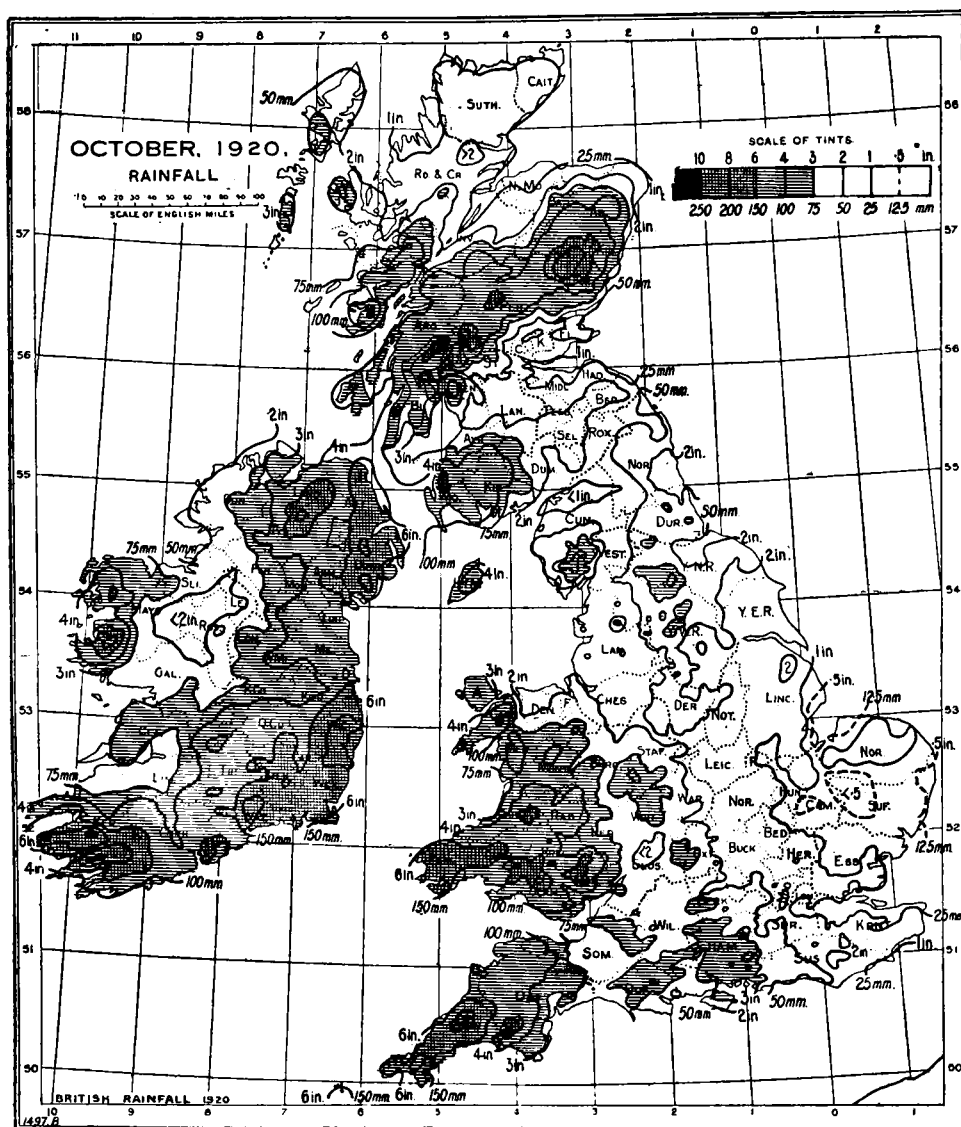




6 in. in a number of scattered patches in all the normally rainy districts except Devonshire.

The rainfall was above the average in an irregularly shaped area including the west of Ireland and part of the west coast of Scotland, and extending south-eastward through Ulster to embrace the whole of Wales and two broad tracts in England. In the more easterly of these the fall was more than three times the average in eastern Essex. There was also an area of moderate excess in the north of Scotland. Less than half the average fell in the south-eastern counties of Ireland.

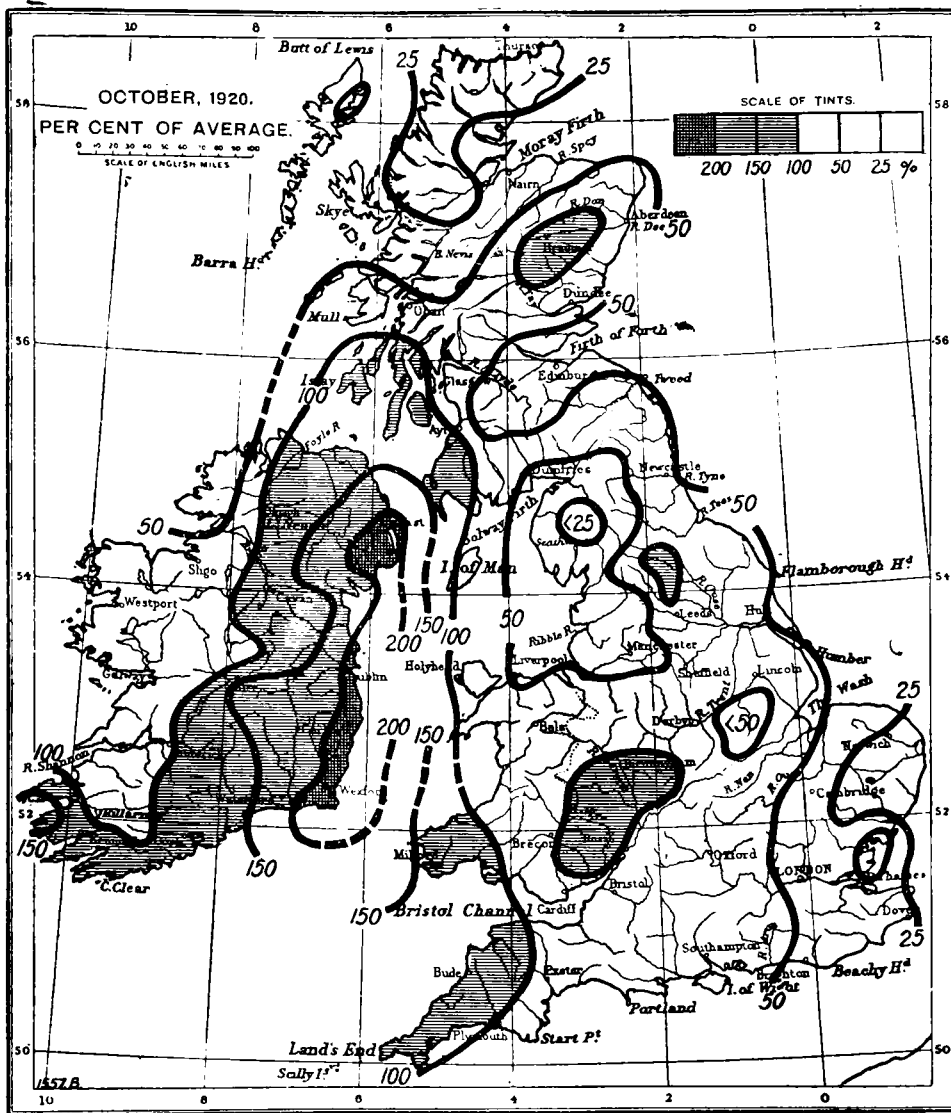
The total rainfall showed a deficiency of 6 per cent. in Scotland and an excess of 8 per cent. in England and Wales, whilst Ireland



had in general exactly the average and the British Isles as a whole an excess of 1 per cent.

**October.**—The pressure conditions were very abnormal, giving a pronounced tendency for southerly or south-easterly winds. Depressions were not numerous but widespread rains occurred during the first week, affecting the south-west of the British Isles and the east of Scotland.

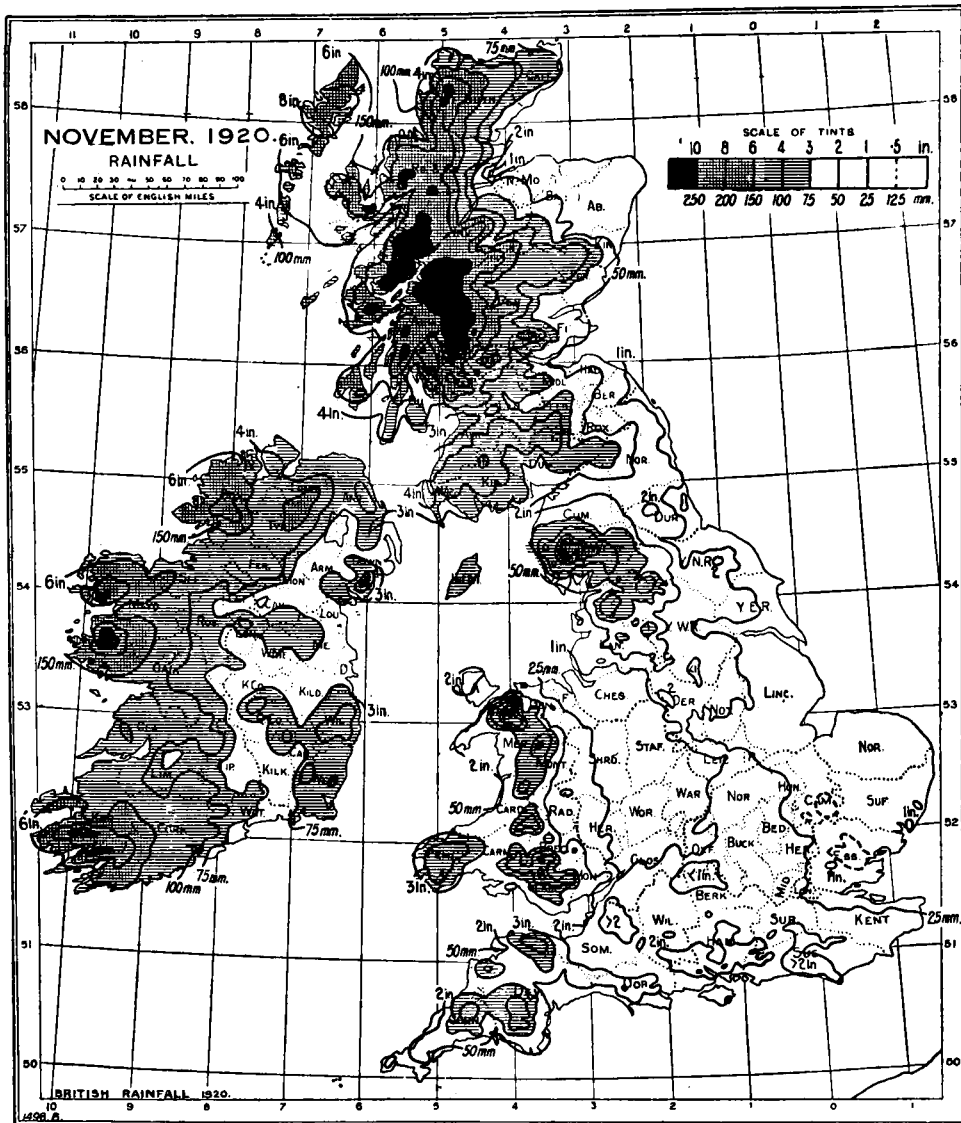
The total rainfall was very unusual in the east of Ireland, where large areas had more than 6 in. and some places more than 8 in. Considerable areas with more than 6 in. also occurred in Cornwall and South Wales, in the west of Ireland, and in Aberdeenshire, but



they were conspicuously absent in North Wales, the Lake District, and the West Highlands. In the extreme north of Scotland less than 1 in. fell locally and this was also the case in the Firth of Forth and in the east of England from Lincolnshire to Kent. In parts of Suffolk and Cambridgeshire less than .50 in. fell.

More than twice the average fell on the east coast of Ireland and more than the average over a broad belt extending from Cornwall and Co. Cork to Argyllshire. Less than half the average fell beyond a line which passed from Donegal Bay north-westward to Kinnairdhead and thence southward to Sussex. In the extreme north and east, and also in Cumberland, less than a quarter of the average fell.

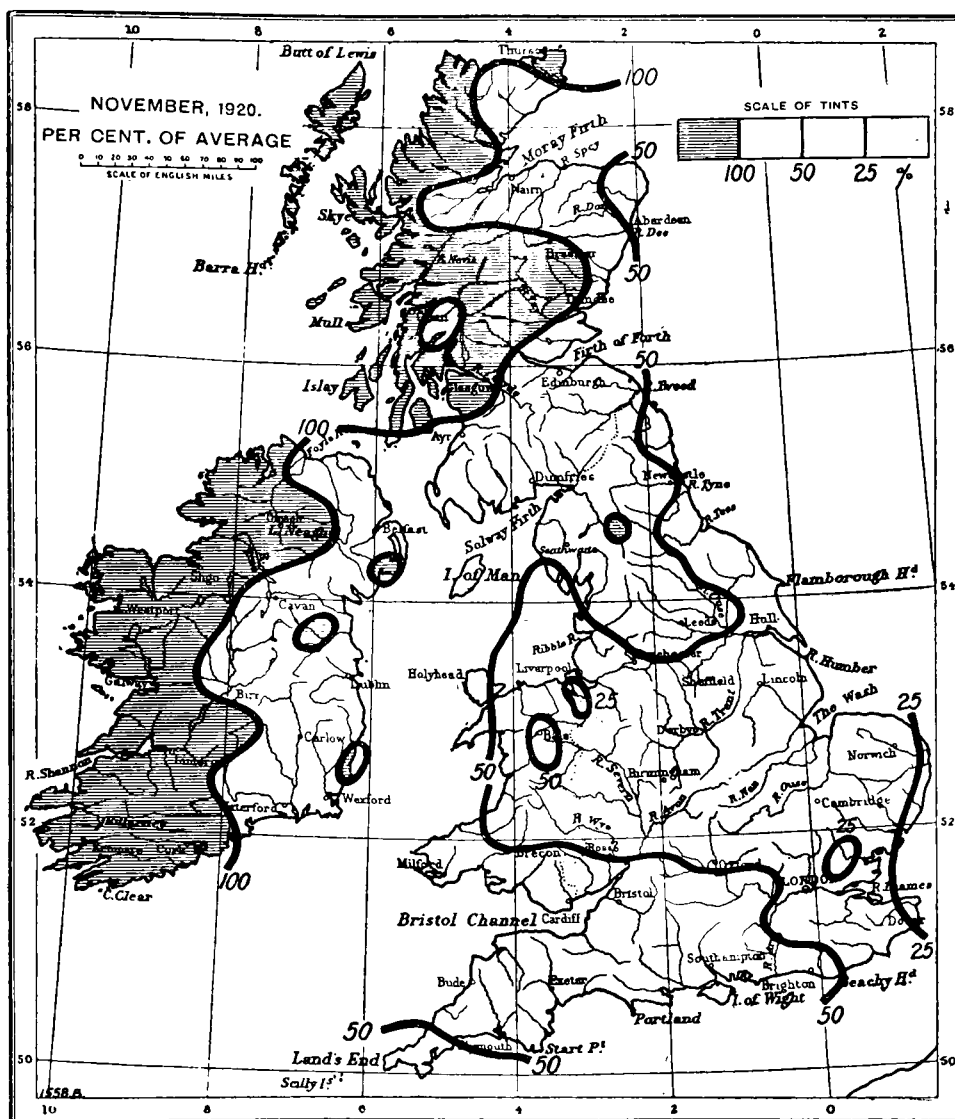




The general rainfall was above the average only in Ireland, where there was an excess of 26 per cent. In England and Wales the fall was 29 per cent., and in Scotland 40 per cent., below the average. The general deficiency for the British Isles was 20 per cent.

**November.**—The conditions were largely anticyclonic with absence of depressions giving a very light rainfall in the east, but in the west generally there was a good deal of orographical rainfall.

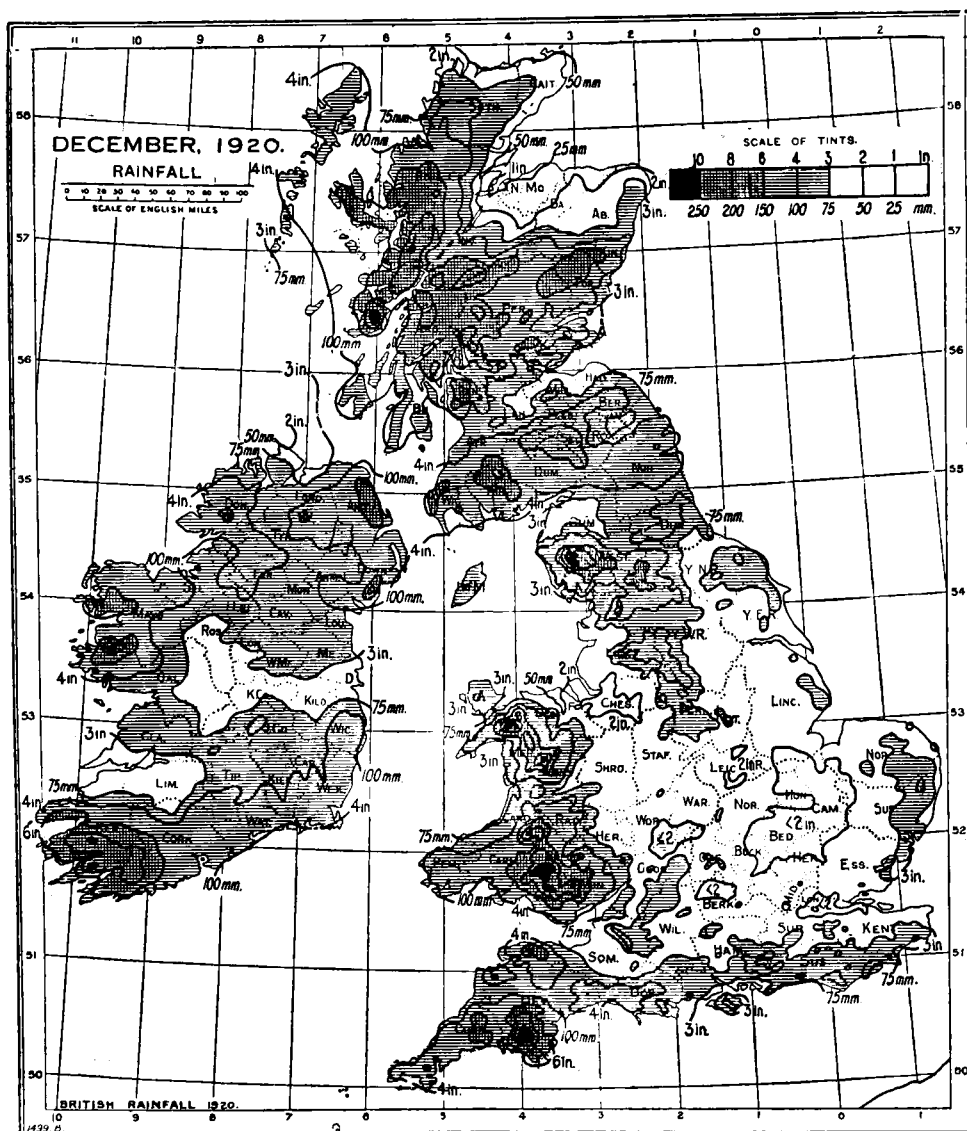
An exceptionally large area in the West Highlands had a total rainfall exceeding 6 in., and the 10-in. areas were also unusually extensive. Somewhat similar conditions prevailed in the west of Ireland, but in England and Wales as much as 6 in. was recorded only



in very limited areas. The fall in the east of Ireland was normal, but in Great Britain a notable falling off occurred towards the east coast where less than 2 in. fell in Scotland and less than 1 in. in England from Berwick-on-Tweed to Ramsgate, with less than .50 in. in parts of Cambridgeshire and Essex.

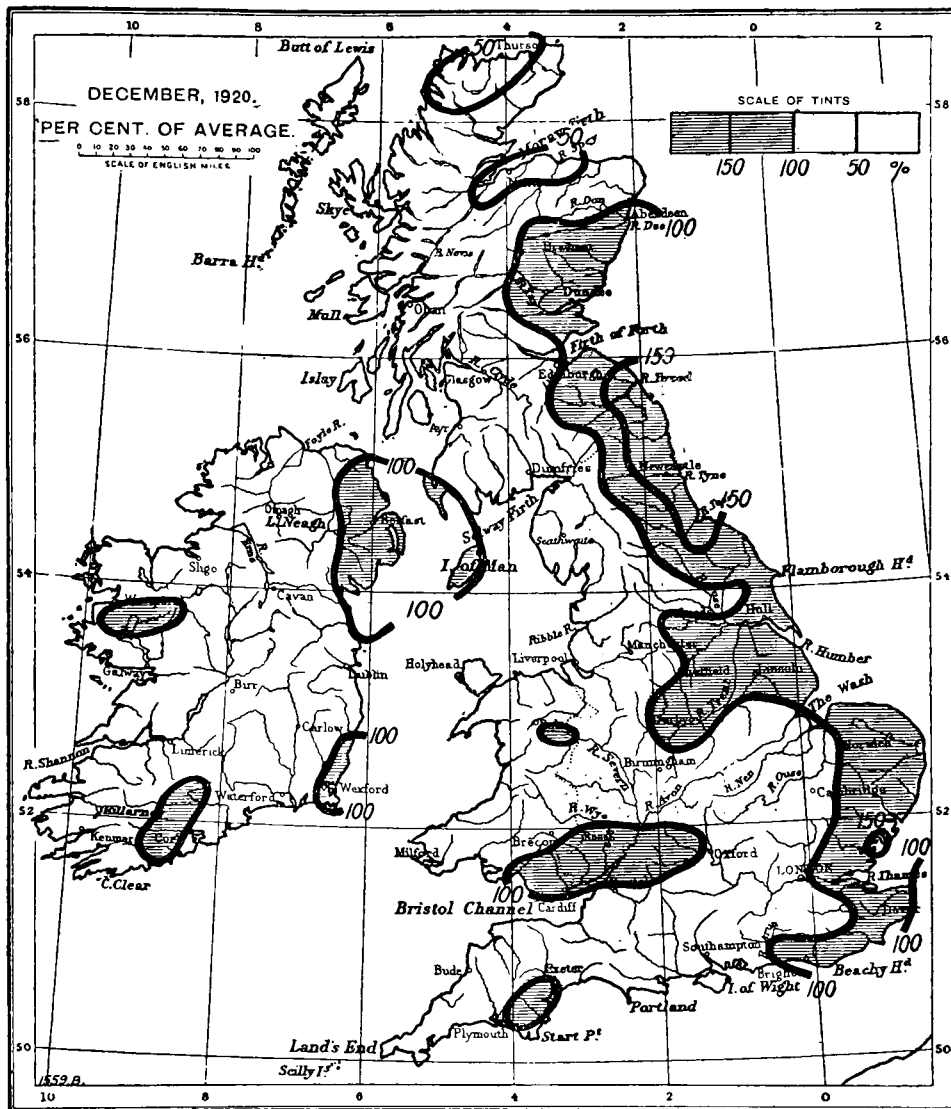
The total rainfall was above the average to the west of a line from Waterford to Caithness and less than half the average to the east of a line from Banff to Eastbourne, including the greater part of Wales. Less than a quarter of the average fell in the extreme east.

The general rainfall was 10 per cent. above the average in Ireland and 2 per cent. in Scotland. In England and Wales there was a deficiency of 48 per cent. and for the whole British Isles of 17 per cent.



**December.**—The barometric gradient was smaller, and the prevalent wind more southerly, than usual. There were a considerable number of depressions some of which followed abnormal tracks, but the rainfall was moderate except in the east.

The rainy areas of the west were generally less extensive than is usual at the season, and as much as 8 in. was confined to comparatively small patches, the fall, however, rising locally to 10 in. No large areas in either Ireland or Scotland had less than 3 in., but round the Moray Firth the total fell off to less than 1 in. In England there was no area with so little as 1 in., but less than 3 in. was very widespread in the



Midlands. More than 3 in., and in places more than 4 in., fell in well marked tracts extending along the south and east coasts.

The average rainfall was exceeded in certain patches in the west, but the only large areas with excess lay in the east both of Ireland and Great Britain. In the more easterly wet tract, which extended from Aberdeenshire to Sussex, more than 50 per cent. excess occurred in places. In the drier districts the deficiency was most marked in the north of Scotland.

The general rainfall was deficient in all the countries, the deficiency being greatest, 21 per cent., in Scotland, 10 per cent. in Ireland, 6 per cent. in England, and 12 per cent. for the British Isles as a whole.

TABLE II.—MONTHLY RAINFALL AT 395 STATIONS IN THE BRITISH ISLES DURING 1920.

ENGLAND.

| Div. | County.          | Station.                          | Jan. | Feb. | March | April | May  | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
|------|------------------|-----------------------------------|------|------|-------|-------|------|------|------|------|-------|------|------|------|--------|
| II.  | London           | 2 St. Pancras (Camden Square)     | 2.58 | .59  | 1.42  | 3.07  | .69  | 1.59 | 4.06 | 1.75 | 3.27  | 1.09 | 1.12 | 2.36 | 23.59  |
|      | Surrey           | 6 Haslemere (Hazelhurst).....     | 4.85 | 1.00 | 3.30  | 3.80  | 1.19 | 2.12 | 5.21 | 1.94 | 3.09  | 2.70 | 2.32 | 4.38 | 35.90  |
|      | "                | 6 Woking (The Green).....         | 2.43 | .32  | 1.52  | 3.56  | .65  | 1.31 | 4.61 | 1.46 | 2.16  | 1.45 | .98  | 2.09 | 22.54  |
|      | Kent             | 1 Tenterden (View Tower).....     | 3.19 | .59  | 1.14  | 2.48  | .95  | 1.48 | 3.50 | 1.58 | 3.32  | 1.40 | 1.38 | 3.25 | 24.26  |
|      | "                | 1 Folkestone (Cheriton Road)...   | 3.01 | .49  | .93   | 2.23  | 1.46 | 1.42 | 2.79 | 1.80 | 3.06  | 1.01 | 1.30 | 3.24 | 22.74  |
|      | "                | 2 St. Peter's Court.....          | 1.81 | .54  | .54   | 2.22  | 1.19 | 1.10 | 2.40 | 2.26 | 3.96  | .91  | .63  | 2.55 | 20.11  |
|      | "                | 3 Ospringe (Lorenden).....        | 3.23 | .54  | 1.26  | 2.89  | 1.04 | 1.11 | 2.80 | 1.84 | 3.63  | 1.05 | 1.00 | 2.77 | 23.16  |
|      | "                | 5 Westerham (Quebec Square)...    | 3.82 | .64  | 1.58  | 3.34  | 1.00 | 2.12 | 4.48 | 1.93 | 4.41  | 1.16 | 1.56 | 3.23 | 29.27  |
|      | "                | 5 Southfleet (Kent Waterworks)    | 2.45 | .50  | .68   | 2.74  | .37  | 1.46 | 3.50 | 1.61 | 4.29  | .90  | .66  | 1.89 | 21.05  |
|      | "                | 1 Selsey (Large Acres).....       | 3.84 | .59  | 2.41  | 2.94  | 1.64 | 2.00 | 5.13 | 1.03 | 2.51  | 2.44 | 1.42 | 3.32 | 29.27  |
|      | "                | 3 Worthing (Victoria Park).....   | 3.97 | .55  | 1.63  | 2.09  | 1.17 | 1.65 | 4.64 | 1.07 | 3.12  | 2.19 | 1.64 | 2.68 | 26.40  |
|      | "                | 4 Balcombe (The Gables).....      | 4.35 | .91  | 2.22  | 3.17  | 1.06 | 1.47 | 6.02 | 1.70 | 4.61  | 1.66 | 2.46 | 3.49 | 33.12  |
|      | "                | 5 Eastbourne (Wilmington Sq.)     | 4.07 | .63  | 2.13  | 2.38  | 1.21 | 1.58 | 3.87 | 1.91 | 4.01  | 2.17 | 2.19 | 3.61 | 29.76  |
|      | "                | 5 Hastings (Cemetery).....        | 3.04 | .62  | 1.33  | 2.30  | 1.45 | 1.39 | 2.93 | 2.04 | 4.10  | 1.68 | 1.48 | 3.50 | 25.86  |
|      | "                | 7 Crowborough (Uckfield Lodge)    | 4.58 | 1.01 | 2.33  | 3.43  | 1.42 | 1.58 | 5.47 | 1.84 | 3.10  | 1.73 | 2.35 | 4.40 | 33.24  |
|      | "                | 1 Totland Bay (Aston House)...    | 4.08 | .41  | 2.59  | 2.57  | 1.40 | 2.79 | 6.55 | 1.02 | 2.25  | 2.57 | 1.32 | 2.81 | 30.36  |
|      | "                | 4 Ashley Old Manor House.....     | 3.84 | .92  | 2.49  | 3.79  | 1.11 | 2.41 | 5.51 | 1.61 | 1.31  | 3.48 | 2.03 | 3.01 | 31.51  |
|      | "                | 5 Bps. Waltham (Swanmore Ho.)     | 5.28 | .68  | 2.47  | 5.36  | 1.81 | 2.76 | 6.43 | 1.65 | 2.60  | 4.01 | 2.54 | 4.18 | 39.77  |
|      | "                | 8 Sherborne St. John Rectory..    | 3.27 | .73  | 1.80  | 3.38  | 1.39 | 1.73 | 5.40 | 1.54 | 1.34  | 2.53 | 1.79 | 2.46 | 27.36  |
| III. | Berkshire        | 5 Upton.....                      | 1.93 | .61  | 1.41  | 3.09  | 1.41 | 1.96 | 4.21 | .92  | 1.10  | 2.70 | 1.14 | 1.96 | 22.44  |
|      | Hertfordshire    | 2 St. Albans (County Museum)      | 2.62 | .43  | 1.62  | 4.18  | 1.49 | 2.12 | 5.29 | 1.48 | 1.87  | .96  | 2.03 | 2.36 | 26.45  |
|      | "                | 3 Royston (Therfield Rectory)...  | 2.32 | .37  | 1.37  | 3.60  | 1.20 | 1.70 | 4.06 | 1.26 | 1.80  | .90  | .85  | 1.78 | 21.21  |
|      | Buckinghamshire  | 3 Slough (Upton).....             | 2.67 | .46  | 1.48  | 3.83  | 2.32 | 2.62 | 5.36 | 1.42 | 2.28  | 2.05 | 1.04 | 2.19 | 27.72  |
|      | "                | 3 Hampden House.....              | 2.91 | .58  | 1.73  | 3.96  | 1.49 | 2.12 | 5.30 | 1.25 | 2.52  | 1.61 | 1.65 | 2.32 | 27.44  |
|      | "                | 5 Wolverton (St. George's Vic.)   | 2.44 | .64  | 1.98  | 3.46  | 1.74 | 3.51 | 2.85 | 1.57 | 1.85  | 1.09 | 1.19 | 1.93 | 24.25  |
|      | Oxfordshire      | 3 Wootton Rectory.....            | 2.38 | .64  | 2.00  | 4.62  | 2.80 | 2.66 | 3.38 | 1.38 | 1.86  | 2.07 | 1.12 | 2.70 | 27.61  |
|      | Northamptonshire | 1 Naseby Reservoir.....           | 2.59 | .81  | 2.19  | 4.64  | 1.97 | 3.17 | 3.71 | 1.54 | 2.01  | 1.13 | 1.43 | 1.94 | 27.13  |
|      | "                | 4 Wellingborough (Swanspool)...   | 2.30 | .79  | 2.11  | 4.00  | 1.36 | 2.12 | 2.82 | .84  | 2.23  | 1.60 | 1.00 | 2.05 | 23.22  |
|      | Huntingdonshire  | 1 St. Ives (Slepe House).....     | 1.72 | .46  | 1.36  | 3.11  | 1.31 | 1.28 | 1.91 | .74  | 1.92  | .38  | .64  | 1.70 | 16.53  |
|      | Bedfordshire     | 3 Shillington.....                | 2.20 | .40  | 1.39  | 3.64  | 1.59 | 1.53 | 3.41 | 1.02 | 2.44  | 1.12 | 1.14 | 1.65 | 21.53  |
|      | Cambridgeshire   | 2 Littleport (Highfield House)... | 1.70 | .40  | 1.36  | 2.96  | 3.13 | 1.83 | 2.42 | 1.16 | 1.96  | .53  | .57  | 1.54 | 19.56  |

TABLE II.—(con.). ENGLAND—(con.).

| Div. | County.                | Station.                          | Jan.  | Feb. | March | April | May  | June | July  | Aug. | Sept. | Oct. | Nov. | Dec.  | Total. |
|------|------------------------|-----------------------------------|-------|------|-------|-------|------|------|-------|------|-------|------|------|-------|--------|
| III. | Cambridgeshire ..      | 3 Wisbech (Bank House) .....      | 1.86  | .68  | 2.09  | 3.28  | 1.54 | 2.13 | 2.62  | 1.43 | 2.35  | .79  | .84  | 2.12  | 21.73  |
| IV.  | Essex.....             | 2 Leigh (Herschell Road) .....    | 1.81  | .50  | .54   | 2.93  | .66  | .46  | 3.79  | .75  | 3.65  | 1.03 | .57  | 2.46  | 19.15  |
| "    | "                      | 2 Ongar (Marden Ash) .....        | 2.52  | .42  | 1.55  | 3.66  | 1.47 | 1.21 | 3.81  | .83  | 3.61  | 1.22 | .45  | 2.13  | 22.88  |
| "    | "                      | 3 Bradwell-on-Sea (Bradwell Hall) | 1.96  | .36  | .77   | 3.02  | .77  | .93  | 4.12  | 1.46 | 5.78  | 2.02 | .63  | 3.45  | 25.30  |
| "    | "                      | 4 Shalford (Littles).....         | 2.27  | .40  | 1.23  | 4.30  | .88  | 1.01 | 3.90  | 1.45 | 2.59  | .71  | .43  | 2.48  | 21.65  |
| "    | "                      | 5 Mannington (Bradfield Lodge)    | 1.54  | .51  | .48   | 3.93  | .84  | .83  | 2.50  | 1.21 | 4.05  | .46  | .93  | 2.92  | 20.20  |
| "    | Suffolk .....          | 1 Hawkedon Rectory .....          | 2.48  | .74  | 1.58  | 3.91  | 1.03 | 1.37 | 3.61  | 1.61 | 2.32  | .55  | .68  | 2.89  | 22.77  |
| "    | "                      | 2 Haughley (Haughley House) ..    | 1.73  | .76  | 1.00  | 3.32  | .80  | 1.46 | 2.46  | 1.64 | 2.15  | .64  | .69  | 2.42  | 19.07  |
| "    | "                      | 3 Orford (The Gables).....        | 2.06  | .69  | .68   | 3.66  | .96  | 1.52 | 2.66  | 1.88 | 5.11  | .65  | .86  | 3.20  | 23.87  |
| "    | "                      | 3 Halesworth Rectory .....        | 2.08  | .73  | .97   | 2.94  | 1.20 | 1.43 | 2.73  | 1.20 | 3.09  | .59  | .81  | 3.26  | 21.03  |
| "    | "                      | 4 Yarmouth (Burgh Hall) .....     | 2.20  | .61  | 1.00  | 3.34  | 1.88 | 2.08 | 3.11  | 1.86 | 1.92  | .46  | 1.02 | 3.23  | 22.71  |
| "    | Norfolk .....          | 1 Diss (The Cedars) .....         | 1.98  | 1.66 | 1.02  | 3.42  | 1.72 | 2.66 | 2.55  | 1.53 | 1.55  | .58  | .56  | 3.07  | 22.30  |
| "    | "                      | 1 Wymondham .....                 | 2.68  | .56  | 1.39  | 3.45  | 2.31 | 2.39 | 4.26  | 2.08 | 3.00  | .86  | .90  | 3.42  | 27.30  |
| "    | "                      | 2 Aylsham (Rippon Hall) .....     | 2.14  | .73  | 1.39  | 3.50  | 1.50 | 1.86 | 3.10  | 1.98 | 2.66  | 1.27 | .83  | 3.23  | 24.19  |
| "    | "                      | 3 Sandringham House .....         | 1.98  | 1.01 | 1.88  | 3.15  | 1.89 | 2.75 | 2.85  | 2.25 | 2.65  | .58  | 1.02 | 2.71  | 24.72  |
| "    | "                      | 3 Blakeney .....                  | 1.42  | .82  | 1.14  | 2.31  | 1.03 | 1.63 | 3.14  | 1.96 | 1.93  | 1.23 | .53  | 2.38  | 19.52  |
| "    | "                      | Thetford Waterworks .....         | 2.01  | .70  | 1.61  | 3.90  | 1.66 | 2.23 | 3.26  | 1.68 | 2.22  | .42  | .76  | 2.64  | 23.09  |
| "    | "                      | 4 Swaffham .....                  | 1.95  | .69  | 1.55  | 3.13  | 1.74 | 2.22 | 3.61  | 1.33 | 2.10  | .77  | .68  | 2.59  | 22.36  |
| V.   | Wiltshire .....        | 1 Bradford (Manvers House) .....  | 4.35  | .95  | 2.47  | 3.73  | 1.56 | 3.89 | 4.41  | 1.08 | 1.15  | 2.43 | 1.72 | 2.54  | 30.28  |
| "    | "                      | 2 Mere (Charnage) .....           | 4.73  | 1.08 | 2.23  | 4.13  | 1.99 | 2.62 | 6.65  | 1.48 | .97   | 2.29 | 1.42 | 2.64  | 32.23  |
| "    | "                      | 3 Salisbury Plain (Shrewton) ...  | 3.68  | .82  | 2.34  | 3.66  | 2.89 | 2.55 | 5.82  | 1.24 | .84   | 2.62 | 1.99 | 2.63  | 31.08  |
| "    | "                      | 5 Marlborough (Mildenhall) ....   | 3.32  | .72  | 2.09  | 3.82  | 2.14 | 2.62 | 6.66  | 1.07 | 1.21  | 2.08 | 1.17 | 2.81  | 29.71  |
| "    | Dorsetshire .....      | 3 Weymouth (Springfield).....     | 4.54  | .37  | 2.74  | 3.30  | 1.57 | 2.19 | 3.76  | 1.53 | 1.85  | 2.86 | 1.32 | 3.34  | 29.37  |
| "    | "                      | 3 Beaminster (Hamilton Lodge)     | 5.91  | 1.02 | 3.35  | 4.78  | 2.38 | 2.30 | 6.30  | 2.72 | 1.87  | 2.86 | 2.11 | 4.72  | 40.32  |
| "    | "                      | 4 Winterbourne Whitchurch Vic.    | 5.14  | .60  | 3.06  | 4.52  | 1.75 | 2.79 | 5.52  | 1.97 | 1.09  | 3.64 | 2.18 | 3.96  | 36.22  |
| "    | "                      | 4 Wimborne (Codford House) ...    | 4.22  | .51  | 2.54  | 3.69  | 1.35 | 2.32 | 5.75  | 1.35 | 1.50  | 2.57 | 1.73 | 3.93  | 31.46  |
| "    | South Devonshire ..... | 3 Salcombe (Sandhills) .....      | 6.36  | .74  | 3.98  | 3.66  | 1.58 | 2.61 | 4.69  | 1.45 | 2.43  | 3.07 | 2.06 | 6.54  | 39.17  |
| "    | "                      | 3 South Brent (Great Aish) ....   | 12.32 | 2.14 | 6.28  | 6.80  | 3.31 | 3.17 | 7.71  | 2.62 | 2.93  | 5.14 | 3.68 | 10.49 | 66.59  |
| "    | "                      | 4 Princetown (H.M. Prison) ....   | 16.34 | 3.10 | 9.09  | 9.74  | 4.51 | 4.26 | 11.92 | 3.65 | 4.89  | 7.90 | 5.50 | 11.97 | 92.87  |
| "    | "                      | 5 Teignmouth (Den Gardens)....    | 5.00  | .66  | 4.15  | 3.73  | 1.53 | 1.57 | 3.44  | 1.04 | 1.35  | 2.79 | 1.76 | 4.73  | 31.75  |
| "    | "                      | 5 Moretonhampstead (Tower Pk.)    | 7.41  | .67  | 4.44  | 4.72  | 2.11 | 3.27 | 4.60  | .99  | 1.98  | 4.81 | 2.47 | 4.70  | 42.17  |
| "    | "                      | 7 Ottery St. Mary (West Hill)...  | 4.90  | .53  | 3.53  | 4.79  | 1.58 | 2.61 | 4.57  | 1.57 | 1.72  | 4.10 | 1.88 | 3.66  | 35.44  |
| "    | "                      | 1 Morthoe (Twitchen House) ...    | 5.70  | 1.76 | 4.08  | 5.01  | 2.55 | 2.73 | 5.97  | 2.16 | 3.76  | 5.14 | 2.26 | 4.08  | 45.20  |
| "    | "                      | 2 Chumleigh (Leigh House) .....   | 5.10  | 1.22 | 3.39  | 3.97  | 1.58 | 2.37 | 4.78  | 1.43 | 2.26  | 4.16 | 2.20 | 3.38  | 35.84  |

TABLE II.—(con.). ENGLAND—(con.).

| Div. | County.           | Station.                         | Jan.  | Feb. | March | April | May  | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
|------|-------------------|----------------------------------|-------|------|-------|-------|------|------|------|------|-------|------|------|------|--------|
| V.   | North Devonshire  | Dolton (Hilliers) .....          | 6.01  | 1.23 | 3.84  | 3.91  | 1.64 | 2.20 | 4.16 | 1.70 | 2.05  | 4.24 | 2.64 | 3.66 | 37.28  |
| "    | Cornwall          | Redruth (Trewirgie) .....        | 6.30  | .92  | 4.34  | 4.53  | 2.26 | 2.95 | 6.27 | 1.58 | 4.82  | 8.48 | 2.55 | 5.81 | 50.81  |
| "    | "                 | Newquay (Tresillian House) ..    | 5.31  | 1.06 | 4.18  | 5.63  | 2.10 | 2.57 | 5.59 | 1.47 | 3.22  | 6.93 | 2.04 | 4.25 | 44.35  |
| "    | "                 | Morwenstow Vicarage .....        | 5.73  | 1.26 | 4.31  | 4.30  | 2.75 | 3.02 | 5.68 | 2.48 | 4.18  | 5.24 | 2.74 | 3.45 | 45.14  |
| "    | "                 | Penzance (Morrar Garden) ...     | 6.13  | .78  | 3.51  | 4.10  | 1.75 | 2.09 | 5.11 | 1.65 | 3.32  | 5.97 | 1.59 | 4.92 | 40.92  |
| "    | "                 | St. Austell (Trevarna) .....     | 7.25  | 1.10 | 4.58  | 5.34  | 2.55 | 2.94 | 5.45 | 1.30 | 3.82  | 7.14 | 2.65 | 5.25 | 49.37  |
| "    | "                 | Liskeard (Trevillis) .....       | 8.12  | 1.05 | 4.58  | 5.65  | 2.29 | 2.11 | 5.54 | 1.80 | 4.17  | 6.55 | 3.15 | 5.65 | 50.66  |
| "    | "                 | Altarnon Sanctuary .....         | 9.18  | 1.31 | 5.56  | 6.45  | 2.40 | 3.15 | 7.03 | 3.81 | 3.75  | 8.80 | 4.76 | 5.43 | 61.63  |
| "    | "                 | Tresco Abbey .....               | 4.33  | .55  | 2.47  | 2.80  | 1.86 | 2.08 | 4.25 | 1.58 | 2.11  | 5.82 | 1.74 | 3.28 | 32.87  |
| "    | Somersetshire...  | Street (Hind Hayes) .....        | 3.60  | .94  | 2.05  | 3.62  | 1.84 | 2.21 | 4.89 | 1.35 | 1.36  | 2.04 | 1.17 | 1.86 | 26.93  |
| "    | "                 | Burnham (Chalbury) .....         | 3.76  | .78  | 2.62  | 3.89  | 1.69 | 3.12 | 4.02 | 1.15 | 1.50  | 2.42 | 1.37 | 2.08 | 28.40  |
| "    | "                 | Taunton (The Park) .....         | 4.08  | .94  | 2.95  | 2.97  | 2.18 | 1.65 | 4.19 | 1.00 | 1.33  | 2.64 | 1.28 | 2.53 | 27.74  |
| "    | "                 | Winsford School .....            | 10.89 | 3.15 | 5.16  | 7.58  | 2.46 | 3.36 | 7.24 | 1.97 | 2.99  | 3.46 | 4.25 | 6.40 | 58.91  |
| VI.  | Gloucestershire.. | Avening House.....               | 3.98  | 1.06 | 3.08  | 4.56  | 1.62 | 2.90 | 5.17 | 1.25 | 2.23  | 2.12 | 1.24 | 3.23 | 32.44  |
| "    | "                 | Cheltenham (Old Bath Road) ..    | 3.64  | .88  | 3.38  | 4.28  | 1.36 | 2.64 | 5.50 | 1.86 | 2.53  | 1.97 | .65  | 2.39 | 31.08  |
| "    | "                 | Mickleton (Bank House) .....     | 2.77  | .61  | 2.57  | 3.87  | 1.37 | 1.95 | 4.56 | 1.70 | 2.66  | 2.80 | .51  | 1.93 | 27.30  |
| "    | "                 | Clifton (Harley Place) .....     | 4.65  | 1.99 | 2.67  | 4.68  | 1.82 | 3.40 | 5.27 | 1.96 | 1.84  | 3.25 | 2.13 | 3.23 | 36.89  |
| "    | "                 | Lechlade (Claydon House) ....    | 2.73  | .72  | 2.04  | 5.44  | 2.18 | 2.66 | 4.21 | .92  | 1.76  | 2.62 | .73  | 2.30 | 28.31  |
| "    | Herefordshire ..  | Ross (Birchlea) .....            | 4.25  | .67  | 3.41  | 4.56  | 1.70 | 2.16 | 4.11 | .87  | 1.75  | 3.50 | .73  | 2.98 | 30.69  |
| "    | "                 | Weobley School .....             | 3.42  | 1.14 | 3.78  | 5.08  | 2.02 | 3.22 | 5.00 | .89  | 2.42  | 3.71 | 1.38 | 2.90 | 34.96  |
| "    | Shropshire .....  | Ashford House .....              | 4.30  | 1.28 | 3.23  | 5.13  | 2.54 | 2.91 | 4.81 | 1.65 | 2.61  | 3.03 | 1.27 | 2.87 | 35.63  |
| "    | "                 | Clun Forest (Cwm Frydd) ..       | 5.75  | 2.75 | 5.67  | 6.45  | 3.00 | 3.18 | 7.12 | 1.44 | 2.46  | 5.20 | 1.61 | 4.00 | 48.63  |
| "    | "                 | Much Wenlock (Wiley Park) ..     | 3.87  | 1.59 | 3.07  | 4.48  | 2.92 | 3.25 | 3.77 | 1.00 | 1.51  | 3.27 | .71  | 2.47 | 31.91  |
| "    | Staffordshire ... | Market Drayton (Old Springs)     | 2.76  | 2.57 | 2.18  | 5.00  | 2.62 | 2.54 | 5.59 | 1.43 | 3.23  | 2.28 | .74  | 2.58 | 33.52  |
| "    | "                 | Lichfield (St. John Street) .... | 2.71  | 1.49 | 2.01  | 4.34  | 1.81 | 3.02 | 3.31 | 1.00 | 2.27  | 2.12 | .77  | 2.40 | 27.25  |
| "    | "                 | Stafford (Rising Brook) .....    | 3.02  | 2.14 | 2.11  | 4.34  | 3.52 | 3.29 | 5.50 | 1.22 | 1.97  | 2.28 | .90  | 2.57 | 32.86  |
| "    | "                 | Ashbourne (Mayfield House) ..    | 4.12  | 2.89 | 1.93  | 4.92  | 3.48 | 4.22 | 5.13 | 1.28 | 1.92  | 2.06 | 1.11 | 3.17 | 36.23  |
| "    | Worcestershire..  | Bewdley (Winterdyne) .....       | 2.91  | 1.11 | 2.11  | 3.86  | 1.82 | 2.08 | 3.00 | .75  | 1.55  | 2.70 | .65  | 2.01 | 24.55  |
| "    | "                 | Kempsey (The Lodge) .....        | 2.91  | .76  | 2.71  | 4.10  | 1.37 | 2.37 | 4.17 | .60  | 2.33  | 2.42 | .69  | 2.27 | 26.70  |
| "    | "                 | Dudley (Borough Cemetery) ...    | 2.96  | 1.29 | 2.33  | 2.81  | 2.61 | 2.75 | 3.72 | .95  | 1.98  | 2.78 | .77  | 2.56 | 27.51  |
| "    | "                 | Alvechurch (High Croft) .....    | 2.87  | 1.05 | 2.94  | 4.50  | 2.40 | 1.74 | 6.11 | 2.24 | 2.75  | 3.48 | .89  | 2.33 | 33.30  |
| "    | Warwickshire ..   | Coventry (Keresley Grange) ..    | 2.78  | .98  | 2.84  | 4.39  | 2.78 | 2.85 | 4.05 | 1.68 | 2.27  | 1.81 | .92  | 2.54 | 29.89  |
| "    | "                 | Farnborough .....                | 3.21  | .97  | 2.60  | 6.17  | 2.96 | 2.77 | 4.70 | 1.17 | 2.08  | 2.00 | 1.15 | 2.46 | 32.24  |

TABLE II.—(con.) ENGLAND—(con.)

| Div.  | County.          | Station.                        | Jan.  | Feb. | March | April | May  | June | July  | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
|-------|------------------|---------------------------------|-------|------|-------|-------|------|------|-------|------|-------|------|------|------|--------|
| VII.  | Leicestershire   | Loughboro' (Nan Panton Res.)    | 2.84  | 1.85 | 2.33  | 4.83  | 2.12 | 1.52 | 4.51  | 1.23 | 1.62  | 1.57 | 1.18 | 2.91 | 28.51  |
| "     | "                | Belvoir Castle                  | 2.04  | 1.52 | 2.63  | 5.03  | 1.79 | 2.35 | 4.33  | .95  | 1.57  | 1.08 | .85  | 2.03 | 26.17  |
| "     | Rutland          | Uppingham (Ridlington)          | 2.44  | 1.09 | 2.94  | 4.65  | 1.89 | 2.06 | 3.52  | 1.25 | 2.30  | 1.10 | 1.14 | 2.28 | 26.66  |
| "     | Lincolnshire     | Market Deeping (Wilsthorpe)     | 1.77  | .66  | 2.25  | 3.59  | 1.96 | 1.99 | 2.80  | .82  | 1.56  | .80  | .62  | 1.62 | 20.44  |
| "     | "                | Boston (Black Sluice, Skirbeck) | 1.52  | .83  | 2.31  | 3.67  | 2.00 | 2.46 | 3.18  | 1.72 | 1.57  | 1.50 | .64  | 2.39 | 23.79  |
| "     | "                | Sleaford (Kesteven Co. Asylum)  | 1.87  | 1.16 | 2.60  | 4.95  | 1.80 | 1.82 | 2.02  | 1.33 | 1.33  | 1.14 | .66  | 2.48 | 23.16  |
| "     | "                | Revesby Reservoir               | 1.87  | 1.07 | 2.18  | 3.51  | 3.55 | 1.81 | 2.89  | 1.28 | 1.86  | 1.88 | .62  | 2.88 | 25.40  |
| "     | "                | Willingham-by-Stow              | 2.18  | 1.83 | 2.70  | 4.24  | 2.26 | 1.58 | 3.42  | .79  | 1.64  | 1.76 | 1.00 | 2.43 | 25.83  |
| "     | "                | Skegness (Estate Offices)       | 1.84  | .85  | 1.59  | 2.62  | 1.61 | 1.86 | 2.69  | 1.04 | 2.00  | .21  | .52  | 3.16 | 19.99  |
| "     | "                | S. Elkington (Elkington Hall)   | 2.20  | 2.18 | 2.23  | 4.54  | 6.49 | 1.56 | 2.31  | 1.91 | 1.39  | 1.96 | .49  | 2.82 | 30.08  |
| "     | "                | Brigg                           | 2.51  | 2.09 | 2.94  | 4.35  | 3.83 | 2.16 | 4.01  | .99  | 1.91  | 1.66 | .65  | 2.51 | 29.61  |
| "     | "                | Mansfield (West Bank)           | 3.04  | 2.30 | 2.29  | 5.30  | 1.96 | 2.05 | 4.52  | .94  | 1.49  | 2.18 | 1.15 | 2.90 | 30.12  |
| "     | Nottinghamshire  | Littleover (The Knoll)          | 2.95  | 2.27 | 1.79  | 3.89  | 2.70 | 2.56 | 4.73  | .98  | 1.89  | 1.63 | .91  | 2.61 | 28.91  |
| "     | Derbyshire       | Matlock Bath (Lower Tower)      | 4.04  | 2.84 | 2.46  | 6.49  | 3.86 | 3.04 | 5.56  | 1.01 | 1.81  | 2.16 | 1.32 | 3.43 | 38.02  |
| "     | "                | Buxton (Devonshire Hospital)    | 5.31  | 3.56 | 2.90  | 8.12  | 5.66 | 3.21 | 5.54  | 2.41 | 2.95  | 2.19 | 1.48 | 3.78 | 47.11  |
| VIII. | Cheshire         | Northenden (Wythenshawe Hall)   | 3.41  | 2.90 | 3.05  | 4.39  | 4.15 | 2.46 | 5.88  | 1.75 | 2.55  | 1.40 | .95  | 2.34 | 35.23  |
| "     | "                | Middlewich (Bostock Hall)       | 3.53  | 3.10 | 3.32  | 4.49  | 4.18 | 2.62 | 5.57  | 1.05 | 3.02  | 1.32 | .68  | 2.04 | 34.92  |
| "     | "                | Eccleston                       | 2.83  | 2.10 | 3.56  | 4.10  | 3.10 | 3.43 | 6.01  | 1.37 | 2.80  | 2.30 | .52  | 1.93 | 34.05  |
| "     | South Lancashire | Liverpool (Knotty Ash)          | 3.44  | 2.48 | 3.63  | 4.22  | 4.07 | 3.87 | 5.52  | 1.97 | 3.14  | 1.39 | 1.01 | 2.61 | 37.35  |
| "     | "                | Bolton (Smithills Hall)         | 5.14  | 3.89 | 4.04  | 6.03  | 7.19 | 2.67 | 7.53  | 2.92 | 3.64  | 1.71 | 1.94 | 3.84 | 50.54  |
| "     | Central          | Burnley (Swinden)               | 5.33  | 3.82 | 4.55  | 6.65  | 5.81 | 2.39 | 6.95  | 2.13 | 2.82  | 3.04 | 2.91 | 3.73 | 50.13  |
| "     | "                | Southport (Hesketh Park)        | 3.48  | 2.10 | 3.83  | 4.07  | 3.57 | 2.62 | 4.73  | 1.46 | 3.15  | 1.13 | 1.40 | 2.54 | 34.08  |
| "     | North            | Lancaster (Strathspey)          | 3.90  | 2.78 | 5.14  | 4.24  | 5.15 | 2.22 | 6.43  | 2.24 | 2.91  | 1.23 | 2.62 | 3.19 | 42.05  |
| "     | "                | Broughton (Newsham House)       | 3.99  | 2.42 | 4.41  | 3.84  | 5.38 | 3.02 | 5.03  | 1.63 | 3.40  | 1.39 | 1.91 | 2.95 | 39.37  |
| IX.   | Yorkshire, W.R.  | Settle (Gas Works)              | 5.64  | 3.96 | 4.11  | 5.40  | 6.57 | 1.66 | 7.84  | 2.60 | 2.46  | 2.31 | 3.45 | 4.89 | 50.89  |
| "     | "                | Sheffield (Weston Park)         | 4.13  | 3.19 | 2.35  | 4.83  | 3.02 | 3.47 | 4.37  | .89  | 1.13  | 1.99 | 1.15 | 3.26 | 33.78  |
| "     | "                | Doncaster (Avenue Road)         | 3.00  | 2.42 | 2.13  | 3.71  | 3.85 | 1.82 | 4.24  | .93  | 1.37  | 2.00 | 1.23 | 2.30 | 29.00  |
| "     | "                | Meltham (Harewood Lodge)        | 6.20  | 5.57 | 3.88  | 7.10  | 5.11 | 3.59 | 8.04  | 2.11 | 1.66  | 2.11 | 2.63 | 4.93 | 52.93  |
| "     | "                | Garforth (Manor Farm)           | 2.85  | 1.30 | 2.01  | 3.37  | 2.60 | 1.71 | 5.84  | 1.63 | 2.19  | 1.71 | .98  | 2.47 | 28.66  |
| "     | "                | Ilkley (Spence's Garden)        | 4.47  | 2.55 | 2.68  | 4.31  | 2.87 | 1.78 | 6.20  | 1.89 | 1.59  | 3.45 | 1.97 | 3.65 | 37.41  |
| "     | "                | York (Mount Villas)             | 3.15  | 1.28 | 2.42  | 4.13  | 2.51 | 1.75 | 6.48  | 1.41 | 1.36  | 2.50 | 1.14 | 2.61 | 30.74  |
| "     | "                | Oughtershaw Hall                | 11.53 | 8.20 | 8.31  | 11.69 | 9.67 | 2.89 | 10.64 | 5.42 | 3.30  | 3.17 | 6.09 | 7.09 | 88.00  |
| "     | "                | Knaresborough (Gram. School)    | 3.63  | 1.75 | 2.30  | 4.37  | 2.54 | 1.45 | 5.94  | 1.71 | 1.08  | 3.40 | 1.45 | 2.23 | 31.85  |



**TABLE II.—(con.). ENGLAND—(con.).**

| Div.                                       | County.          | Station.                        | Jan.        | Feb.        | March       | April       | May         | June        | July        | Aug.        | Sept.       | Oct.        | Nov.        | Dec.        | Total.       |
|--|------------------|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| IX.  | Yorkshire, E.R.  | Birdsall Gardens .....          | 3.62        | .99         | 2.15        | 4.29        | 2.26        | .93         | 6.04        | 1.91        | 1.56        | 2.01        | 1.23        | 3.42        | 30.41        |
| "  | "                | Patrington .....                | 2.06        | 1.55        | 2.25        | 3.54        | 2.58        | 1.00        | 4.05        | 2.04        | 1.49        | 1.10        | .40         | 2.84        | 24.90        |
| "  | "                | Holme-on-Spalding Moor .....    | 3.08        | 1.03        | 1.77        | 3.36        | 2.02        | 1.40        | 6.15        | 1.76        | 1.24        | 1.71        | 1.07        | 2.55        | 27.14        |
| "  | "                | Beverley (East Riding Asylum)   | 2.53        | 1.60        | 2.14        | 4.22        | 2.68        | .89         | 4.82        | 1.77        | 1.44        | 1.09        | .93         | 3.32        | 27.43        |
| "  | "                | Bridlington .....               | 2.99        | 1.01        | 2.29        | 3.85        | 2.20        | .88         | 5.17        | 1.60        | 1.84        | 1.67        | .58         | 3.16        | 27.24        |
| "  | N.R.             | Masham Moor (Roundhill Res.)    | 3.85        | 3.05        | 4.32        | 7.10        | 3.78        | 1.38        | 6.96        | 1.69        | 1.20        | 5.81        | 2.90        | 4.85        | 46.89        |
| "  | "                | Felixkirk (Mount St. John) ...  | 3.34        | .80         | 2.27        | 2.90        | 2.33        | 1.80        | 4.52        | 2.55        | 1.29        | 2.50        | 1.19        | 3.68        | 29.17        |
| "  | "                | Reeth (Arkengarthdale) .....    | 6.50        | 2.96        | 4.01        | 6.49        | 4.91        | 1.51        | 8.27        | 2.17        | 1.52        | 2.47        | 3.55        | 5.91        | 50.27        |
| "  | "                | Rosedale Abbey Vicarage .....   | 4.13        | 1.19        | 3.60        | 4.43        | 2.34        | .83         | 6.01        | 3.14        | 1.60        | 2.14        | 1.22        | 3.91        | 34.54        |
| "  | "                | Whitby (Mulgrave Castle) .....  | 3.14        | .94         | 2.87        | 3.35        | 1.15        | .77         | 6.90        | 2.01        | 1.48        | 2.20        | .68         | 2.77        | 28.26        |
| "  | "                | Middlesbrough (Albert Park) ..  | 3.12        | .78         | 2.40        | 2.37        | 2.06        | .69         | 5.05        | 1.65        | 1.36        | 2.19        | .65         | 3.24        | 25.56        |
| X.   | Durham .....     | Weardale W.W. (Waskerley) ..    | 3.08        | 2.23        | 3.56        | 4.16        | 3.54        | 1.02        | 4.64        | 2.13        | 2.00        | 2.23        | 1.82        | 4.00        | 34.41        |
| "  | "                | Sunderland (W. Hendon Ho.)      | 2.78        | .94         | 3.27        | 2.67        | 3.36        | .63         | 4.67        | 1.84        | 1.25        | 2.39        | .70         | 3.26        | 27.76        |
| "  | Northumberland   | Corbridge (Howden Dene) .....   | 3.00        | 1.55        | 2.81        | 2.68        | 4.21        | 1.58        | 2.60        | 1.20        | 1.61        | 2.25        | 1.15        | 3.62        | 28.26        |
| "  | "                | Bellingham (High Green Manor)   | 3.83        | 2.53        | 3.00        | 3.05        | 4.35        | 1.24        | 2.97        | 1.90        | 1.40        | 2.13        | 2.45        | 5.32        | 34.17        |
| "  | "                | Morpeth (Bothalhaugh Lawn)      | 2.53        | 1.34        | 2.77        | 3.00        | 3.62        | .84         | 3.83        | 1.90        | 1.50        | 1.89        | 1.07        | 4.40        | 28.69        |
| "  | "                | Rothbury (Cragside) .....       | 2.73        | 1.73        | 2.75        | 3.42        | 3.56        | .99         | 3.45        | 2.69        | 1.41        | 2.31        | 1.09        | 6.16        | 32.29        |
| "  | "                | Howick Hall Gardens .....       | 1.94        | 1.17        | 3.29        | 2.16        | 3.69        | .74         | 3.75        | 2.50        | 2.87        | 2.57        | .87         | 4.53        | 30.08        |
| "  | "                | Ilderton (Lilburn Tower) .....  | 2.09        | 1.89        | 3.45        | 2.29        | 3.16        | .51         | 4.10        | 3.18        | 1.93        | 2.01        | 1.14        | 4.08        | 29.83        |
| "  | Cumberland ..... | Penrith (Benson House) .....    | 4.45        | 3.33        | 5.37        | 3.00        | 4.27        | 1.23        | 3.97        | 2.84        | 2.37        | 2.02        | 2.78        | 2.69        | 38.32        |
| "  | "                | Mealsgate (Quarry Hill) .....   | 4.53        | 3.54        | 5.03        | 2.52        | 4.19        | 1.29        | 5.04        | 2.48        | 1.52        | 1.52        | 2.51        | 2.96        | 37.13        |
| "  | "                | Geltsdale .....                 | 4.40        | 2.20        | 4.32        | 3.08        | 5.14        | 1.22        | 5.05        | 2.42        | 2.57        | 1.00        | 2.33        | 3.34        | 37.07        |
| "  | "                | Carlisle (Scaleby Hall) .....   | 4.39        | 3.22        | 3.39        | 2.50        | 3.92        | 1.52        | 3.53        | 2.41        | 1.97        | .77         | 1.79        | 3.44        | 32.85        |
| "  | "                | Whitehaven (Irish Street) ..... | 5.95        | 3.02        | 5.93        | 4.40        | 4.61        | 2.48        | 5.26        | 4.94        | 3.09        | 2.14        | 3.60        | 4.06        | 49.48        |
| "  | "                | Silecroft (Old Chappels) .....  | 7.24        | 4.18        | 7.57        | 6.75        | 5.32        | 3.30        | 6.82        | 3.90        | 5.35        | 2.20        | 5.54        | 4.87        | 63.13        |
| "  | Westmorland ..   | Kirkby Stephen (Redman Ho.)     | 6.43        | 3.50        | 6.10        | 4.77        | 6.18        | 1.02        | 4.87        | 2.59        | 2.33        | 1.63        | 3.86        | 4.73        | 48.01        |
| "  | "                | Mickleden .....                 | 21.40       | 18.60       | 19.25       | 11.50       | 16.80       | 4.62        | 14.42       | 7.55        | 7.68        | 7.06        | 9.08        | 13.72       | 151.68       |
| "  | "                | Kendal (Crosthwaite Vic.) ..... | 7.48        | 5.75        | 7.02        | 6.00        | 6.83        | 2.37        | 7.33        | 3.02        | 3.98        | 2.02        | 3.62        | 6.26        | 61.68        |
| <b>England. Mean of 159 Stations .....</b> |                  |                                 | <b>3.94</b> | <b>1.57</b> | <b>2.91</b> | <b>4.19</b> | <b>2.61</b> | <b>2.13</b> | <b>4.81</b> | <b>1.74</b> | <b>2.41</b> | <b>2.35</b> | <b>1.58</b> | <b>3.38</b> | <b>33.62</b> |

**TABLE II.—(con.). MONMOUTH, WALES, AND THE ISLANDS.**

| Div. | County.    | Station.                      | Jan.  | Feb. | March | April | May  | June | July  | Aug. | Sept. | Oct. | Nov. | Dec.  | Total. |
|------|------------|-------------------------------|-------|------|-------|-------|------|------|-------|------|-------|------|------|-------|--------|
| XI.  | Monmouth   | Newport W.W. (Newchurch)      | 5.97  | 1.36 | 4.74  | 6.04  | 3.53 | 4.43 | 6.20  | 1.82 | 3.93  | 3.42 | 2.49 | 5.92  | 49.85  |
| "    | "          | Abergavenny (The Chain)       | 5.71  | .82  | 5.80  | 7.41  | 2.58 | 3.82 | 4.91  | 1.02 | 2.31  | 5.46 | 2.18 | 5.70  | 47.72  |
| "    | Glamorgan  | Swansea (Victoria Park)       | 7.48  | 1.82 | 5.52  | 7.53  | 4.00 | 3.29 | 7.90  | 2.16 | 4.90  | 4.91 | 3.38 | 4.92  | 57.81  |
| "    | "          | Bridgend (Highmead)           | 6.23  | 1.85 | 5.32  | 5.05  | 3.42 | 3.88 | 6.11  | 2.89 | 3.78  | 3.32 | 2.59 | 4.86  | 49.30  |
| "    | "          | Treherbert (Tyn-y-waun)       | 16.97 | 6.23 | 10.34 | 14.00 | 6.76 | 5.14 | 11.37 | 5.52 | 7.71  | 7.36 | 6.30 | 14.75 | 112.45 |
| "    | "          | Cardiff (Roath Park)          | 6.40  | 1.59 | 4.18  | 5.70  | 4.20 | 3.25 | 5.40  | 2.86 | 3.03  | 3.76 | 2.77 | 5.37  | 48.51  |
| "    | Carmarthen | Carmarthen (The Friary)       | 6.46  | 2.36 | 7.05  | 7.24  | 4.25 | 3.13 | 7.33  | 3.56 | 5.83  | 6.19 | 2.64 | 5.31  | 61.35  |
| "    | "          | Llandovery (Nautyalwygaen)    | 7.45  | 3.16 | 6.76  | 7.63  | 4.06 | 5.45 | 5.97  | 2.19 | 5.55  | 4.61 | 2.47 | 5.56  | 60.86  |
| "    | Pembroke   | Fishguard (Goodwick Station)  | 5.54  | 1.56 | 6.44  | 5.42  | 3.44 | 2.09 | 5.50  | 3.59 | 4.37  | 6.05 | 3.66 | 4.22  | 51.88  |
| "    | "          | St. David's                   | 4.83  | 1.40 | 5.86  | 4.48  | 3.13 | 2.28 | 5.13  | 3.34 | 3.79  | 7.35 | 3.18 | 4.01  | 48.78  |
| "    | "          | Tenby                         | 5.72  | 1.61 | 5.19  | 5.94  | 3.56 | 2.80 | 6.08  | 2.75 | 5.20  | 4.95 | 2.99 | 4.83  | 51.62  |
| "    | "          | Haverfordwest (Portfield)     | 5.57  | 1.99 | 6.84  | 5.48  | 3.79 | 2.55 | 6.79  | 4.56 | 3.74  | 6.86 | 4.45 | 5.01  | 57.63  |
| "    | Cardigan   | Aberystwyth (North Parade)    | 3.53  | 2.25 | 6.51  | 5.38  | 4.25 | 3.32 | 5.82  | 2.42 | 5.36  | 3.04 | 1.78 | 2.62  | 46.28  |
| "    | "          | Cardigan (County School)      | 5.35  | 1.80 | 7.26  | 5.77  | 2.70 | 2.85 | 4.60  | 2.41 | 3.90  | 5.90 | 2.90 | 3.22  | 48.66  |
| "    | "          | Lampeter (Falcondale)         | 6.67  | 3.22 | 8.47  | 8.69  | 6.11 | 4.30 | 6.04  | 3.60 | 5.21  | 5.20 | 2.84 | 4.09  | 64.44  |
| "    | "          | Birmingham W.W. (Claerddu)    | 8.45  | 6.45 | 8.20  | 10.05 | 6.80 | 3.75 | 5.01  | 4.26 | 7.50  | 6.50 | 3.17 | 5.06  | 75.20  |
| "    | Brecon     | Swansea W.W. (Cray Res.) No.1 | 11.79 | 3.39 | 9.64  | 12.26 | 5.32 | 5.24 | 9.36  | 3.52 | 5.48  | 7.90 | 4.16 | 11.28 | 89.34  |
| "    | "          | Glasbury (Gwernyfed)          | 2.88  | 1.41 | 3.71  | 5.12  | 1.50 | 2.83 | 3.22  | .93  | 3.34  | 3.23 | .98  | 2.96  | 32.11  |
| "    | Radnor     | Llandrindod Wells (Kimberley) | 5.58  | 3.15 | 5.87  | 6.53  | 4.00 | 3.55 | 4.71  | 1.53 | 2.76  | 4.29 | 1.81 | 4.71  | 48.49  |
| "    | Montgomery | Newtown (Penarth Weir)        | 4.66  | 2.86 | 5.08  | 5.19  | 2.23 | 2.41 | 5.15  | .98  | 2.08  | 3.67 | 1.47 | 2.91  | 38.69  |
| "    | "          | Carno (Council School)        | 7.03  | 4.94 | 5.91  | 8.19  | 3.97 | 3.16 | 7.13  | 1.95 | 2.87  | 3.65 | 3.43 | 3.93  | 56.16  |
| "    | "          | Landysilio Rectory            | 3.72  | 2.63 | 4.01  | 3.87  | 3.45 | 2.26 | 4.81  | 1.44 | 2.49  | 2.98 | 1.24 | 2.87  | 35.77  |
| "    | "          | Lake Vyrnwy (Bk Cynon Isaf)   | 9.48  | 6.72 | 5.65  | 7.75  | 5.60 | 3.55 | 8.26  | 2.65 | 2.44  | 4.31 | 4.82 | 7.28  | 68.51  |
| "    | Flint      | Mostyn Vicarage               | 2.90  | 3.15 | 4.94  | 4.72  | 2.96 | 3.03 | 6.32  | 2.82 | 3.18  | 1.69 | .63  | 1.99  | 38.33  |
| "    | Denbigh    | Wrexham (Broughton Colliery)  | 3.91  | 2.51 | 4.89  | 5.90  | 4.76 | 3.77 | 6.07  | 1.81 | 2.64  | 3.64 | .90  | 3.61  | 44.41  |
| "    | "          | Pentre Voelas (Nant Heilyn)   | 7.74  | 6.53 | 6.89  | 6.83  | 4.53 | 3.19 | 8.68  | 3.70 | 4.27  | 2.45 | 2.82 | 4.63  | 62.26  |
| "    | Merioneth  | Dolgelly (Bryntirion)         | 6.64  | 5.28 | 9.11  | 9.08  | 8.15 | 5.02 | 10.46 | 3.17 | 7.55  | 5.05 | 2.82 | 4.79  | 77.12  |
| "    | "          | Trawsfynydd Camp              | 10.07 | 8.65 | 7.31  | 9.96  | 8.83 | 4.62 | 10.33 | 4.89 | 5.82  | 4.41 | 4.60 | 7.37  | 86.86  |
| "    | Carnarvon  | Llandudno                     | 3.68  | 2.56 | 5.27  | 3.28  | 2.41 | 3.14 | 5.33  | 3.39 | 4.10  | 1.64 | 1.27 | 2.21  | 38.28  |
| "    | "          | Bethesda (Penrhyn Quarries)   | 8.07  | 5.30 | 11.22 | 8.35  | 6.40 | 4.00 | 13.53 | 5.18 | 5.05  | 5.11 | 4.46 | 4.62  | 81.29  |

TABLE II.—(con.). MONMOUTH, WALES, AND THE ISLANDS.

| Div.   | County.       | Station.                      | Jan.        | Feb.        | March       | April       | May         | June        | July        | Aug.        | Sept.       | Oct.        | Nov.        | Dec.        | Total.       |
|--|---------------|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| XI.  | Carnarvon     | Abersoch                      | 4.97        | 3.32        | 8.12        | 5.16        | 4.72        | 3.07        | 7.59        | 3.87        | 4.13        | 5.10        | 2.64        | 3.97        | 56.66        |
| "  | "             | Snowdon (Teyrn)               | 24.90       | 13.40       | 14.78       | 19.55       | 16.20       | 6.66        | 23.11       | 13.83       | 11.06       | 5.13        | 10.75       | 13.15       | 172.52       |
| "  | Anglesey      | Holyhead (Salt Island)        | 4.59        | 2.16        | 7.07        | 3.57        | 4.29        | 3.14        | 7.77        | 3.63        | 2.46        | 3.81        | 2.32        | 3.67        | 48.48        |
| "  | "             | Llanerchymedd (Llwydrth Esgb) | 3.92        | 3.03        | 5.82        | 4.28        | 3.74        | 3.53        | 7.53        | 3.99        | 3.25        | 3.84        | 1.76        | 3.53        | 48.22        |
| <b>Wales. Mean of 34 Stations</b>              |               |                               | <b>6.91</b> | <b>3.54</b> | <b>6.76</b> | <b>7.10</b> | <b>4.70</b> | <b>3.60</b> | <b>7.34</b> | <b>3.30</b> | <b>4.44</b> | <b>4.61</b> | <b>3.02</b> | <b>5.15</b> | <b>60.47</b> |
| <b>England and Wales. Mean of 193 Stations</b> |               |                               | <b>4.46</b> | <b>1.92</b> | <b>3.59</b> | <b>4.70</b> | <b>2.98</b> | <b>2.39</b> | <b>5.26</b> | <b>2.01</b> | <b>2.77</b> | <b>2.75</b> | <b>1.83</b> | <b>3.69</b> | <b>38.35</b> |
| <b>ISLANDS.</b>                                |               |                               |             |             |             |             |             |             |             |             |             |             |             |             |              |
| XI.  | Isle of Man   | Douglas (Borough Cemetery)    | 4.67        | 2.18        | 4.18        | 4.28        | 3.54        | 3.52        | 4.74        | 4.33        | 3.56        | 3.93        | 3.21        | 4.99        | 47.13        |
| "  | "             | Kirkmichael (Bishop's Court)  | 4.46        | 1.41        | 3.90        | 3.28        | 3.09        | 2.41        | 4.15        | 2.63        | 2.64        | 6.41        | 2.35        | 2.90        | 39.63        |
| "  | Jersey        | St. Saviour's (Clifton)       | 4.18        | .43         | 2.02        | 3.13        | 2.09        | 2.48        | 2.93        | .93         | 3.31        | 1.49        | 1.56        | 3.88        | 28.43        |
| "  | Guernsey      | St. Martin's (Les Blanchés)   | 4.15        | .97         | 2.83        | 2.89        | 1.88        | 2.35        | 3.30        | 1.14        | 4.85        | 2.23        | 1.86        | 3.93        | 32.38        |
| "  | Sark          | Pointe Robert                 | 4.13        | .79         | 2.62        | 3.06        | 1.97        | 2.52        | 3.25        | 1.01        | 3.63        | 2.32        | 1.89        | 4.01        | 31.20        |
| "  | Alderney      | St. Anne's Rectory            | 3.92        | 1.24        | 2.39        | 2.68        | 1.22        | 2.89        | 3.38        | 1.03        | 5.85        | 2.42        | 1.31        | 5.35        | 33.68        |
| <b>SCOTLAND.</b>                               |               |                               |             |             |             |             |             |             |             |             |             |             |             |             |              |
| XII.   | Wigtown       | Stoneykirk (Ardwell House)    | 5.02        | 2.58        | 3.49        | 2.95        | 4.32        | 3.60        | 3.91        | 3.40        | 3.43        | 5.12        | 3.02        | 4.68        | 45.52        |
| "  | "             | Whithorn (Cutroach)           | 4.54        | 1.97        | 3.27        | 3.37        | 3.78        | 2.64        | 3.85        | 2.92        | 3.52        | 3.51        | 2.98        | 3.32        | 39.67        |
| "  | "             | Kirkcowan (Craighlaw)         | 6.26        | 4.30        | 4.57        | 3.66        | 4.37        | 3.87        | 3.15        | 3.02        | 3.38        | 5.40        | 2.93        | 5.04        | 49.95        |
| "  | Kirkcudbright | Dalry (Glendaroch)            | 7.85        | 6.84        | 7.21        | 3.55        | 6.71        | 2.22        | 4.35        | 4.02        | 3.21        | 4.38        | 4.47        | 6.63        | 61.44        |
| "  | "             | Dalbeattie (Kirkennan)        | 6.28        | 3.79        | 5.44        | 3.16        | 6.08        | 2.02        | 4.23        | 3.79        | 3.26        | 2.21        | 3.14        | 5.55        | 48.95        |
| "  | "             | Dalton (Kirkwood)             | 5.80        | 4.51        | 4.92        | 4.18        | 5.68        | 3.15        | 9.29        | 5.21        | 2.90        | 2.62        | 3.27        | 5.03        | 56.56        |
| "  | "             | Moffat (Craigiellands)        | 8.52        | 6.50        | 6.06        | 3.95        | 6.52        | 1.56        | 5.07        | 5.43        | 2.30        | 2.00        | 4.05        | 5.67        | 57.63        |
| "  | "             | Langholm (Ewes)               | 7.06        | 5.45        | 6.41        | 3.71        | 6.26        | 2.08        | 6.60        | 3.33        | 2.80        | 2.54        | 4.20        | 6.41        | 56.85        |
| "  | "             | Jedburgh (Jedneuk)            | 2.60        | 2.06        | 2.96        | 1.71        | 2.82        | 1.12        | 3.17        | 4.02        | 1.35        | 1.42        | 1.35        | 2.28        | 26.86        |
| XIII.  | Selkirk       | Ettrick Manse                 | 8.50        | 7.38        | 8.10        | 4.54        | 7.68        | 1.91        | 5.21        | 5.40        | 2.45        | 2.24        | 4.33        | 7.03        | 64.77        |
| "  | "             | Selkirk (The Hangingshaw)     | 3.60        | 2.47        | 4.52        | 2.68        | 3.46        | 1.05        | 2.49        | 3.14        | 1.79        | 2.37        | 2.62        | 4.83        | 35.02        |
| "  | Peebles       | Stobo Castle                  | 5.08        | 4.45        | 5.20        | 2.54        | 4.25        | 1.49        | 4.60        | 5.79        | 2.14        | 2.25        | 3.23        | 3.67        | 44.69        |
| "  | Berwick       | Earnsclough Burn (Blythe Rig) | 3.30        | 2.27        | 3.79        | 3.40        | 3.06        | .57         | 3.30        | 4.90        | 1.98        | 2.82        | 2.25        | 4.94        | 36.58        |
| "  | "             | Marchmont House               | 2.57        | 2.26        | 3.71        | 2.22        | 3.14        | .72         | 4.07        | 3.56        | 1.81        | 2.27        | 1.88        | 4.48        | 32.69        |
| "  | Haddington    | North Berwick Reservoir       | 1.78        | 1.67        | 1.88        | 1.48        | 2.86        | .69         | 2.34        | 4.34        | 1.20        | .90         | 1.86        | 2.38        | 23.38        |

**TABLE II.—(con.). SCOTLAND—(con.).**

| Div.  | County.    | Station.                      | Jan.  | Feb.  | March. | April. | May.  | June. | July. | Aug. | Sept. | Oct. | Nov.  | Dec.  | Total. |
|-------|------------|-------------------------------|-------|-------|--------|--------|-------|-------|-------|------|-------|------|-------|-------|--------|
| XIII. | Midlothian | Balerno (Cockburn Hill)       | 4.43  | 4.09  | 3.66   | 3.25   | 3.22  | 1.52  | 3.25  | 8.89 | 1.63  | .95  | 3.06  | 3.93  | 41.88  |
| "     | "          | Edinburgh (Royal Observatory) | 2.46  | 2.40  | 2.18   | 1.58   | 2.23  | 1.04  | 3.86  | 5.33 | 1.47  | .87  | 1.90  | 2.19  | 27.51  |
| XIV.  | Lanark     | Airdrie (Hillend Reservoir)   | 4.43  | 4.62  | 3.51   | 2.07   | 4.20  | 1.22  | 4.25  | 5.76 | 2.35  | 1.41 | 3.45  | 3.02  | 40.29  |
| "     | "          | Leadhills                     | 13.90 | 7.41  | 10.13  | 4.45   | 6.72  | 2.63  | 6.12  | 6.22 | 5.58  | 3.00 | 4.38  | 7.38  | 77.92  |
| "     | "          | Strathaven (East Overton Ho.) | 7.07  | 6.88  | 4.62   | 2.76   | 6.09  | 1.19  | 3.87  | 6.53 | 2.18  | 1.38 | 3.77  | 3.59  | 49.93  |
| "     | Ayr        | Dalry (Blair)                 | 5.86  | 4.97  | 3.76   | 1.58   | 5.18  | 3.35  | 4.26  | 6.45 | 3.12  | 2.09 | 4.21  | 4.34  | 49.17  |
| "     | "          | Maybole (Culzean Gardens)     | 4.64  | 4.33  | 4.63   | 2.04   | 4.63  | 2.19  | 4.52  | 3.90 | 2.56  | 3.18 | 2.42  | 3.06  | 42.10  |
| "     | "          | Colmonell (Knockdolian)       | 5.92  | 3.70  | 4.23   | 2.67   | 3.33  | 3.09  | 3.80  | 4.33 | 2.41  | 6.08 | 3.61  | 5.45  | 48.62  |
| "     | "          | New Cumnock (Ayr Sanator'm)   | 9.09  | 7.14  | 8.15   | 4.08   | 8.32  | 1.78  | 3.88  | 3.75 | 2.63  | 3.81 | 4.07  | 5.23  | 61.93  |
| "     | "          | Houston Manse                 | 6.58  | 9.01  | 5.13   | 1.97   | 6.04  | 1.93  | 3.82  | 5.37 | 2.68  | 2.03 | 6.08  | 5.04  | 55.68  |
| XV.   | Dumbarton  | Cardross (Kilmahew)           | 5.83  | 6.14  | 4.56   | 1.30   | 3.85  | 1.55  | 2.86  | 4.88 | 2.69  | 2.59 | 4.70  | 4.66  | 45.61  |
| "     | Stirling   | Falkirk (Westbank Garden)     | 5.24  | 5.67  | 3.13   | 1.56   | 3.56  | 1.03  | 3.40  | 5.81 | 1.99  | 1.14 | 3.41  | 3.63  | 39.57  |
| "     | "          | Kippen (Arngomery)            | 6.75  | 7.58  | 4.84   | 2.05   | 5.57  | .98   | 4.25  | 7.12 | 3.46  | 2.93 | 3.46  | 4.06  | 53.05  |
| "     | Bute       | Rothesay (Ardencraig)         | 6.64  | 6.21  | 5.53   | 3.32   | 6.97  | 3.36  | 4.46  | 5.34 | 4.09  | 4.29 | 7.37  | 5.16  | 62.74  |
| "     | "          | Arran (Dougarie Lodge)        | 5.34  | 5.36  | 3.97   | 2.56   | 5.50  | 2.37  | 3.45  | 5.80 | 4.17  | 4.47 | 4.18  | 4.35  | 51.52  |
| "     | Argyll     | Morvern (Kingairloch)         | 15.19 | 16.31 | 10.31  | 3.72   | 10.67 | 5.55  | 8.18  | 6.32 | 9.66  | 3.49 | 12.12 | 9.06  | 110.58 |
| "     | "          | Connel Ferry (Ach-na-cloich)  | 8.52  | 10.25 | 6.88   | 2.66   | 5.97  | 2.52  | 3.49  | 5.32 | 3.50  | 4.43 | 8.46  | 6.36  | 68.36  |
| "     | "          | Glen Etive                    | 18.28 | 20.06 | 13.85  | 2.98   | 11.43 | 3.52  | 5.74  | 6.98 | 5.37  | 3.77 | 12.71 | 9.67  | 114.36 |
| "     | "          | Loch Awe (Ford)               | 9.46  | 8.82  | 7.88   | 3.87   | 6.78  | 2.33  | 5.29  | 6.65 | 5.75  | 4.92 | 9.37  | 6.88  | 78.00  |
| "     | "          | Dalmally (Manse of Glenorchy) | 14.49 | 13.11 | 9.44   | 3.11   | 9.33  | 4.19  | 5.51  | 7.02 | 4.51  | 4.31 | 11.24 | 6.68  | 92.94  |
| "     | "          | Muasdale (Killean Manse)      | 4.15  | 3.40  | 2.75   | 2.50   | 4.14  | 2.48  | 3.68  | 4.91 | 4.25  | 5.47 | 4.23  | 3.39  | 45.35  |
| "     | "          | Skipness Castle               | 6.11  | 5.20  | 4.15   | 2.79   | 5.90  | 2.86  | 2.89  | 6.09 | 4.29  | 4.93 | 6.92  | 4.10  | 56.23  |
| "     | "          | Ardershaig (Canal Office)     | 9.00  | 9.85  | 5.74   | 2.83   | 5.43  | 3.09  | 3.66  | 6.53 | 4.88  | 5.16 | 8.28  | 5.52  | 69.97  |
| "     | "          | Lochgailhead (Nuthill)        | 11.00 | 11.37 | 10.28  | 6.68   | 4.97  | 4.44  | 6.80  | 5.00 | 4.95  | 3.38 | 11.79 | 6.83  | 87.49  |
| "     | "          | Islay (Ardbeg)                | 4.90  | 4.33  | 2.69   | 2.36   | 5.88  | 2.10  | 4.21  | 5.22 | 4.63  | 3.54 | 5.39  | 3.72  | 48.97  |
| "     | "          | Jura (Ardfn)                  | 6.24  | 5.30  | 4.02   | 2.79   | 6.94  | 2.34  | 4.38  | 5.20 | 4.54  | 4.92 | 7.28  | 6.46  | 60.41  |
| "     | "          | Mull (Iona Manse)             | 5.93  | 5.05  | 4.99   | 1.60   | 4.42  | 1.16  | 3.63  | 3.85 | 4.53  | 4.15 | 5.42  | 5.06  | 49.79  |
| "     | "          | Mull (Glencannel)             | 17.11 | 22.50 | 14.75  | 5.39   | 13.43 | 4.65  | 9.50  | 7.08 | 9.64  | 8.32 | 15.25 | 10.48 | 138.10 |
| "     | "          | Mull (Quinish)                | 7.33  | 6.58  | 7.08   | 2.02   | 6.22  | 1.88  | 5.47  | 3.45 | 6.04  | 4.73 | 7.26  | 5.81  | 63.87  |
| XVI.  | Fife       | Kirkcaldy                     | 2.98  | 2.77  | 2.02   | 1.33   | 2.78  | 1.18  | 2.54  | 4.64 | 1.44  | 1.10 | 2.33  | 2.85  | 27.96  |
| "     | "          | Colinsburgh (Balcarres)       | 2.41  | 1.42  | 1.97   | 1.77   | 2.92  | .81   | 2.87  | 4.36 | 1.64  | 2.12 | 2.38  | 3.82  | 28.49  |
| "     | "          | Cupar (Rankeillour)           | 1.34  | 2.16  | 2.22   | 1.69   | 2.05  | .76   | 1.21  | 4.05 | 1.64  | 2.18 | 2.32  | 4.03  | 25.65  |

**TABLE II.—(con.) SCOTLAND—(con.)**

| Div.   | County.    | Station.                      | Jan.  | Feb.  | March | April | May   | June | July | Aug. | Sept. | Oct. | Nov.  | Dec. | Total. |
|--------|------------|-------------------------------|-------|-------|-------|-------|-------|------|------|------|-------|------|-------|------|--------|
| XVI.   | Perth      | Glengyle                      | 14.80 | 17.35 | 9.75  | 4.00  | 11.10 | 3.55 | 5.60 | 6.50 | 5.15  | 6.10 | 11.60 | 9.65 | 105.15 |
| "      | "          | Glendevon (Tormaukin)         | 6.32  | 7.30  | 4.20  | 3.35  | 5.28  | 1.32 | 3.47 | 5.94 | 2.91  | 1.57 | 6.20  | 6.37 | 54.23  |
| "      | "          | Lochearnhead (Edenchip)       | 11.43 | 13.14 | 8.10  | 3.44  | 8.87  | 2.01 | 4.76 | 5.83 | 2.79  | 5.64 | 8.80  | 7.21 | 82.02  |
| "      | "          | Crieff (Strathearn Hydro.)    | 4.56  | 4.40  | 3.56  | 1.77  | 3.90  | 1.83 | 3.46 | 5.38 | 1.43  | 2.37 | 5.00  | 5.68 | 43.34  |
| "      | "          | Aberfeldy (Dall Avon)         | 6.17  | 4.51  | 4.35  | 1.79  | 3.62  | .82  | 2.99 | 3.77 | 1.46  | 4.20 | 4.52  | 5.29 | 43.49  |
| "      | "          | Loch Rannoch (Dall)           | 8.84  | 8.08  | 5.43  | 2.03  | 4.25  | 1.62 | 3.17 | 3.62 | 1.89  | 4.63 | 6.34  | 5.22 | 55.12  |
| "      | "          | Blair Atholl                  | 5.00  | 4.02  | 3.25  | 1.46  | 2.16  | 1.60 | 2.28 | 2.85 | 2.25  | 3.97 | 4.10  | 4.02 | 36.96  |
| "      | "          | Coupar Angus (Public School)  | 3.12  | 1.95  | 2.98  | 1.60  | 2.99  | .87  | 1.83 | 3.21 | 1.47  | 3.13 | 2.35  | 3.92 | 29.42  |
| "      | "          | Arbroath (Muirheads Res.)     | 2.55  | 2.07  | 1.95  | 2.38  | 3.39  | .98  | 2.90 | 3.37 | 1.60  | 2.84 | 2.72  | 4.12 | 30.87  |
| "      | "          | Glen Prosen (Balnaboth Gdns.) | 4.39  | 4.14  | 5.30  | 2.75  | 5.13  | 1.75 | 2.59 | 3.78 | 2.06  | 8.63 | 4.95  | 7.57 | 53.04  |
| XVII.  | Kincardine | Fettercairn (Police Station)  | 2.61  | 1.73  | 2.61  | 2.67  | 3.72  | .95  | 2.94 | 4.04 | 1.89  | 4.60 | 2.60  | 4.30 | 34.66  |
| "      | "          | Crathes (Pinewood)            | 2.61  | 1.18  | 2.63  | 2.05  | 4.05  | .32  | 3.53 | 2.74 | 3.20  | 4.64 | 2.00  | 4.36 | 33.31  |
| "      | Aberdeen   | Glen Tanner (Aitnach)         | 5.09  | 1.79  | 4.84  | 4.30  | 3.05  | .62  | 3.56 | 3.25 | 2.44  | 9.10 | 4.21  | 6.25 | 48.50  |
| "      | "          | Braemar (Derry Lodge)         | 4.24  | 3.32  | 3.85  | 2.30  | 2.63  | .74  | 2.91 | 2.69 | 2.03  | 2.62 | 3.49  | 4.49 | 35.31  |
| "      | "          | Aberdeen (Cranford House)     | 1.73  | 1.23  | 2.65  | 2.28  | 3.60  | .62  | 3.81 | 2.06 | 2.24  | 2.85 | 1.75  | 4.09 | 28.95  |
| "      | "          | Strathdon (Estates Office)    | 3.20  | 2.41  | 2.83  | 3.80  | 1.56  | .82  | 2.57 | 3.00 | 2.94  | 5.60 | 1.47  | 2.03 | 32.23  |
| "      | "          | New Deer School               | 1.47  | .88   | 2.75  | 2.61  | 4.59  | .81  | 2.35 | 2.00 | 2.85  | 2.43 | 1.44  | 2.66 | 26.84  |
| "      | "          | Peterhead (Forehill Works)    | 1.82  | 1.38  | 3.62  | 2.21  | 3.71  | .48  | 3.54 | 2.92 | 2.67  | 1.43 | 1.90  | 3.41 | 29.09  |
| "      | "          | Huntly (Cruchie)              | .97   | 1.17  | 2.48  | 3.01  | 2.64  | .66  | 3.19 | 3.91 | 3.48  | 2.95 | 1.29  | 1.93 | 27.68  |
| "      | Banff      | Banff (Duff House)            | 1.37  | 1.35  | 2.45  | 1.99  | 2.25  | 1.15 | 1.98 | 2.28 | 2.85  | 1.69 | 1.51  | 1.50 | 22.37  |
| "      | Moray      | Gordon Castle                 | 1.55  | 1.74  | 2.86  | 1.80  | 2.14  | 1.33 | 2.70 | 2.30 | 3.10  | 1.42 | 1.80  | 1.32 | 24.06  |
| "      | "          | Grantown-on-Spey              | 2.47  | 2.28  | 2.32  | 2.48  | 1.58  | .51  | 3.33 | 2.92 | 2.56  | 1.30 | 2.11  | 1.63 | 25.49  |
| "      | "          | Knockando (Schoolhouse)       | 1.88  | 1.52  | 2.88  | 2.42  | 1.66  | .77  | 2.76 | 3.06 | 3.80  | 1.25 | 1.18  | 1.37 | 24.55  |
| "      | "          | Nairn (Achareidh)             | 2.76  | 2.36  | 1.92  | 1.72  | 1.42  | .61  | 2.47 | 2.43 | 3.07  | .52  | 1.47  | 1.04 | 21.79  |
| XVIII. | Inverness  | Cluny Castle                  | 6.65  | 6.87  | 4.32  | 2.79  | 2.73  | 1.25 | 2.88 | 2.80 | 2.69  | 1.96 | 4.22  | 3.50 | 42.66  |
| "      | "          | Alvie Gardens                 | 5.13  | 5.84  | 3.35  | 2.39  | 1.94  | .47  | 3.25 | 3.24 | 2.14  | 1.04 | 3.81  | 2.20 | 34.80  |
| "      | "          | Loch Quoich (Glenquoich)      | 21.04 | 21.43 | 15.76 | 4.45  | 11.55 | 4.35 | 8.02 | 4.77 | 6.78  | 3.50 | 14.00 | 8.92 | 124.57 |
| "      | "          | Invergarry Gardens            | 13.37 | 8.67  | 6.77  | 2.20  | 3.72  | 1.25 | 3.47 | 3.35 | 2.36  | 1.80 | 6.06  | 3.49 | 56.51  |
| "      | "          | Arisaig House                 | 8.44  | 7.58  | 8.47  | 2.66  | 5.31  | 3.77 | 6.03 | 4.35 | 4.94  | 2.26 | 7.92  | 5.05 | 66.78  |
| "      | "          | Glenleven (Corrour Station)   | 15.10 | 10.80 | 8.50  | 3.25  | 4.55  | 2.00 | 4.93 | 6.06 | 4.85  | 3.56 | 11.05 | 8.18 | 82.83  |
| "      | "          | Fort William (Atholl Bank)    | 15.86 | 19.11 | 9.84  | 3.15  | 6.70  | 3.28 | 6.20 | 5.75 | 4.76  | 3.03 | 9.65  | 6.57 | 93.90  |

**TABLE II.—(con.). SCOTLAND—(con.).**

| Div.  | County.                                   | Station.                      | Jan.        | Feb.        | March       | April       | May         | June        | July        | Aug.        | Sept.       | Oct.        | Nov.        | Dec.        | Total.       |
|-------|---|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| XVIII | Inverness                                 | Hyskier.....                  | 6.13        | 5.84        | 4.59        | 1.49        | 4.10        | 1.70        | 3.27        | 2.98        | 5.13        | 5.43        | 6.63        | 4.78        | 52.07        |
|       | "   | Skye (Kyleakin, Dunringell) . | 13.45       | 13.70       | 9.74        | 2.79        | 5.28        | 3.02        | 5.22        | 3.29        | 3.77        | 1.41        | 8.82        | 7.25        | 77.74        |
|       | "   | Skye (Portree) .....          | 9.65        | 8.36        | 7.05        | 3.23        | 5.49        | 2.52        | 5.15        | 4.15        | 5.51        | 2.41        | 8.29        | 5.65        | 67.46        |
|       | "   | Skye (Dunvegan) .....         | 10.70       | 11.06       | 7.91        | 2.85        | 7.49        | 4.41        | 6.24        | 3.58        | 6.96        | 5.29        | 9.48        | 6.27        | 82.24        |
|       | "   | Barra (Castle Bay).....       | 4.13        | 3.19        | 3.09        | .98         | 3.76        | 1.33        | 2.44        | 1.97        | 3.01        | 3.78        | 3.53        | 3.72        | 34.93        |
|       | "   | Strathpeffer .....            | 5.62        | 4.37        | 3.40        | 1.85        | 2.18        | .77         | 3.13        | 1.41        | 2.91        | 1.21        | 3.82        | 2.98        | 33.65        |
|       | "   | Alness (Ardross Castle) ..... | 5.81        | 4.91        | 2.80        | 2.80        | 2.92        | .54         | 2.29        | 2.36        | 2.68        | 1.86        | 4.56        | 3.31        | 36.84        |
|       | "   | Inverpolly (Ullapool) .....   | 5.00        | 6.68        | 4.30        | 1.57        | 3.25        | 1.11        | .99         | 2.03        | 3.97        | .56         | 5.57        | 3.95        | 38.98        |
|       | "   | Loch Torridon (Bendamp) ...   | 14.81       | 14.07       | 10.05       | 3.47        | 6.38        | 3.51        | 5.12        | 3.76        | 6.44        | 1.72        | 11.02       | 7.47        | 87.82        |
|       | "   | Poolewe (Inverewe Gardens) .. | 10.98       | 9.07        | 6.38        | 1.77        | 4.35        | 1.95        | 4.56        | 4.48        | 5.20        | .87         | 9.49        | 5.67        | 64.77        |
|       | "   | Glen Shiel (Shiel House)..... | 10.35       | 16.40       | 9.83        | 4.98        | 7.20        | 2.54        | 6.80        | 4.44        | 5.12        | 2.85        | 8.64        | 7.86        | 87.01        |
|       | "   | Glencarron Lodge .....        | 12.27       | 15.00       | 10.31       | 5.16        | 5.72        | 2.34        | 6.12        | 3.77        | 4.90        | 1.32        | 8.41        | 7.01        | 82.33        |
|       | "   | Stornoway .....               | 8.77        | 7.44        | 5.01        | 2.96        | 5.21        | 1.51        | 2.77        | 2.25        | 4.26        | 2.66        | 8.53        | 4.99        | 56.36        |
|       | "   | Dunrobin Castle .....         | 2.81        | 2.25        | 3.21        | 2.31        | 2.97        | .65         | 1.49        | .82         | 3.01        | .90         | 2.34        | 2.42        | 25.18        |
|       | "   | Tongue Manse.....             | 3.66        | 4.68        | 2.41        | 3.10        | 2.15        | 1.32        | 2.16        | 2.43        | 3.85        | .78         | 4.08        | 2.24        | 32.86        |
| XIX.  | "   | Melvich Schoolhouse .....     | 4.80        | 3.10        | 2.40        | 2.34        | 2.97        | 1.25        | 1.79        | 1.14        | 3.24        | .55         | 3.93        | 1.58        | 29.09        |
|       | "   | Loch More (Achfary) .....     | 11.57       | 12.08       | 6.85        | 7.44        | 5.56        | 2.21        | 4.81        | 3.89        | 6.70        | 1.40        | 10.61       | 3.77        | 76.89        |
|       | "   | Wick.....                     | 3.34        | 2.37        | 3.17        | 2.01        | 2.87        | .78         | 1.88        | .95         | 2.44        | .61         | 3.33        | 2.39        | 26.14        |
|       | "   | Thurso (Buckies) .....        | 4.28        | 2.69        | 3.05        | 2.98        | 3.58        | 1.31        | 2.76        | 1.76        | 4.42        | 1.13        | 3.52        | 2.82        | 34.30        |
|       | "   | Pomona (Kirkwall) .....       | 5.07        | 4.67        | 4.00        | 1.84        | 3.59        | .51         | 2.66        | 1.23        | 3.15        | 1.11        | 5.86        | 4.00        | 37.69        |
|       | "   | Fetlar (The Manse) .....      | 4.81        | 3.36        | 4.02        | 2.16        | 3.41        | .61         | 2.84        | .87         | 1.86        | .57         | 4.69        | 2.69        | 31.89        |
|       | <b>Scotland. Mean of 99 Stations.....</b> |                               | <b>6.68</b> | <b>6.25</b> | <b>5.20</b> | <b>2.78</b> | <b>4.77</b> | <b>1.85</b> | <b>3.93</b> | <b>4.12</b> | <b>3.45</b> | <b>2.97</b> | <b>5.20</b> | <b>4.73</b> | <b>51.93</b> |
| XX.   | Cork.....                                 | Garnish Island.....           | 10.99       | 4.41        | 6.00        | 6.86        | 7.01        | 4.77        | 4.89        | 2.70        | 5.53        | 5.80        | 8.79        | 6.64        | 74.39        |
|       | "   | Castletownshend (Seafield) .. | 7.20        | 2.59        | 5.13        | 5.58        | 5.26        | 3.24        | 4.11        | 2.75        | 3.28        | 4.09        | 6.19        | 5.66        | 55.08        |
|       | "   | Clonakilty (Shannon Vale Ho.) | 6.16        | 2.03        | 4.28        | 5.69        | 4.37        | 3.70        | 4.63        | 2.35        | 3.16        | 3.74        | 4.55        | 5.11        | 49.77        |
|       | "   | Dunmanway (The Rectory)...    | 10.40       | 3.73        | 5.58        | 9.50        | 6.75        | 3.84        | 5.25        | 3.33        | 4.08        | 6.04        | 7.40        | 8.45        | 74.35        |
|       | "   | Ballinageary (Inchibeg) ..... | 14.18       | 6.97        | 6.07        | 12.92       | 8.37        | 4.35        | 6.17        | 3.41        | 5.49        | 7.03        | 11.77       | 9.72        | 96.45        |
|       | "   | "                             | "           | "           | "           | "           | "           | "           | "           | "           | "           | "           | "           | "           | "            |

**IRELAND.**

**TABLE II.—(con.). IRELAND—(con.).**

| Div. | County.        | Station. | Jan.  | Feb. | March | April | May  | June | July | Aug. | Sept. | Oct.  | Nov. | Dec. | Total. |
|------|----------------|----------|-------|------|-------|-------|------|------|------|------|-------|-------|------|------|--------|
| XX.  | Cork.....      | 7        | 4.57  | 1.36 | 4.07  | 4.57  | 3.36 | 2.14 | 5.03 | 2.49 | 2.91  | 6.50  | 3.13 | 4.47 | 44.60  |
| "    | "              | 7        | 6.06  | 1.88 | 3.83  | 5.69  | 4.11 | 2.80 | 3.91 | 2.29 | 2.65  | 4.00  | 4.54 | 5.21 | 46.97  |
| "    | "              | 9        | 6.47  | 2.14 | 4.50  | 6.59  | 3.20 | 2.76 | 4.03 | 2.53 | 3.35  | 4.83  | 4.98 | 5.01 | 50.39  |
| "    | "              | 9        | 6.00  | 2.22 | 4.48  | 5.37  | 3.63 | 2.63 | 5.36 | 2.21 | 3.42  | 3.96  | 4.24 | 3.26 | 45.78  |
| "    | "              | 9        | 6.32  | 2.49 | 3.78  | 5.41  | 4.06 | 1.91 | 5.45 | 2.75 | 3.19  | 4.47  | 5.16 | 4.55 | 50.04  |
| "    | "              | 3        | 8.49  | 3.01 | 5.96  | 6.46  | 4.04 | 2.08 | 3.79 | 2.01 | 4.32  | 4.98  | 6.07 | 5.84 | 56.55  |
| "    | "              | 4        | 7.18  | 2.82 | 6.24  | 5.07  | 4.99 | 4.37 | 5.09 | 2.24 | 5.42  | 6.83  | 7.17 | 5.62 | 63.04  |
| "    | "              | 4        | 12.45 | 4.92 | 6.50  | 8.13  | 7.80 | 4.09 | 5.66 | 2.26 | 4.80  | 6.48  | 7.81 | 6.24 | 77.14  |
| "    | "              | 6        | 8.87  | 3.16 | 6.89  | 6.15  | 5.12 | 3.96 | 4.49 | 2.20 | 3.84  | 10.21 | 8.09 | 6.51 | 69.49  |
| "    | Waterford..... | 1        | 6.59  | 2.33 | 4.51  | 5.36  | 3.90 | 1.31 | 5.36 | 3.44 | 1.37  | 5.49  | 4.01 | 4.84 | 48.51  |
| "    | "              | 3        | 4.83  | 1.86 | 4.27  | 4.48  | 3.42 | 1.75 | 5.20 | 2.69 | 1.79  | 7.99  | 3.01 | 4.42 | 45.71  |
| "    | "              | 3        | 5.84  | 2.21 | 4.33  | 4.53  | 3.47 | 1.47 | 5.65 | 3.72 | .85   | 8.38  | 2.45 | 4.65 | 47.55  |
| "    | Tipperary..... | 3        | 6.47  | 3.71 | 3.99  | 4.96  | 4.52 | 3.12 | 6.06 | 2.36 | 2.12  | 6.73  | 4.96 | 4.07 | 53.07  |
| "    | "              | 3        | 6.75  | 2.15 | 4.40  | 4.84  | 3.22 | 2.14 | 6.09 | 2.90 | 1.69  | 7.38  | 2.88 | 3.77 | 48.21  |
| "    | "              | 3        | 5.14  | 2.28 | 3.66  | 4.08  | 2.85 | 1.72 | 4.58 | 2.08 | 1.81  | 3.84  | 2.79 | 3.70 | 38.53  |
| "    | "              | 4        | 5.12  | 2.19 | 3.42  | 4.28  | 2.89 | 1.08 | 3.88 | 2.09 | 1.21  | 5.94  | 2.60 | 4.00 | 38.70  |
| "    | "              | 4        | 4.36  | 2.30 | 3.14  | 3.39  | 3.57 | 1.66 | 3.91 | 2.28 | 1.46  | 4.83  | 2.53 | 2.98 | 36.41  |
| "    | Limerick.....  | 2        | 5.85  | 2.22 | 3.77  | 4.79  | 3.76 | 1.88 | 4.45 | 1.74 | 3.98  | 3.85  | 4.61 | 3.09 | 43.99  |
| "    | "              | 2        | 6.09  | 3.30 | 3.64  | 3.75  | 4.79 | 2.22 | 4.74 | 1.96 | 3.22  | 2.85  | 4.47 | 2.63 | 43.66  |
| "    | "              | 2        | 5.43  | 2.90 | 3.25  | 3.27  | 3.86 | 2.56 | 4.87 | 1.88 | 2.67  | 2.57  | 2.89 | 2.82 | 38.97  |
| "    | "              | 2        | 4.99  | 1.65 | 3.06  | 2.98  | 2.77 | 2.07 | 3.53 | 1.50 | 4.16  | 2.89  | 5.68 | 2.64 | 37.92  |
| "    | Clare.....     | 2        | 8.68  | 6.14 | 6.17  | 7.18  | 6.69 | 2.54 | 6.95 | 3.82 | 6.69  | 3.69  | 6.24 | 3.96 | 68.75  |
| "    | "              | 2        | 6.88  | 4.52 | 4.72  | 4.14  | 5.02 | 2.68 | 5.44 | 2.71 | 4.51  | 3.39  | 5.85 | 3.68 | 53.54  |
| "    | "              | 2        | 6.37  | 3.24 | 4.30  | 3.55  | 5.48 | 3.03 | 4.24 | 1.82 | 3.02  | 2.50  | 4.96 | 3.10 | 45.61  |
| "    | "              | 3        | 5.87  | 4.29 | 3.21  | 3.41  | 4.40 | 1.85 | 5.19 | 2.19 | 2.56  | 3.48  | 4.87 | 2.98 | 44.30  |
| XXI. | Wexford.....   | 2        | 4.54  | 2.08 | 4.72  | 4.53  | 3.01 | 1.60 | 5.04 | 3.31 | 2.12  | 7.08  | 3.06 | 4.52 | 45.61  |
| "    | "              | 3        | 6.50  | 2.49 | 4.72  | 5.24  | 5.14 | 1.88 | 7.48 | 3.68 | 1.07  | 6.90  | 4.39 | 5.20 | 54.69  |
| "    | "              | 4        | 4.71  | 1.61 | 4.29  | 3.34  | 3.13 | 1.54 | 5.56 | 2.97 | 1.06  | 8.33  | 3.61 | 4.48 | 44.63  |
| "    | Kilkenny.....  | 2        | 4.51  | 1.77 | 3.46  | 3.51  | 2.94 | .90  | 4.53 | 2.26 | 1.29  | 6.43  | 2.35 | 2.94 | 36.89  |
| "    | Wicklow.....   | 3        | 6.00  | 2.44 | 4.49  | 4.14  | 3.92 | 2.09 | 6.14 | 2.54 | 1.60  | 8.10  | 4.41 | 4.87 | 50.74  |
| "    | Carlow.....    | 2        | 4.63  | 1.98 | 3.39  | 3.83  | 2.87 | 1.60 | 5.63 | 2.67 | 1.16  | 6.10  | 3.19 | 3.70 | 40.75  |
| "    | "              | 3        | 5.62  | 2.73 | 4.08  | 4.19  | 2.81 | 2.12 | 6.70 | 3.52 | 1.54  | 6.69  | 3.90 | 3.76 | 47.66  |
| "    | Queen's County | 2        | 5.49  | 2.68 | 3.85  | 3.67  | 2.91 | 1.37 | 5.23 | 2.61 | 1.06  | 5.64  | 3.20 | 3.19 | 40.90  |

**TABLE II.—(con.). IRELAND—(con.).**

| Div.  | County.         | Station.                       | Jan.  | Feb. | March | April | May   | June | July | Aug. | Sept. | Oct. | Nov.  | Dec.  | Total. |
|-------|-----------------|--------------------------------|-------|------|-------|-------|-------|------|------|------|-------|------|-------|-------|--------|
| XXI.  | Queen's County. | Mountmellick .....             | 5.64  | 3.00 | 3.79  | 3.42  | 3.20  | 1.61 | 5.45 | 2.51 | 1.36  | 4.69 | 3.65  | 3.71  | 42.03  |
| "     | King's County . | Birr Castle .....              | 4.45  | 3.67 | 2.83  | 2.98  | 2.60  | 1.20 | 4.35 | 2.13 | 1.68  | 5.78 | 3.00  | 2.61  | 37.31  |
| "     | "               | Ballycumber (Moorock Lodge) .. | 4.84  | 3.14 | 2.64  | 2.42  | 3.18  | .69  | 4.22 | 2.45 | 1.30  | 3.22 | 2.57  | 2.45  | 33.12  |
| "     | Kildare .....   | Straffan House .....           | 4.22  | 2.66 | 2.91  | 3.04  | 3.22  | 1.34 | 7.12 | 2.60 | 2.02  | 4.52 | 2.36  | 2.30  | 38.31  |
| "     | Dublin .....    | Glen-na-Smoel(RathminesW.W.)   | 6.22  | 3.35 | 4.37  | 5.24  | 3.34  | 2.36 | 7.72 | 2.34 | 1.69  | 5.98 | 3.41  | 2.91  | 48.93  |
| "     | "               | Howth Castle .....             | 4.35  | 1.41 | 2.33  | 2.64  | 2.75  | 2.00 | 5.26 | 1.99 | 1.17  | 4.93 | 1.62  | 2.13  | 32.58  |
| "     | "               | Balbriggan (Ardgillan).....    | 4.49  | 1.80 | 2.31  | 2.94  | 3.04  | 2.44 | 5.27 | 1.98 | 1.40  | 6.05 | 2.43  | 2.89  | 37.04  |
| "     | Meath .....     | Dunboyne (Stirling, Clonee) .. | 4.63  | 2.26 | 2.58  | 2.63  | 2.96  | 1.62 | 5.91 | 1.89 | 1.47  | 4.47 | 2.68  | 2.59  | 35.69  |
| "     | "               | Drogheda (Mullacrogan) .....   | 3.76  | 1.68 | 2.30  | 2.64  | 2.63  | 1.97 | 3.97 | 2.24 | 1.56  | 4.48 | 2.41  | 3.30  | 32.94  |
| "     | "               | Summerhill House .....         | 4.60  | 2.41 | 2.69  | 2.79  | 3.31  | 2.20 | 5.60 | 2.53 | 1.48  | 3.71 | 2.39  | 2.98  | 36.69  |
| "     | "               | Athboy (Frankville).....       | 5.80  | 2.82 | 3.13  | 3.43  | 3.74  | 2.05 | 4.59 | 2.37 | 2.47  | 4.57 | 3.78  | 3.42  | 42.17  |
| "     | Westmeath ....  | Mullingar (Belvedere) .....    | 5.69  | 2.74 | 2.23  | 2.38  | 3.23  | 2.06 | 4.37 | 1.92 | 2.01  | 3.38 | 2.82  | 2.84  | 35.67  |
| "     | "               | Castlepollard (Pakenham Hall)  | 5.41  | 2.76 | 3.20  | 3.00  | 3.62  | 1.84 | 4.27 | 2.09 | 2.55  | 3.09 | 3.46  | 3.46  | 38.75  |
| "     | Louth .....     | Greenore .....                 | 4.05  | 1.76 | 2.57  | 2.45  | 2.70  | 2.13 | 3.45 | 2.50 | 2.39  | 5.13 | 2.41  | 4.08  | 35.62  |
| "     | Longford.....   | Ballymahon (New Castle) ....   | 4.94  | 2.48 | 3.16  | 2.75  | 2.88  | 1.86 | 4.01 | 1.88 | 2.31  | 3.11 | 2.74  | 3.09  | 35.21  |
| "     | "               | Castle Forbes Gardens .....    | 4.90  | 2.57 | 3.19  | 2.89  | 3.71  | 1.93 | 3.71 | 2.31 | 2.47  | 2.85 | 5.36  | 3.28  | 39.17  |
| XXII. | Galway .....    | Ballynahinch Castle .....      | 7.37  | 4.78 | 4.95  | 4.61  | 4.98  | 3.44 | 5.46 | 4.14 | 7.69  | 5.25 | 7.90  | 6.31  | 66.88  |
| "     | "               | Tuam (Gardenfield) .....       | 5.93  | 5.73 | 3.37  | 3.97  | 4.31  | 3.32 | 2.68 | 2.51 | 2.85  | 2.42 | 5.70  | 3.90  | 46.69  |
| "     | "               | Woodlawn .....                 | 5.60  | 3.04 | 3.38  | 3.49  | 4.02  | 1.68 | 5.54 | 2.51 | 2.77  | 3.11 | 3.69  | 2.68  | 41.51  |
| "     | Roscommon ...   | Strokestown (Castlenode) ....  | 4.98  | 2.72 | 2.78  | 3.30  | 3.59  | 1.41 | 3.38 | 2.14 | 2.42  | 3.06 | 3.22  | 3.61  | 36.61  |
| "     | Mayo .....      | Crossmolina (Enniscroe) .....  | 7.93  | 5.92 | 5.77  | 4.11  | 5.40  | 4.73 | 4.31 | 2.86 | 5.92  | 3.52 | 7.84  | 5.76  | 64.07  |
| "     | "               | Blacksod Point .....           | 8.03  | 4.53 | 5.74  | 2.19  | 5.00  | 3.54 | 3.55 | 2.17 | 6.64  | 4.40 | 6.78  | 5.39  | 57.96  |
| "     | "               | Westport House .....           | 7.99  | 3.96 | 5.19  | 4.03  | 6.86  | 2.20 | 3.88 | 3.95 | 3.93  | 3.35 | 5.30  | 4.33  | 54.97  |
| "     | "               | Mallarany .....                | 9.69  | 6.34 | 6.34  | 4.28  | 8.20  | 3.02 | 5.80 | 4.49 | 5.62  | 5.25 | 10.48 | 6.73  | 76.24  |
| "     | "               | Aasleagh House .....           | 13.86 | 7.72 | 8.83  | 8.84  | 10.45 | 5.02 | 8.29 | 5.69 | 12.00 | 8.45 | 11.32 | 10.19 | 110.66 |
| "     | "               | Cong (The Glebe).....          | 7.53  | 5.84 | 4.78  | 3.38  | 5.87  | 1.67 | 4.18 | 2.32 | 3.79  | 2.76 | 6.73  | 5.18  | 54.03  |
| "     | "               | Ballinrobe (Cranmore) .....    | 7.69  | 4.68 | 4.74  | 3.68  | 4.81  | 2.95 | 3.70 | 2.32 | 3.53  | 2.61 | 6.39  | 6.04  | 53.14  |
| "     | "               | Collooney (Markree Obs.) ....  | 6.30  | 3.17 | 4.68  | 3.55  | 3.99  | 2.36 | 4.85 | 2.85 | 3.15  | 2.64 | 5.08  | 3.76  | 46.38  |
| "     | Sligo .....     | Sligo (Ard-na-veagh) .....     | 5.67  | 2.56 | 4.07  | 3.10  | 3.88  | 1.97 | 4.74 | 2.26 | 3.66  | 2.07 | 5.03  | 3.56  | 42.57  |
| "     | "               | Lough Allen Sluices .....      | 4.22  | 2.55 | 2.07  | 2.09  | 3.04  | .52  | 2.50 | .96  | 1.93  | 1.50 | 3.53  | 3.66  | 28.57  |
| XXIII | Cavan .....     | Belturbet (Cloverhill) .....   | 4.29  | 2.19 | 3.12  | 2.64  | 3.07  | 2.07 | 3.71 | 1.67 | 2.13  | 3.60 | 2.78  | 3.28  | 34.55  |
| "     | "               | Bailieborough .....            | 5.21  | 3.48 | 3.36  | 3.64  | 3.85  | 2.66 | 4.50 | 2.15 | 3.14  | 4.31 | 3.45  | 4.00  | 43.75  |



TABLE II.—(con.). IRELAND—(con.).

| Div.                                | County.     | Station.                      | Jan. | Feb. | March | April | May  | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
|-------------------------------------|-------------|-------------------------------|------|------|-------|-------|------|------|------|------|-------|------|------|------|--------|
| XXIII                               | Fermanagh   | Enniskillen (Portora)         | 5.82 | 2.95 | 3.13  | 3.99  | 3.27 | 1.62 | 5.84 | 1.77 | 2.98  | 2.90 | 4.67 | 4.24 | 43.18  |
| "                                   | "           | Irinestown (Northern Bank)    | 2.62 | 2.06 | 4.18  | 4.43  | 2.35 | 2.68 | 3.73 | 3.53 | 3.76  | 2.88 | 3.72 | 4.38 | 40.32  |
| "                                   | "           | Belleek (Heronshaw)           | 4.90 | 3.33 | 3.67  | 3.27  | 4.19 | 2.25 | 5.03 | 2.89 | 3.97  | 2.25 | 5.47 | 3.42 | 44.64  |
| "                                   | Monaghan    | Monaghan (Workhouse)          | 3.48 | 2.69 | 2.51  | 2.35  | 2.58 | 1.50 | 3.31 | 1.59 | 1.80  | 3.11 | 2.40 | 3.44 | 30.76  |
| "                                   | Armagh      | Lurgan (Belle Vue)            | 3.35 | 1.93 | 2.87  | 2.22  | 2.14 | 2.44 | 2.56 | 2.16 | 2.09  | 5.61 | 2.60 | 3.40 | 33.37  |
| "                                   | "           | Armagh Observatory            | 4.11 | 2.47 | 3.20  | 2.89  | 2.97 | 2.37 | 2.99 | 1.92 | 2.27  | 5.36 | 2.71 | 3.04 | 36.30  |
| "                                   | Down        | Newry (Bridge Street House)   | 5.39 | 2.74 | 3.19  | 3.35  | 3.54 | 3.02 | 3.88 | 2.08 | 2.44  | 7.12 | 3.68 | 4.72 | 45.15  |
| "                                   | "           | Seaford                       | 4.59 | 2.15 | 3.34  | 2.91  | 3.24 | 3.35 | 3.59 | 1.99 | 2.81  | 7.47 | 4.21 | 6.08 | 45.73  |
| "                                   | "           | Donaghadee (Orlock Hill)      | 3.95 | 1.93 | 2.68  | 2.45  | 3.01 | 2.91 | 3.26 | 2.31 | 3.12  | 6.36 | 2.04 | 4.71 | 39.23  |
| "                                   | Antrim      | Belfast (Queen's University)  | 5.53 | 2.19 | 3.19  | 3.00  | 3.94 | 2.54 | 3.02 | 1.96 | 2.88  | 7.08 | 2.13 | 5.43 | 42.89  |
| "                                   | "           | Larne (Sallagh Springs)       | 5.18 | 3.87 | 4.24  | 3.78  | 5.45 | 4.77 | 4.61 | 3.52 | 3.46  | 8.64 | 4.99 | 7.44 | 59.95  |
| "                                   | "           | Glenarm Castle                | 5.69 | 4.99 | 4.70  | 3.66  | 4.94 | 3.34 | 3.91 | 1.93 | 3.40  | 7.14 | 3.82 | 6.01 | 53.53  |
| "                                   | "           | Antrim (Ardnaveigh)           | 3.66 | 1.92 | 2.53  | 2.41  | 2.85 | 2.50 | 3.20 | 2.58 | 2.84  | 5.45 | 2.94 | 3.45 | 36.33  |
| "                                   | "           | Ballymena (Harryville)        | 5.09 | 2.74 | 3.75  | 2.77  | 3.88 | 2.37 | 4.95 | 2.86 | 4.11  | 5.79 | 3.84 | 4.79 | 46.94  |
| "                                   | Londonderry | Londonderry (Dunruadh)        | 4.61 | 2.83 | 3.66  | 2.52  | 4.07 | 1.81 | 3.19 | 2.96 | 3.57  | 3.84 | 3.96 | 3.19 | 40.21  |
| "                                   | "           | Garvagh (Woodbank House)      | 6.18 | 2.60 | 3.40  | 3.93  | 4.58 | 2.03 | 4.40 | 2.51 | 3.84  | 7.14 | 5.78 | 5.59 | 51.98  |
| "                                   | "           | Glenedra Lodge                | 7.66 | 4.42 | 4.91  | 4.71  | 5.75 | 2.74 | 4.61 | 3.58 | 3.93  | 8.04 | 6.73 | 6.13 | 63.21  |
| "                                   | "           | Limavady (Drenagh)            | 4.25 | 2.10 | 3.15  | 2.23  | 3.54 | 1.45 | 2.84 | 2.70 | 3.40  | 4.41 | 3.15 | 2.73 | 35.95  |
| "                                   | "           | Dungannon (Killyman Rectry)   | 4.32 | 2.51 | 3.15  | 3.12  | 3.61 | 2.44 | 3.31 | 2.00 | 2.05  | 4.84 | 2.86 | 3.90 | 38.11  |
| "                                   | "           | Omagh (Edenfel)               | 5.53 | 3.64 | 3.74  | 4.39  | 4.29 | 2.13 | 4.81 | 3.55 | 2.72  | 4.69 | 5.21 | 3.86 | 48.56  |
| "                                   | "           | Sion Mills (Sion House)       | 6.24 | 2.92 | 3.68  | 2.94  | 3.88 | 1.94 | 3.53 | 2.73 | 2.85  | 3.71 | 5.08 | 3.37 | 42.87  |
| "                                   | Donegal     | Malin Head                    | 3.23 | 1.97 | 2.34  | 1.64  | 3.38 | 1.36 | 2.50 | 4.18 | 2.71  | 2.13 | 3.54 | 1.77 | 30.75  |
| "                                   | "           | Letterkenny (District Asylum) | 6.34 | 3.66 | 4.39  | 3.35  | 4.72 | 2.25 | 3.20 | 2.86 | 3.38  | 3.03 | 6.23 | 4.27 | 47.68  |
| "                                   | "           | Milford (The Manse)           | 5.23 | 3.10 | 4.13  | 3.28  | 4.37 | 1.67 | 2.58 | 2.72 | 3.99  | 2.90 | 4.69 | 3.51 | 42.17  |
| "                                   | "           | Dunfanaghy (St. Helens)       | 6.16 | 4.40 | 4.21  | 2.93  | 4.20 | 1.95 | 2.84 | 4.32 | 3.61  | 2.06 | 6.11 | 3.41 | 46.20  |
| "                                   | "           | Narín (Kiltoorish)            | 5.50 | 3.50 | 4.57  | 3.38  | 4.96 | 1.88 | 3.47 | 3.35 | 4.19  | 2.42 | 6.62 | 4.26 | 48.70  |
| "                                   | "           | Killybegs (Rockmount)         | 8.14 | 5.06 | 6.13  | 4.80  | 7.35 | 3.37 | 5.67 | 3.40 | 6.50  | 1.66 | 7.67 | 4.53 | 64.28  |
| Ireland. Mean of 97 Stations        |             |                               | 5.98 | 3.08 | 3.99  | 4.03  | 4.14 | 2.36 | 4.59 | 2.61 | 3.08  | 4.81 | 4.56 | 4.27 | 47.50  |
| British Isles. Mean of 395 Stations |             |                               | 5.39 | 3.28 | 4.09  | 4.03  | 3.70 | 2.26 | 4.73 | 2.68 | 3.03  | 3.32 | 3.35 | 4.10 | 43.96  |

TABLE III.—*Monthly Rainfall in 1920 ; the Average, 1881–1915, being taken as 100.*

| Station.                         | County.               | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------------------------------|-----------------------|------|------|-------|-------|-----|------|------|------|-------|------|------|------|
| St. Pancras, Camden Square.....  | London.....           | 139  | 35   | 78    | 199   | 39  | 79   | 171  | 79   | 180   | 41   | 47   | 99   |
| Tenterden, View Tower.....       | Kent.....             | 148  | 30   | 53    | 153   | 61  | 77   | 167  | 69   | 155   | 40   | 46   | 104  |
| Margate, Cliftonville.....       | ".....                | 100  | 27   | 36    | 147   | 49  | 50   | 133  | 77   | 207   | 20   | 20   | 100  |
| Edenbridge, Falconhurst.....     | ".....                | 138  | 32   | 67    | 163   | 60  | 63   | 207  | 59   | 174   | 44   | 45   | 88   |
| Compton, Compton House.....      | Sussex.....           | 150  | 34   | 104   | 201   | 74  | 87   | 230  | 47   | 80    | 82   | 54   | 99   |
| Brighton, Old Steyne.....        | ".....                | 176  | 31   | 99    | 154   | 68  | 101  | 220  | 61   | 109   | 46   | 65   | 102  |
| Ventnor, Royal National Hospital | Hampshire.....        | 173  | 25   | 108   | 157   | 64  | 144  | 246  | 67   | 105   | 69   | 56   | 95   |
| Fordingbridge, Oaklands.....     | ".....                | 153  | 36   | 105   | 170   | 67  | 148  | 275  | 62   | 63    | 76   | 61   | 82   |
| Sherborne St. John.....          | ".....                | 140  | 33   | 80    | 191   | 72  | 81   | 242  | 64   | 65    | 72   | 63   | 75   |
| Royston, Therfield Rectory.....  | Hertfordshire.....    | 134  | 24   | 75    | 229   | 62  | 76   | 161  | 49   | 96    | 33   | 37   | 77   |
| High Wycombe.....                | Buckinghamshire.....  | 138  | 31   | 107   | 271   | 76  | 124  | 270  | 59   | 107   | 66   | 54   | 88   |
| Oxford, Magdalen College.....    | Oxfordshire.....      | 117  | 43   | 102   | 182   | 90  | 159  | 186  | 47   | 92    | 75   | 40   | 96   |
| Wellingborough, Swanspool.....   | Northamptonshire..... | 124  | 49   | 118   | 268   | 70  | 101  | 123  | 35   | 124   | 64   | 47   | 87   |
| March.....                       | Cambridgeshire.....   | 121  | 66   | 122   | 216   | 125 | 132  | 121  | 53   | 131   | 52   | 37   | 94   |
| Chelmsford, High Street.....     | Essex.....            | 158  | 30   | 67    | 261   | 176 | 51   | 152  | 88   | 214   | 34   | 21   | 107  |
| Hawkedon Rectory.....            | Suffolk.....          | 143  | 49   | 83    | 254   | 56  | 66   | 148  | 62   | 120   | 20   | 30   | 119  |
| Beccles, Geldeston.....          | Norfolk.....          | 109  | 46   | 52    | 205   | 38  | 89   | 117  | 80   | 105   | 13   | 26   | 136  |
| Worstead, Dilham.....            | ".....                | 100  | 66   | 63    | 196   | 98  | 87   | 132  | 101  | 129   | 26   | 28   | 107  |
| Swaffham.....                    | ".....                | 105  | 44   | 87    | 211   | 99  | 104  | 141  | 51   | 99    | 27   | 28   | 108  |
| Bishops Cannings.....            | Wiltshire.....        | 158  | 60   | 102   | 287   | 135 | 119  | 214  | 46   | 85    | 72   | 54   | 80   |
| Evershot, Melbury House.....     | Dorsetshire.....      | 162  | 29   | 108   | 229   | 84  | 86   | 233  | 62   | 60    | 64   | 60   | 91   |
| Ashburton, Druid House.....      | Devonshire.....       | 230  | 29   | 119   | 205   | 101 | 93   | 162  | 45   | 69    | 82   | 61   | 117  |
| Cullompton.....                  | ".....                | 164  | 28   | 152   | 211   | 85  | 117  | 195  | 44   | 80    | 88   | 70   | 75   |
| Barnstaple, N. Dev. Athenæum..   | ".....                | 148  | 50   | 138   | 216   | 110 | 108  | 160  | 55   | 150   | 113  | 59   | 72   |
| Penzance, Morrab Gardens.....    | Cornwall.....         | 162  | 23   | 110   | 169   | 79  | 94   | 188  | 52   | 113   | 128  | 35   | 87   |
| St. Austell, Trevarna.....       | ".....                | 169  | 26   | 133   | 189   | 105 | 113  | 163  | 36   | 120   | 135  | 54   | 86   |
| Altarnon Sanctuary.....          | ".....                | 153  | 29   | 117   | 178   | 79  | 100  | 184  | 81   | 97    | 128  | 77   | 67   |
| East Harptree, Sherborne Res.... | Somerset.....         | 188  | 68   | 114   | 234   | 113 | 147  | 244  | 41   | 57    | 74   | 61   | 86   |
| Cirencester, Dollarward House..  | Gloucester.....       | 181  | 54   | 144   | 294   | 100 | 136  | 191  | 44   | 88    | 79   | 52   | 124  |
| Kington, Gravel Hill.....        | Hereford.....         | 86   | 41   | 140   | 240   | 80  | 123  | 181  | 32   | 109   | 114  | 33   | 72   |
| Ledbury, Orchardleigh.....       | ".....                | 134  | 11   | 129   | 289   | 70  | 121  | 206  | 33   | 109   | 101  | 24   | 97   |
| Church Stretton, Wolstaston..... | Shropshire.....       | 183  | 109  | 173   | 285   | 110 | 107  | 257  | 30   | 100   | 92   | 34   | 96   |

TABLE III.—*Monthly Rainfall in 1920; the Average, 1881–1915, being taken as 100—(con.).*

| Station.                         | County.             | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------------------------------|---------------------|------|------|-------|-------|-----|------|------|------|-------|------|------|------|
| Market Drayton, Old Springs....  | Stafford.....       | 126  | 149  | 104   | 289   | 120 | 105  | 209  | 43   | 160   | 75   | 28   | 93   |
| Farnborough .....                | Warwick .....       | 149  | 47   | 123   | 315   | 132 | 116  | 184  | 43   | 98    | 63   | 42   | 84   |
| Edgbaston, Birmingham.....       | " .....             | 153  | 67   | 144   | 267   | 125 | 143  | 156  | 73   | 109   | 109  | 29   | 91   |
| Belvoir Castle.....              | Leicester .....     | 115  | 91   | 145   | 329   | 85  | 123  | 178  | 36   | 84    | 40   | 38   | 83   |
| Revesby .....                    | Lincoln .....       | 102  | 67   | 127   | 256   | 206 | 92   | 126  | 35   | 100   | 62   | 28   | 114  |
| Lincoln, Skellingthorpe Hall.... | " .....             | 106  | 129  | 196   | 309   | 146 | 92   | 114  | 35   | 119   | 57   | 45   | 105  |
| Mickleover Manor.....            | Derby .....         | 152  | 145  | 120   | 242   | 143 | 87   | 168  | 39   | 109   | 72   | 46   | 116  |
| Chelford, Astle Hall.....        | Cheshire .....      | 152  | 154  | 132   | 274   | 220 | 155  | 224  | 50   | 133   | 56   | 27   | 64   |
| Bury, Gin Hall .....             | Lancashire .....    | 123  | 144  | 117   | 226   | 241 | 111  | 213  | 65   | 83    | 35   | 50   | 82   |
| Stonyhurst College.....          | " .....             | 114  | 116  | 114   | 198   | 228 | 83   | 164  | 43   | 76    | 28   | 59   | 63   |
| Southport, Hesketh Park.....     | " .....             | 136  | 101  | 172   | 216   | 169 | 119  | 166  | 43   | 114   | 32   | 43   | 78   |
| Holker Hall.....                 | N. Lancashire ..... | 145  | 124  | 171   | 245   | 188 | 88   | 177  | 54   | 93    | 44   | 53   | 93   |
| Rotherham, Moorgate Grange....   | W. R. Yorks.....    | 135  | 127  | 100   | 246   | 107 | 125  | 167  | 31   | 75    | 63   | 43   | 102  |
| Bradford, Lister Park.....       | " .....             | 160  | 123  | 112   | 210   | 173 | 94   | 253  | 62   | 71    | 92   | 69   | 114  |
| York, Museum Gardens .....       | " .....             | 131  | 57   | 111   | 204   | 112 | 115  | 229  | 46   | 72    | 74   | 53   | 90   |
| Hull, Pearson Park.....          | " Yorks.....        | 126  | 91   | 96    | 255   | 150 | 62   | 184  | 43   | 93    | 50   | 29   | 112  |
| Leyburn, Bolton Hall.....        | N. R. Yorks.....    | 168  | 73   | 137   | 258   | 151 | 42   | 222  | 54   | 68    | 103  | 69   | 102  |
| Felixkirk, Mount St. John.....   | " .....             | 153  | 50   | 109   | 174   | 121 | 76   | 158  | 86   | 72    | 80   | 44   | 148  |
| Scarborough, Osgodby.....        | " .....             | 142  | 43   | 101   | 258   | 104 | 40   | 216  | 49   | 84    | 57   | 27   | 108  |
| Middlesbrough, Albert Park ..... | " .....             | 195  | 60   | 153   | 173   | 107 | 37   | 197  | 60   | 82    | 73   | 31   | 167  |
| Barnard Castle .....             | Durham .....        | 165  | 75   | 120   | 272   | 137 | 50   | 159  | 39   | 58    | 84   | 46   | 138  |
| Newcastle-on-Tyne, Town Moor..   | Northumberland ..   | 151  | 62   | 155   | 200   | 177 | 34   | 162  | 65   | 84    | 51   | 48   | 171  |
| Hallington, Fawcett.....         | " .....             | 143  | 81   | 116   | 180   | 176 | 54   | 134  | 76   | 74    | 58   | 70   | 165  |
| Rothbury, Cragside .....         | " .....             | 103  | 73   | 94    | 161   | 145 | 42   | 125  | 86   | 62    | 56   | 33   | 188  |
| Carlisle, Spital Cemetery.....   | Cumberland .....    | 176  | 121  | 135   | 115   | 160 | 89   | 138  | 64   | 75    | 31   | 71   | 92   |
| Borrowdale, Seathwaite .....     | " .....             | 143  | 123  | 148   | 148   | 163 | 101  | 117  | 72   | 99    | 16   | 56   | 66   |
| Appleby, Castle Bank.....        | Westmorland .....   | 151  | 80   | 218   | 151   | 244 | 48   | 153  | 54   | 83    | 31   | 102  | 94   |
| Abergavenny, Larchfield.....     | Monmouth .....      | 150  | 23   | 174   | 285   | 94  | 155  | 207  | 42   | 98    | 122  | 57   | 133  |
| Ystalyfera, Wern House.....      | Glamorgan .....     | 202  | 77   | 178   | 278   | 164 | 126  | 206  | 53   | 167   | 79   | 62   | 105  |
| Cardiff, Ely Pumping Station.... | " .....             | 163  | 54   | 137   | 196   | 154 | 129  | 190  | 63   | 98    | 76   | 69   | 101  |
| Carmarthen, The Friary.....      | Carmarthen .....    | 148  | 64   | 186   | 264   | 154 | 109  | 209  | 77   | 169   | 108  | 53   | 92   |
| Haverfordwest, Grammar School    | Pembroke .....      | 143  | 61   | 201   | 219   | 156 | 95   | 214  | 89   | 132   | 132  | 94   | 92   |

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| Station.                         | County.       | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------------------------------|---------------|------|------|-------|-------|-----|------|------|------|-------|------|------|------|
| Strata Florida, Hafod.....       | Cardigan      | 115  | 121  | 152   | 280   | 171 | 106  | 177  | 50   | 135   | 80   | 32   | 63   |
| Lake Vyrnwy, Bank Cynon Isaf..   | Montgomery    | 159  | 151  | 123   | 248   | 176 | 111  | 239  | 52   | 68    | 74   | 85   | 103  |
| Northop, Soughton Hall.....      | Flint         | 131  | 125  | 190   | 251   | 138 | 125  | 225  | 67   | 122   | 69   | 19   | 74   |
| Dolgelly, Bryntirion.....        | Merioneth     | 117  | 119  | 185   | 249   | 246 | 146  | 249  | 56   | 180   | 84   | 46   | 70   |
| Llandudno .....                  | Carnarvon     | 143  | 123  | 243   | 181   | 127 | 155  | 223  | 112  | 180   | 46   | 41   | 71   |
| Llandwrog, Glynllivon Park.....  | "             | 159  | 93   | 241   | 217   | 159 | 178  | 297  | 106  | 142   | 93   | 50   | 80   |
| Holyhead, Salt Island.....       | Anglesey      | 158  | 89   | 270   | 172   | 219 | 146  | 298  | 114  | 92    | 95   | 56   | 88   |
| Douglas, Borough Cemetery.....   | Isle of Man   | 139  | 68   | 141   | 175   | 142 | 145  | 155  | 114  | 109   | 87   | 68   | 101  |
| Stoneykirk, Ardwell House.....   | Wigtown       | 170  | 98   | 134   | 140   | 172 | 148  | 135  | 91   | 123   | 141  | 76   | 114  |
| Dalry, Glendaroch .....          | Kirkcudbright | 141  | 135  | 160   | 116   | 213 | 80   | 121  | 84   | 87    | 83   | 75   | 93   |
| Auchencarn, Torr House.....      | "             | 165  | 105  | 158   | 144   | 206 | 90   | 140  | 81   | 100   | 51   | 83   | 91   |
| Drumlanrig Castle .....          | Dumfries      | 191  | 127  | 152   | 115   | 197 | 82   | 111  | 92   | 139   | 62   | 79   | 90   |
| Hawick, Branxholme.....          | Roxburgh      | 159  | 127  | 153   | 117   | 168 | 57   | 145  | 102  | 64    | 59   | 66   | 92   |
| Galashiels, Abbotsford Road...   | Selkirk       | 131  | 129  | 172   | 124   | 159 | 59   | 111  | 114  | 85    | 89   | 81   | 142  |
| Marchmont House .....            | Berwick       | 114  | 109  | 140   | 110   | 127 | 31   | 133  | 108  | 75    | 59   | 63   | 159  |
| North Berwick Reservoir .....    | Haddington    | 103  | 107  | 100   | 106   | 144 | 42   | 91   | 137  | 57    | 30   | 83   | 111  |
| Airdrie, Hillend Reservoir ..... | Lanark        | 134  | 169  | 123   | 105   | 169 | 50   | 130  | 146  | 77    | 39   | 92   | 77   |
| North Craig Reservoir .....      | Ayr           | 148  | 169  | 147   | 63    | 190 | 137  | 97   | 126  | 82    | 33   | 98   | 77   |
| Girvan, Pinmore.....             | "             | 150  | 98   | 138   | 103   | 134 | 95   | 103  | 101  | 78    | 115  | 79   | 82   |
| Loch Thom .....                  | Renfrew       | 139  | 170  | 146   | 82    | 237 | 83   | 122  | 113  | 91    | 74   | 121  | 84   |
| Lochgilphhead, Pottaloch .....   | Argyll        | 153  | 194  | 151   | 105   | 176 | 80   | 93   | 113  | 116   | 102  | 135  | 83   |
| Skipness Castle.....             | "             | 129  | 129  | 108   | 91    | 204 | 107  | 86   | 132  | 102   | 111  | 129  | 73   |
| Inveraray Castle.....            | "             | 188  | 217  | 193   | 112   | 350 | 65   | 88   | 74   | 90    | 60   | 84   | 56   |
| Islay, Eallabus .....            | "             | 142  | 123  | 103   | 113   | 244 | 92   | 130  | 102  | 113   | 131  | 125  | 75   |
| Mull, Quinish.....               | "             | 131  | 139  | 160   | 61    | 203 | 63   | 135  | 70   | 126   | 84   | 118  | 81   |
| Loch Leven Sluice.....           | Kinross       | 139  | 119  | 80    | 106   | 148 | 64   | 69   | 117  | 54    | 48   | 81   | 98   |
| Stronvar .....                   | Perth         | 139  | 218  | 142   | 63    | 196 | 56   | 116  | 87   | 67    | 79   | 119  | 74   |
| Grieff .....                     | "             | 113  | 125  | 111   | 81    | 157 | 69   | 117  | 128  | 50    | 60   | 115  | 127  |
| Blair Atholl.....                | "             | 153  | 146  | 126   | 70    | 108 | 82   | 90   | 86   | 97    | 130  | 118  | 107  |
| Dundee, Eastern Necropolis.....  | Forfar        | 135  | 96   | 102   | 104   | 152 | 61   | 77   | 125  | 134   | 85   | 98   | 124  |
| Montrose, Sunnyside Asylum....   | "             | 90   | 69   | 85    | 122   | 140 | 42   | 109  | 106  | 63    | 86   | 94   | 117  |
| Braemar, Bank.....               | Aberdeen      | 142  | 115  | 151   | 121   | 118 | 34   | 104  | 91   | 58    | 134  | 105  | 139  |

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| Station.                          | County.    | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|-----------------------------------|------------|------|------|-------|-------|-----|------|------|------|-------|------|------|------|
| Logie Coldstone, Loanhead.....    | Aberdeen   | 60   | 50   | 80    | 123   | 87  | 30   | 93   | 92   | 117   | 116  | 71   | 87   |
| Aberdeen, Cranford House.....     | "          | 73   | 53   | 103   | 111   | 145 | 34   | 129  | 72   | 96    | 89   | 54   | 118  |
| New Deer Schoolhouse.....         | "          | 63   | 41   | 106   | 131   | 211 | 41   | 77   | 68   | 113   | 64   | 43   | 78   |
| Gordon Castle.....                | Moray      | 77   | 91   | 123   | 103   | 101 | 65   | 84   | 73   | 124   | 45   | 63   | 49   |
| Grantown-on-Spey.....             | "          | 102  | 108  | 88    | 126   | 68  | 23   | 108  | 91   | 103   | 44   | 71   | 60   |
| Glenquoich.....                   | Inverness  | 153  | 207  | 162   | 69    | 211 | 89   | 125  | 58   | 78    | 35   | 115  | 61   |
| Inverness, High School.....       | "          | 133  | 157  | 94    | 92    | 77  | 29   | 84   | 155  | 119   | 24   | 91   | 32   |
| Arisaig House.....                | "          | 136  | 152  | 181   | 74    | 154 | 116  | 122  | 75   | 82    | 38   | 118  | 69   |
| Fort William, Atholl Bank.....    | "          | 165  | 257  | 149   | 71    | 174 | 94   | 128  | 94   | 76    | 43   | 120  | 65   |
| Alness, Ardross Castle.....       | Ross       | 153  | 149  | 86    | 116   | 112 | 24   | 76   | 80   | 92    | 48   | 113  | 80   |
| Loch Torridon, Bendamph.....      | "          | 157  | 178  | 134   | 66    | 140 | 86   | 94   | 57   | 93    | 21   | 119  | 73   |
| Glencarron Lodge.....             | "          | 122  | 204  | 136   | 86    | 127 | 57   | 114  | 54   | 65    | 16   | 89   | 67   |
| Stornoway.....                    | "          | 169  | 167  | 122   | 98    | 204 | 65   | 91   | 57   | 108   | 51   | 146  | 80   |
| Dunrobin Castle.....              | Sutherland | 102  | 89   | 122   | 108   | 131 | 34   | 52   | 30   | 125   | 31   | 70   | 75   |
| Tongue Manse.....                 | "          | 93   | 134  | 72    | 118   | 90  | 64   | 71   | 76   | 122   | 19   | 89   | 45   |
| Melvich Schoolhouse.....          | "          | 145  | 104  | 84    | 101   | 145 | 64   | 64   | 38   | 116   | 15   | 98   | 37   |
| Loch More, Achfary.....           | "          | 159  | 183  | 106   | 153   | 126 | 60   | 90   | 67   | 116   | 18   | 124  | 41   |
| Wick.....                         | Caithness  | 136  | 104  | 140   | 101   | 139 | 43   | 71   | 35   | 98    | 21   | 106  | 78   |
| Pomona, Deerness.....             | Orkney     | 137  | 146  | 148   | 83    | 171 | 38   | 84   | 62   | 118   | 19   | 146  | 79   |
| Dunmanway Rectory.....            | Cork       | 166  | 64   | 114   | 229   | 199 | 110  | 135  | 71   | 100   | 101  | 119  | 105  |
| Glanmire, Lota Lodge.....         | "          | 141  | 45   | 138   | 205   | 169 | 100  | 176  | 71   | 106   | 111  | 119  | 98   |
| Mallow, Summer Hill.....          | "          | 166  | 63   | 155   | 270   | 144 | 125  | 161  | 82   | 140   | 134  | 133  | 102  |
| Killarney, District Asylum.....   | Kerry      | 144  | 58   | 127   | 195   | 132 | 71   | 114  | 45   | 121   | 83   | 108  | 80   |
| Darrynane Abbey.....              | "          | 141  | 59   | 148   | 145   | 172 | 150  | 149  | 54   | 146   | 134  | 142  | 91   |
| Valentia, Glanleam.....           | "          | 158  | 60   | 150   | 168   | 158 | 120  | 119  | 44   | 89    | 179  | 143  | 94   |
| Waterford, Brook Lodge.....       | Waterford  | 131  | 57   | 155   | 176   | 147 | 65   | 160  | 70   | 65    | 204  | 80   | 94   |
| Nenagh, Castle Lough.....         | Tipperary  | 146  | 116  | 106   | 144   | 185 | 85   | 169  | 54   | 73    | 129  | 116  | 82   |
| Cahir, Bengurragh.....            | "          | 162  | 65   | 123   | 194   | 125 | 73   | 156  | 63   | 81    | 135  | 81   | 97   |
| Foynes, Coolnanes.....            | Limerick   | 163  | 103  | 119   | 141   | 202 | 82   | 140  | 51   | 112   | 79   | 116  | 56   |
| Ennistymon House.....             | Clare      | 164  | 133  | 139   | 151   | 179 | 88   | 145  | 53   | 117   | 77   | 126  | 71   |
| Gorey, Courtown House.....        | Wexford    | 151  | 57   | 186   | 153   | 141 | 63   | 189  | 89   | 43    | 235  | 103  | 117  |
| Shillelagh, Coollattin Gardens... | Wicklow    | 128  | 67   | 157   | 147   | 129 | 54   | 168  | 79   | 41    | 205  | 91   | 95   |

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| Station.                         | County.           | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------------------------------|-------------------|------|------|-------|-------|-----|------|------|------|-------|------|------|------|
| Abbey Leix, Blandsfort..         | Queen's County    | 167  | 100  | 147   | 141   | 120 | 53   | 167  | 66   | 39    | 160  | 96   | 87   |
| Birr Castle.....                 | King's County     | 157  | 160  | 118   | 139   | 117 | 52   | 147  | 56   | 73    | 199  | 97   | 80   |
| Dublin, Fitzwilliam Square.      | Dublin.....       | 107  | 98   | 106   | 149   | 128 | 99   | 200  | 50   | 53    | 238  | 88   | 80   |
| Ardgillan, Balbriggan .....      | " .....           | 196  | 92   | 115   | 148   | 146 | 121  | 194  | 58   | 69    | 224  | 84   | 100  |
| Kells, Headfort.....             | Meath .....       | 166  | 109  | 102   | 126   | 136 | 81   | 116  | 58   | 84    | 132  | 108  | 90   |
| Mullingar, Belvedere .....       | Westmeath .....   | 177  | 99   | 83    | 100   | 132 | 79   | 137  | 46   | 75    | 108  | 83   | 77   |
| Greenore .....                   | Louth .....       | 161  | 76   | 112   | 112   | 117 | 86   | 121  | 71   | 103   | 181  | 79   | 125  |
| Tuan, Gardenfield.....           | Galway .....      | 145  | 161  | 98    | 153   | 150 | 122  | 78   | 56   | 86    | 61   | 125  | 77   |
| Woodlawn .....                   | " .....           | 147  | 102  | 108   | 142   | 147 | 60   | 159  | 55   | 89    | 84   | 92   | 60   |
| Strokestown, Castlenode.....     | Roscommon .....   | 159  | 103  | 101   | 150   | 150 | 60   | 121  | 56   | 89    | 100  | 95   | 96   |
| Crossmolina, Enniscoc.....       | Mayo .....        | 151  | 133  | 128   | 131   | 166 | 158  | 118  | 63   | 151   | 68   | 134  | 88   |
| Blacksod Point.....              | " .....           | 150  | 112  | 140   | 75    | 177 | 127  | 113  | 47   | 171   | 88   | 130  | 88   |
| Ballinrobe, Cranmore .....       | " .....           | 156  | 114  | 122   | 130   | 157 | 101  | 110  | 52   | 95    | 58   | 129  | 101  |
| Markree Observatory .....        | Sligo .....       | 162  | 92   | 138   | 134   | 146 | 80   | 141  | 66   | 93    | 65   | 120  | 78   |
| Belturbet, Cloverhill .....      | Cavan .....       | 143  | 84   | 113   | 115   | 123 | 85   | 119  | 45   | 86    | 124  | 89   | 89   |
| Armagh Observatory .....         | Armagh .....      | 163  | 111  | 136   | 138   | 125 | 94   | 103  | 53   | 92    | 193  | 95   | 97   |
| Seaforde .....                   | Down .....        | 146  | 71   | 114   | 111   | 123 | 121  | 113  | 53   | 102   | 210  | 111  | 148  |
| Belfast, Queen's University..... | Antrim .....      | 193  | 89   | 125   | 135   | 170 | 102  | 102  | 53   | 112   | 215  | 64   | 148  |
| Ballymena, Harryville. ....      | " .....           | 137  | 85   | 119   | 105   | 136 | 81   | 144  | 67   | 132   | 157  | 95   | 108  |
| Creggan Reservoir .....          | Londonderry ..... | 127  | 82   | 123   | 130   | 158 | 66   | 98   | 64   | 106   | 111  | 103  | 75   |
| Limavady, Drenagh.....           | " .....           | 132  | 73   | 107   | 98    | 154 | 56   | 91   | 70   | 116   | 128  | 85   | 72   |
| Omagh, Edenfel .....             | Tyrone .....      | 156  | 122  | 119   | 167   | 166 | 76   | 141  | 83   | 89    | 128  | 137  | 91   |
| Duntanaghy, St. Helens.....      | Donegal .....     | 152  | 124  | 115   | 109   | 162 | 68   | 82   | 98   | 105   | 47   | 129  | 66   |
| Killybegs, Rockmount .....       | " .....           | 145  | 101  | 120   | 133   | 204 | 89   | 129  | 61   | 141   | 30   | 122  | 62   |
| (mean of 59 stations)            |                   | 147  | 68   | 120   | 216   | 123 | 96   | 178  | 56   | 101   | 65   | 49   | 95   |
| England                          | ( " )             | 150  | 92   | 184   | 242   | 164 | 130  | 225  | 70   | 134   | 89   | 57   | 90   |
| Wales                            | ( " )             | 148  | 74   | 135   | 221   | 131 | 103  | 187  | 60   | 108   | 71   | 52   | 94   |
| England and Wales                | ( " )             | 141  | 154  | 133   | 99    | 167 | 69   | 104  | 88   | 94    | 60   | 102  | 79   |
| Scotland                         | ( " )             | 154  | 91   | 125   | 148   | 153 | 90   | 135  | 61   | 100   | 126  | 110  | 90   |
| Ireland                          | ( " )             | 147  | 106  | 132   | 162   | 148 | 90   | 148  | 69   | 101   | 80   | 83   | 88   |
| British Isles                    | ( " )             |      |      |       |       |     |      |      |      |       |      |      |      |

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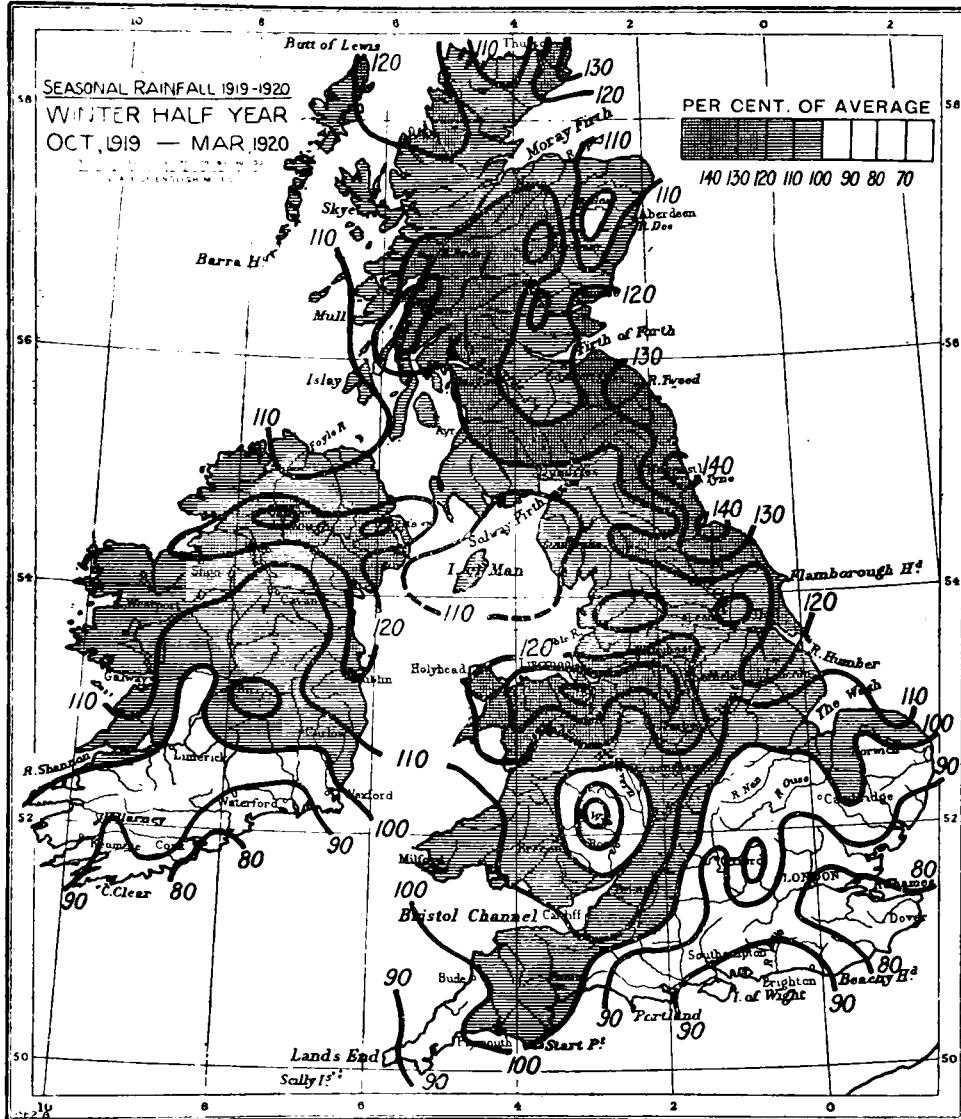
### SEASONAL RAINFALL, 1919-1920.

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The limitations imposed on the study of rainfall by the artificial grouping of data in accordance with arbitrary and conventional periods of time such as the calendar month are obvious, though it is hardly possible to escape from them. It is, however, advantageous to take every opportunity of regrouping data in order to bring into single statements the rainfall records of periods having some natural significance. The periods which are of greatest importance in regard to rainfall in this country are the summer and winter separately. Each has its own characteristic type of rainfall, and is in some respects quite different from the other. The fact that the civil year divides each winter into two parts has always been felt to be inconvenient and constitutes a real handicap in any endeavour to trace correlations between rainfall and any other phenomenon. It was for this reason that a section was introduced in *British Rainfall* a few years ago for the purpose of studying the relation of the total rainfall to the average in six-monthly periods from October to March, inclusive, and from April to September. At the same time opportunity has been taken to group the records for the natural seasonal year, October to September, containing as nearly as is practicable one complete winter and one complete summer. The records for 1919-1920 are given for the same stations as are used in Table III of the preceding section, 152 in number. They are now compared with the new standard average for the years 1881-1915.

The winter half-year 1919-1920 was dry in the south of the British Isles and nowhere else. The deficiency exceeded 10 per cent. in parts of Cos. Cork and Waterford, over most of the south-eastern counties of England, and in part of Herefordshire. Near Cork, and in Kent, as well as very locally around Kington, the fall was more than 20 per cent. in defect. Northward the fall, relative to the average, increased gradually in Ireland and more abruptly in England and Wales. From Donegal Bay to Lincolnshire lay a wet belt, over most of which there was an excess of at least 20 per cent. The rainfall was greatest in the centre, comprising North Wales and Cheshire, where several

stations had more than 30 per cent. excess, and one, in Flintshire, 43 per cent. above the average. The eastern extremity of the wet belt, in Lincolnshire, extended northward along the east coast and joined up with a large wet patch occupying the centre of Scotland.

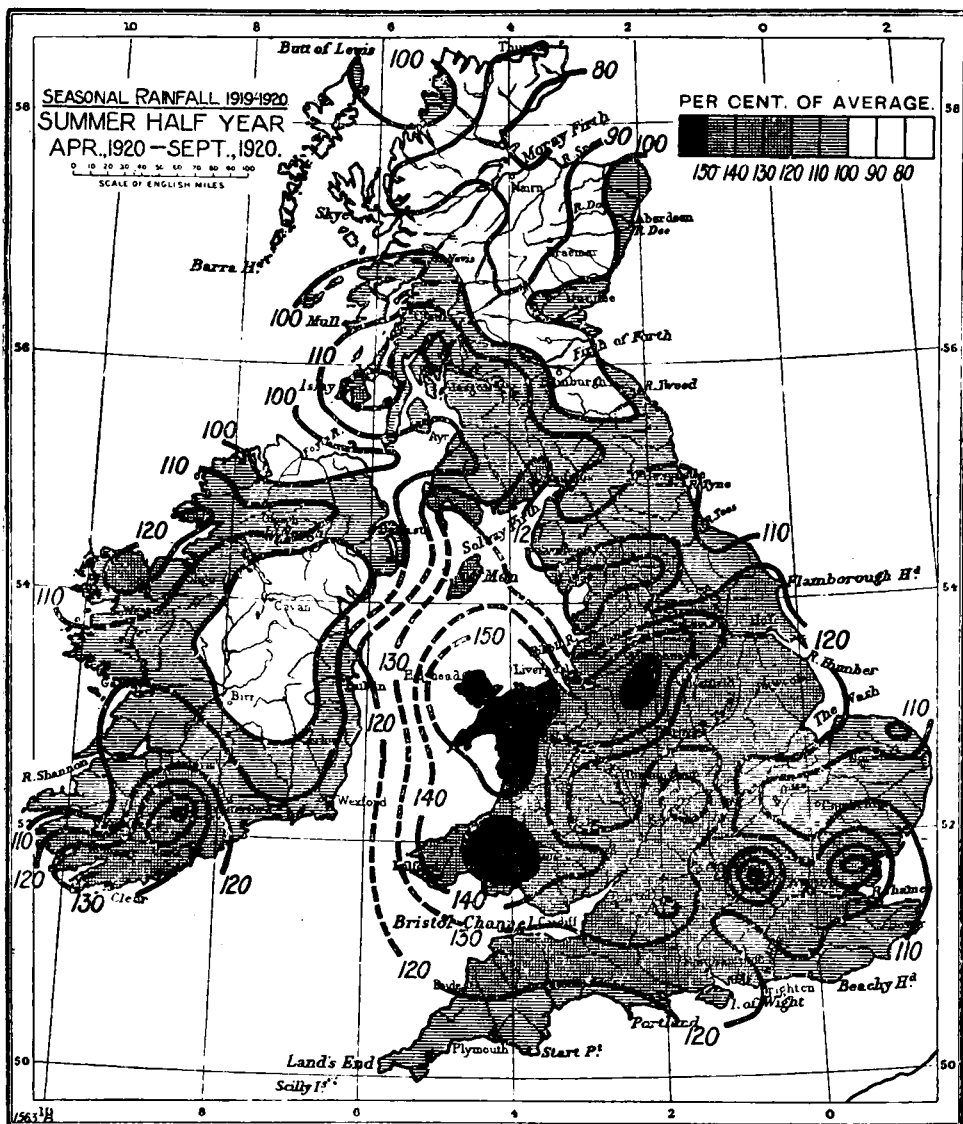


The wettest portions lay in Argyllshire and on the east coast from St. Abb's Head to Whitby, in both of which places more than 30 per cent. excess occurred, rising to 48 per cent. at Newcastle-on-Tyne and Middlesbrough. There was apparently another very wet patch in the extreme north-east, with excesses of more than 30 per cent. at Wick and Deerness.

The general rainfall of the winter half-year was above the average in all the great divisions of the British Isles, the general excess being



5 per cent. in England, 16 per cent. in Wales, 8 per cent. for England and Wales together, 18 per cent. for Scotland, and 7 per cent. for Ireland. For the whole of the British Isles the general excess was 11 per cent.



In the summer half-year there were dry areas in the north of Scotland and in central Ireland, but the deficiency was not great, just reaching 20 per cent. on the east coast of Sutherland and Caithness. Of the remainder of the country the wettest districts were those in the west. In Scotland most of the south-western counties had an excess of more than 10 per cent. rising in places to 20 per cent. In Ireland there were large areas with more than 20 per cent. above the average in the north-west, around Donegal Bay, and in the south-west

comprising the county of Cork and neighbouring districts. In this wet patch a large area had more than 40 per cent. above, and one station, Mallow, 51 per cent. above, the average.

Practically the whole of England and Wales, save a fringe in the north, east and south, had a rainfall exceeding the average by 20 per cent. or more. There were small patches with more than 40 per cent. excess in Buckinghamshire and Essex, but the most conspicuous wet areas lay in Wales and the north-west of England, culminating in extremely marked excesses in the counties of Carmarthenshire, Merionethshire, Carnarvonshire, Anglesey, Denbighshire, and Cheshire. The wettest stations relative to the average were Dolgelly, Glynllivon, and Holyhead with excesses of 78, 78 and 70 per cent. respectively, constituting very unusual departures from average conditions and testifying to the persistence of wet weather during a great part of the summer half-year, particularly in April and July.

The general values for the countries showed a wide range, Wales having the remarkable excess of 54 per cent. and Scotland an excess of only 2 per cent. For England there was an excess of 24 per cent., for England and Wales together of 30 per cent., for Ireland of 10 per cent., and for the British Isles of 16 per cent.

The distribution of rainfall during the seasonal year was chiefly remarkable for the great wetness of Wales and the north-west Midlands of England. The whole of this region had more than 20 per cent. above the average fall and a great belt extending from Anglesey to the southern Pennines, where both winter and summer had been wet, showed an excess of more than 40 per cent., rising at Chelford, near Macclesfield, to 49 per cent. and at Dolgelly to 48 per cent. There was a second large wet area in the north-east of England, more than 20 per cent. excess extending from Northumberland to north Lancashire and to Lincolnshire. The excess touched 30 per cent. locally. Smaller patches with more than 20 per cent. above the average occurred in the south-west of Scotland and the north of Ireland. From the great wet centre in North Wales the rainfall, relatively to the average, fell off very abruptly to a small dry patch in Herefordshire and less conspicuously to a district of deficient rainfall in the south-east of the country. Here less than the average fell over a considerable area in Surrey, Kent, and Sussex, and also over portions of Suffolk and Dorset. In Ireland there was a very trifling deficiency in the centre, in Westmeath, Cavan, and Longford, and also in Cos. Waterford and Kerry in the south. In Scotland an ill-defined area in the north-east had just below the average.

The general values for the countries were all in excess of the average, Ireland being least wet with 8 per cent. above the average. Scotland had a general excess of 12 per cent., England of 14 per cent., and Wales of 32 per cent. For England and Wales together the fall was 18 per cent. above the average, and for the whole British Isles 13 per cent.



# Seasonal Rainfall, 1919-1920, in relation to the Average, 1881-1915.

## SEASONAL RAINFALL.

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| Div. | Station.                           | Winter Six Months,<br>October, 1919—March, 1920. |              |                                |                          | Summer Six Months,<br>April—September, 1920. |              |                                |                          | Twelve<br>Months,<br>Oct., 1919—<br>Sept., 1920.<br>Per cent. of<br>Average. |
|------|------------------------------------|--|--------------|--------------------------------|--------------------------|--|--------------|--------------------------------|--------------------------|--|
|      |                                    | Rainfall.  | Average.     | Difference<br>from<br>Average. | Per<br>cent. of<br>Aver. | Rainfall.                                    | Average.     | Difference<br>from<br>Average. | Per<br>cent. of<br>Aver. |  |
|      |                                    |  |              |                                |                          |  |              |                                |                          |  |
| I.   | St. Pancras, Camden Square.....    | in.<br>10.14                                     | in.<br>12.74 | in.<br>-2.60                   | 80                       | in.<br>14.43                                 | in.<br>11.73 | in.<br>+2.70                   | 123                      | 100  |
| II.  | Tenterden, View Tower.....         | 11.70  | 15.88        | -4.18                          | 74                       | 13.31  | 11.62        | +1.69                          | 115                      | 91   |
| "    | Margate, Cliftonville.....         | 9.85   | 12.24        | -2.39                          | 80                       | 11.83  | 10.56        | +1.27                          | 112                      | 95   |
| "    | Edenbridge, Falconhurst.....       | 13.23  | 17.59        | -4.36                          | 75                       | 15.80  | 13.12        | +2.68                          | 120                      | 95   |
| "    | Compton, Compton House.....        | 19.51  | 21.17        | -1.66                          | 92                       | 18.02  | 15.42        | +2.60                          | 117                      | 103  |
| "    | Brighton, Old Steyne.....          | 15.70  | 16.36        | -.66                           | 96                       | 13.48  | 11.33        | +2.15                          | 119                      | 105  |
| "    | Ventnor, Royal National Hospital.. | 16.99  | 17.16        | -.17                           | 99                       | 15.24  | 11.70        | +3.54                          | 130                      | 112  |
| "    | Fordingbridge, Oaklands.....       | 16.66  | 19.11        | -2.45                          | 87                       | 15.71  | 12.54        | +3.17                          | 125                      | 102  |
| "    | Sherborne St. John.....            | 14.07  | 16.42        | -2.35                          | 86                       | 14.78  | 12.54        | +2.24                          | 118                      | 100  |
| III. | Royston, Therfield Rectory.....    | 10.84  | 12.47        | -1.63                          | 87                       | 13.62  | 12.72        | +.90                           | 107                      | 97   |
| "    | High Wycombe.....                  | 14.70  | 14.44        | +.26                           | 102                      | 17.72  | 11.46        | +6.26                          | 155                      | 125  |
| "    | Oxford, Magdalen College.....      | 10.61  | 12.15        | -1.54                          | 87                       | 14.64  | 11.66        | +2.98                          | 126                      | 106  |
| "    | Wellingborough, Swanspool.....     | 11.37  | 12.27        | -.90                           | 93                       | 13.37  | 12.00        | +1.37                          | 111                      | 102  |
| "    | March.....                         | 11.33  | 11.23        | +.10                           | 101                      | 14.10  | 11.58        | +2.52                          | 122                      | 111  |
| IV.  | Chelmsford, High Street.....       | 9.72   | 11.76        | -2.04                          | 83                       | 15.78  | 10.73        | +5.05                          | 147                      | 113  |
| "    | Hawkedon Rectory.....              | 12.63  | 12.55        | +.08                           | 101                      | 13.85  | 12.42        | +1.43                          | 112                      | 106  |
| "    | Beccles, Geldeston.....            | 11.64  | 12.20        | -.56                           | 95                       | 11.75  | 11.46        | +.29                           | 103                      | 99   |
| "    | Worstead, Dilham.....              | 15.34  | 13.62        | +1.72                          | 113                      | 15.36  | 12.67        | +2.69                          | 121                      | 117  |
| "    | Swaffham.....                      | 12.78  | 12.91        | -.13                           | 99                       | 14.13  | 12.65        | +1.48                          | 112                      | 105  |
| V.   | Bishops Cannings.....              | 16.33  | 16.15        | +.18                           | 101                      | 19.93  | 14.17        | +5.76                          | 141                      | 120  |
| "    | Evershot, Melbury House.....       | 20.05  | 23.64        | -3.59                          | 85                       | 18.53  | 15.02        | +3.51                          | 123                      | 100  |
| "    | Ashburton, Druid House.....        | 36.09  | 33.53        | +2.56                          | 108                      | 20.17  | 18.19        | +1.98                          | 111                      | 109  |
| "    | Collumpton.....                    | 22.12  | 20.73        | +1.39                          | 107                      | 17.53  | 14.54        | +2.99                          | 121                      | 112  |
| "    | Barnstaple, N. Dev. Athenæum ..    | 22.77  | 21.51        | +1.26                          | 106                      | 19.44  | 15.13        | +4.31                          | 128                      | 115  |
| "    | Penzance, Morrab Gardens.....      | 22.82  | 25.25        | -2.43                          | 90                       | 18.02  | 15.68        | +2.34                          | 115                      | 100  |
| "    | St. Austell, Trevarna.....         | 27.79  | 27.84        | -.05                           | 100                      | 21.40  | 18.00        | +3.40                          | 119                      | 107  |
| "    | Altarnon Sanctuary.....            | 35.53  | 36.98        | -1.45                          | 96                       | 26.59  | 22.19        | +4.40                          | 120                      | 105  |

*Seasonal Rainfall, 1919-1920, in relation to the Average, 1881-1915—(con.).*

| Div.  | Station.                            | Winter Six Months,<br>October, 1919—March, 1920. |              |                                |                          | Summer Six Months,<br>April—September, 1920. |              |                                |                          | Twelve<br>Months,<br>Oct., 1919—<br>Sept., 1920.<br>Per cent. of<br>Average. |
|-------|-------------------------------------|--|--------------|--------------------------------|--------------------------|--|--------------|--------------------------------|--------------------------|--|
|       |                                     | Rainfall.  | Average.     | Difference<br>from<br>Average. | Per<br>cent. of<br>Aver. | Rainfall.                                    | Average.     | Difference<br>from<br>Average. | Per<br>cent. of<br>Aver. |  |
|       |                                     |  |              |                                |                          |  |              |                                |                          |  |
| V.    | East Harptree, Sherborne Res. ....  | in.<br>26.98                                     | in.<br>22.65 | in.<br>+ 4.33                  | 119                      | in.<br>23.41                                 | in.<br>17.34 | in.<br>+ 6.07                  | 135                      | 126  |
| VI.   | Cirencester, Dollarward House. .... | 17.27  | 15.77        | + 1.50                         | 110                      | 18.36  | 13.67        | + 4.69                         | 134                      | 121  |
| "     | Kington, Gravel Hill. ....          | 13.34  | 19.32        | - 5.98                         | 69                       | 17.91  | 14.93        | + 2.98                         | 120                      | 91   |
| "     | Ledbury, Orchardleigh. ....         | 12.50  | 13.80        | - 1.30                         | 91                       | 16.07  | 12.29        | + 3.78                         | 131                      | 110  |
| "     | Church Stretton, Wolstaston. ....   | 20.55  | 17.01        | + 3.54                         | 121                      | 20.87  | 14.89        | + 5.98                         | 140                      | 130  |
| "     | Market Drayton, Old Springs. ....   | 16.54  | 14.43        | + 2.11                         | 115                      | 20.41  | 14.32        | + 6.09                         | 143                      | 129  |
| "     | Farnborough. ....                   | 14.97  | 15.17        | - .20                          | 99                       | 19.85  | 14.00        | + 5.85                         | 142                      | 119  |
| "     | Edgbaston, Birmingham. ....         | 15.58  | 13.47        | + 2.11                         | 116                      | 18.17  | 13.02        | + 5.15                         | 140                      | 127  |
| VII.  | Belvoir Castle. ....                | 13.08  | 12.64        | + .44                          | 103                      | 16.02  | 12.47        | + 3.55                         | 128                      | 116  |
| "     | Revesby. ....                       | 13.77  | 12.89        | + .88                          | 107                      | 14.90  | 11.77        | + 3.13                         | 126                      | 116  |
| "     | Lincoln, Skellingthorpe Hall. ....  | 13.96  | 11.45        | + 2.51                         | 122                      | 14.38  | 11.67        | + 2.71                         | 123                      | 123  |
| "     | Mickleover Manor. ....              | 16.47  | 13.00        | + 3.47                         | 127                      | 16.20  | 13.05        | + 3.15                         | 124                      | 125  |
| VIII. | Chelford, Astle Hall. ....          | 20.03  | 15.04        | + 4.99                         | 133                      | 24.21  | 14.65        | + 9.56                         | 165                      | 149  |
| "     | Bury, Gin Hall. ....                | 28.67  | 23.90        | + 4.77                         | 120                      | 29.06  | 19.78        | + 9.28                         | 147                      | 132  |
| "     | Stonyhurst College. ....            | 25.73  | 25.17        | + .56                          | 102                      | 25.86  | 21.38        | + 4.48                         | 121                      | 111  |
| "     | Southport, Hesketh Park. ....       | 18.90  | 16.79        | + 2.11                         | 113                      | 19.50  | 15.20        | + 4.30                         | 128                      | 120  |
| "     | Holker Hall. ....                   | 28.12  | 24.41        | + 3.71                         | 115                      | 26.47  | 20.11        | + 6.36                         | 132                      | 123  |
| IX.   | Rotherham, Moorgate Grange. ....    | 14.72  | 13.18        | + 1.54                         | 112                      | 14.88  | 12.24        | + 2.64                         | 122                      | 116  |
| "     | Bradford, Lister Park. ....         | 20.91  | 17.40        | + 3.51                         | 120                      | 20.16  | 13.98        | + 6.18                         | 144                      | 131  |
| "     | York, Museum Gardens. ....          | 12.94  | 11.98        | + .96                          | 108                      | 15.96  | 12.33        | + 3.63                         | 129                      | 119  |
| "     | Hull, Pearson Park. ....            | 16.32  | 12.86        | + 3.46                         | 127                      | 15.31  | 12.52        | + 2.79                         | 122                      | 125  |
| "     | Leyburn, Bolton Hall. ....          | 24.37  | 19.00        | + 5.37                         | 128                      | 18.00  | 13.63        | + 4.37                         | 132                      | 130  |
| "     | Felixkirk, Mount St. John. ....     | 17.10  | 13.40        | + 3.70                         | 128                      | 14.91  | 13.14        | + 1.77                         | 113                      | 121  |
| "     | Scarborough, Osgodby. ....          | 17.26  | 14.22        | + 3.04                         | 121                      | 14.41  | 11.91        | + 2.50                         | 121                      | 121  |
| "     | Middlesbrough, Albert Park. ....    | 17.11  | 11.53        | + 5.58                         | 148                      | 13.18  | 12.14        | + 1.04                         | 108                      | 128  |
| X.    | Barnard Castle. ....                | 17.36  | 15.97        | + 1.39                         | 109                      | 15.86  | 13.76        | + 2.10                         | 115                      | 112  |
| "     | Newcastle-on-Tyne, Town Moor. ....  | 20.44  | 13.77        | + 6.67                         | 148                      | 15.53  | 13.45        | + 2.08                         | 115                      | 132  |

## Seasonal Rainfall, 1919-1920, in relation to the Average, 1881-1915—(con.).

| Div.  | Station.                          | Winter Six Months,<br>October, 1919—March, 1920. |          |                                |                          | Summer Six Months,<br>April—September, 1920. |          |                                |                          | Twelve<br>Months,<br>Oct., 1919—<br>Sept., 1920. |                             |
|-------|-----------------------------------|--|----------|--------------------------------|--------------------------|--|----------|--------------------------------|--------------------------|--|-----------------------------|
|       |                                   | Rainfall.  | Average. | Difference<br>from<br>Average. | Per<br>cent. of<br>Aver. | Rainfall.                                    | Average. | Difference<br>from<br>Average. | Per<br>cent. of<br>Aver. |  | Per<br>cent. of<br>Average. |
|       |                                   | in.  | in.      | in                             |                          | in.  | in.      | in.                            |                          |  |                             |
| X.    | Hallington, Fawcett.....          | 19.62  | 14.78    | +4.84                          | 133                      | 15.01  | 13.46    | +1.55                          | 112                      | 123  |                             |
| "     | Rothbury, Cragside.....           | 24.33  | 18.70    | +5.63                          | 130                      | 15.52  | 15.08    | + .44                          | 103                      | 118  |                             |
| "     | Carlisle, Spital Cemetery.....    | 17.93  | 15.90    | +2.03                          | 113                      | 16.41  | 15.91    | + .50                          | 103                      | 108  |                             |
| "     | Borrowdale, Seathwaite.....       | 81.03  | 78.22    | +2.81                          | 104                      | 57.59  | 51.26    | +6.33                          | 112                      | 107  |                             |
| "     | Appleby, Castle Bank.....         | 24.32  | 19.60    | +4.72                          | 124                      | 18.15  | 15.43    | +2.72                          | 118                      | 121  |                             |
| XI.   | Abergavenny, Larchfield.....      | 20.47  | 22.08    | -1.61                          | 93                       | 22.26  | 15.45    | +6.81                          | 144                      | 114  |                             |
| "     | Ystalyfera, Wern House.....       | 45.14  | 38.66    | +6.48                          | 117                      | 41.10  | 26.23    | +14.87                         | 157                      | 133  |                             |
| "     | Cardiff, Ely Pumping Station..... | 27.19  | 24.07    | +3.12                          | 113                      | 23.72  | 18.05    | +5.67                          | 131                      | 121  |                             |
| "     | Carmarthen, The Friary.....       | 28.58  | 28.31    | + .27                          | 101                      | 31.34  | 19.99    | +11.35                         | 157                      | 124  |                             |
| "     | Haverfordwest, Grammar School...  | 29.37  | 27.63    | +1.74                          | 106                      | 27.40  | 18.74    | +8.66                          | 146                      | 122  |                             |
| "     | Strata Florida, Hafod.....        | 37.29  | 32.54    | +4.75                          | 115                      | 34.25  | 23.82    | +10.43                         | 144                      | 127  |                             |
| "     | Lake Vyrnwy, Bank Cynon Isaf....  | 39.65  | 33.66    | +5.99                          | 118                      | 30.25  | 21.65    | +8.60                          | 140                      | 126  |                             |
| "     | Northop, Soughton Hall.....       | 24.82  | 17.32    | +7.50                          | 143                      | 21.69  | 14.73    | +6.96                          | 147                      | 145  |                             |
| "     | Dolgelly, Bryntirion.....         | 43.34  | 33.99    | +9.35                          | 128                      | 43.43  | 24.45    | +18.98                         | 178                      | 148  |                             |
| "     | Llandudno.....                    | 22.08  | 16.61    | +5.47                          | 133                      | 21.65  | 13.43    | +8.22                          | 161                      | 146  |                             |
| "     | Llandwrog, Glynllivon Park.....   | 32.59  | 26.75    | +5.84                          | 122                      | 31.95  | 17.90    | +14.05                         | 178                      | 144  |                             |
| "     | Holyhead, Salt Island.....        | 24.12  | 20.26    | +3.86                          | 119                      | 24.86  | 14.66    | +10.20                         | 170                      | 140  |                             |
| "     | Douglas, Borough Cemetery.....    | 24.61  | 23.69    | + .92                          | 104                      | 23.97  | 17.50    | +6.47                          | 137                      | 118  |                             |
| XII.  | Stoneykirk, Ardwell House.....    | 23.55  | 19.87    | +3.68                          | 119                      | 21.61  | 16.48    | +5.13                          | 131                      | 124  |                             |
| "     | Dalry, Glendarroch.....           | 39.89  | 33.48    | +6.41                          | 119                      | 24.06  | 21.03    | +3.03                          | 114                      | 117  |                             |
| "     | Auchencairn, Torr House.....      | 28.34  | 26.26    | +2.08                          | 108                      | 25.30  | 20.79    | +4.51                          | 122                      | 114  |                             |
| "     | Drumlanrig Castle.....            | 31.59  | 25.43    | +6.16                          | 124                      | 21.77  | 18.14    | +3.63                          | 120                      | 122  |                             |
| "     | Hawick, Branxholme.....           | 23.16  | 18.49    | +4.67                          | 125                      | 16.41  | 14.87    | +1.54                          | 110                      | 119  |                             |
| XIII. | Selkirk, The Hangingshaw.....     | 23.13  | 19.15    | +3.98                          | 121                      | 14.61  | 15.64    | -1.03                          | 93                       | 108  |                             |
| "     | Marchmont House.....              | 22.37  | 16.61    | +5.76                          | 135                      | 15.52  | 15.57    | - .05                          | 100                      | 118  |                             |
| "     | North Berwick Res.....            | 15.67  | 12.51    | +3.16                          | 125                      | 12.91  | 12.88    | + .03                          | 100                      | 113  |                             |
| XIV.  | Airdrie, Hillend Res.....         | 23.54  | 20.15    | +3.39                          | 117                      | 19.85  | 17.17    | +2.68                          | 116                      | 116  |                             |

## Seasonal Rainfall, 1919-1920, in relation to the Average, 1881-1915—(con.).

| Div.   | Station.                    | Winter Six Months,<br>October, 1919—March, 1920. |              |                                |                          | Summer Six Months,<br>April—September, 1920. |              |                                |                          | Twelve<br>Months,<br>Oct., 1919—<br>Sept., 1920.<br>Per cent. of<br>Average. |
|--------|-----------------------------|--|--------------|--------------------------------|--------------------------|--|--------------|--------------------------------|--------------------------|--|
|        |                             | Rainfall.  | Average.     | Difference<br>from<br>Average. | Per<br>cent. of<br>Aver. | Rainfall.                                    | Average      | Difference<br>from<br>Average. | Per<br>cent. of<br>Aver. |  |
|        |                             |  |              |                                |                          |  |              |                                |                          |  |
| XIV.   | North Craig Res.            | in.<br>28.50                                     | in.<br>22.80 | in.<br>+5.70                   | 125                      | in.<br>21.20                                 | in.<br>18.43 | in.<br>+2.77                   | 115                      | 120  |
| "      | Girvan, Pinmore             | 33.15  | 29.07        | +4.08                          | 114                      | 21.04  | 20.77        | + .27                          | 101                      | 109  |
| "      | Loch Thom                   | 45.03  | 37.67        | +7.36                          | 120                      | 33.09  | 27.69        | +5.40                          | 119                      | 119  |
| XV.    | Lochgilphead, Poltalloch.   | 41.22  | 29.87        | +11.35                         | 138                      | 25.22  | 22.36        | +2.86                          | 113                      | 127  |
| "      | Skipness Castle             | 32.15  | 27.98        | +4.17                          | 115                      | 24.82  | 20.79        | +4.03                          | 119                      | 117  |
| "      | Inveraray Castle            | 58.48  | 46.75        | +11.73                         | 125                      | 36.54  | 30.47        | +6.07                          | 120                      | 123  |
| "      | Islay, Eallabus.            | 31.69  | 28.77        | +2.92                          | 110                      | 25.72  | 20.09        | +5.63                          | 128                      | 118  |
| "      | Mull, Quinish.              | 37.37  | 33.67        | +3.70                          | 111                      | 24.58  | 23.08        | +1.50                          | 107                      | 109  |
| XVI.   | Loch Leven Sluice.          | 23.21  | 19.94        | +3.27                          | 116                      | 14.90  | 15.83        | — .93                          | 94                       | 107  |
| "      | Stronvar                    | 57.46  | 46.18        | +11.28                         | 124                      | 26.73  | 28.06        | —1.33                          | 95                       | 113  |
| "      | Crieff                      | 23.71  | 23.50        | + .21                          | 101                      | 17.77  | 17.36        | + .41                          | 102                      | 102  |
| "      | Blair Atholl                | 24.33  | 18.88        | +5.45                          | 129                      | 12.60  | 14.21        | —1.61                          | 89                       | 112  |
| "      | Dundee, Eastern Necropolis. | 17.13  | 13.65        | +3.48                          | 126                      | 15.14  | 13.79        | +1.35                          | 110                      | 118  |
| "      | Montrose, Sunnyside Asylum. | 15.83  | 14.10        | +1.73                          | 112                      | 12.85  | 12.93        | — .08                          | 99                       | 106  |
| XVII.  | Braemar, Bank               | 26.08  | 19.95        | +6.13                          | 131                      | 13.40  | 15.05        | —1.65                          | 89                       | 113  |
| "      | Logie Coldstone, Loanhead.  | 14.52  | 16.43        | —1.91                          | 88                       | 13.53  | 14.79        | —1.26                          | 91                       | 90   |
| "      | Aberdeen, Cranford House.   | 19.97  | 17.23        | +2.74                          | 116                      | 14.61  | 14.51        | + .10                          | 101                      | 109  |
| "      | New Deer Schoolhouse.       | 18.72  | 17.64        | +1.08                          | 106                      | 15.21  | 14.70        | + .51                          | 103                      | 105  |
| "      | Gordon Castle               | 16.68  | 14.99        | +1.69                          | 111                      | 13.37  | 14.78        | —1.41                          | 90                       | 101  |
| XVIII. | Grantown-on-Spey            | 20.09  | 15.85        | +4.24                          | 127                      | 13.38  | 15.30        | —1.92                          | 87                       | 107  |
| "      | Glenquoich                  | 85.08  | 70.61        | +14.47                         | 120                      | 39.92  | 40.14        | — .22                          | 99                       | 113  |
| "      | Inverness, High School.     | 16.42  | 14.27        | +2.15                          | 115                      | 12.14  | 12.60        | — .46                          | 96                       | 106  |
| "      | Arisaig House.              | 41.90  | 35.76        | +6.14                          | 117                      | 27.06  | 27.10        | — .04                          | 100                      | 110  |
| "      | Fort William, Atholl Bank.  | 62.68  | 48.78        | +13.90                         | 129                      | 29.84  | 29.06        | + .78                          | 103                      | 119  |
| "      | Alness, Ardross Castle.     | 26.46  | 22.36        | +4.10                          | 118                      | 13.59  | 16.18        | —2.59                          | 84                       | 104  |
| "      | Loch Torridon, Bendamph     | 59.01  | 52.29        | +6.72                          | 113                      | 28.68  | 32.83        | —4.15                          | 87                       | 103  |
| "      | Glencarron Lodge            | 59.14  | 53.26        | +5.88                          | 111                      | 28.01  | 34.49        | —6.48                          | 81                       | 99   |

Seasonal Rainfall, 1919-1920, in relation to the Average, 1881-1915—(con.).

| Div.   | Station.                            | Winter Six Months,<br>October, 1919—March, 1920. |              |                                |                          | Summer Six Months,<br>April—September, 1920. |              |                                |                          | Twelve<br>Months,<br>Oct., 1919—<br>Sept., 1920.<br>Per cent. of<br>Average. |
|--------|-------------------------------------|--|--------------|--------------------------------|--------------------------|--|--------------|--------------------------------|--------------------------|--|
|        |                                     | Rainfall.  | Average.     | Difference<br>from<br>Average. | Per<br>cent. of<br>Aver. | Rainfall.                                    | Average.     | Difference<br>from<br>Average. | Per<br>cent. of<br>Aver. |  |
|        |                                     |  |              |                                |                          |  |              |                                |                          |  |
| XVIII. | Stornoway .....                     | in.<br>37.37                                     | in.<br>30.99 | in.<br>+6.38                   | 121                      | in.<br>18.96                                 | in.<br>18.86 | in.<br>+ .10                   | 101                      | 113  |
| XIX.   | Dunrobin Castle.....                | 20.01  | 17.35        | +2.66                          | 115                      | 11.25  | 14.30        | −3.05                          | 79                       | 99   |
| "      | Tongue Manse .....                  | 25.14  | 24.53        | + .61                          | 102                      | 15.01  | 16.47        | −1.46                          | 91                       | 98   |
| "      | Melvich Schoolhouse .....           | 23.09  | 21.11        | +1.98                          | 109                      | 12.73  | 14.89        | −2.16                          | 85                       | 100  |
| "      | Loch More, Achfary.....             | 54.55  | 45.91        | +8.64                          | 119                      | 30.61  | 29.89        | + .72                          | 102                      | 112  |
| "      | Wick .....                          | 21.37  | 16.18        | +5.19                          | 132                      | 10.93  | 13.74        | −2.81                          | 80                       | 108  |
| "      | Pomona, Deerness.....               | 28.62  | 21.18        | +7.44                          | 135                      | 12.97  | 14.24        | −1.27                          | 91                       | 117  |
| XX.    | Dunmanway Rectory.....              | 34.21  | 37.25        | −3.04                          | 92                       | 32.75  | 23.75        | +9.00                          | 138                      | 110  |
| "      | Glanmire, Lota Lodge.....           | 19.95  | 25.30        | −5.35                          | 79                       | 23.24  | 17.30        | +5.94                          | 134                      | 101  |
| "      | Mallow, Summer Hill.....            | 21.52  | 22.44        | −.92                           | 96                       | 22.46  | 14.86        | +7.60                          | 151                      | 118  |
| "      | Killarney, District Asylum.....     | 30.28  | 34.11        | −3.83                          | 89                       | 22.70  | 20.60        | +2.10                          | 110                      | 97   |
| "      | Darrynane Abbey .....               | 29.89  | 30.40        | −.51                           | 98                       | 27.18  | 20.60        | +6.58                          | 132                      | 112  |
| "      | Valentia, Glanleam.....             | 31.98  | 33.72        | −1.74                          | 95                       | 25.76  | 23.25        | +2.51                          | 111                      | 101  |
| "      | Waterford, Brook Lodge.....         | 18.93  | 22.08        | −3.15                          | 86                       | 19.33  | 17.39        | +1.94                          | 111                      | 97   |
| "      | Nenagh, Castle Lough.....           | 22.30  | 22.19        | + .11                          | 100                      | 19.76  | 17.33        | +2.43                          | 114                      | 106  |
| "      | Cahir, Bengurrah.....               | 20.48  | 22.72        | −2.24                          | 90                       | 19.20  | 16.88        | +2.32                          | 114                      | 100  |
| "      | Foynes, Coolnanes.....              | 22.38  | 22.35        | + .03                          | 100                      | 19.67  | 17.08        | +2.59                          | 115                      | 107  |
| "      | Ennistymon House.....               | 28.20  | 25.25        | +2.95                          | 112                      | 24.50  | 21.35        | +3.15                          | 115                      | 113  |
| XXI.   | Gorey, Courtown House.....          | 20.58  | 19.09        | +1.49                          | 108                      | 17.60  | 15.58        | +2.02                          | 113                      | 110  |
| "      | Shillelagh, Coollattin Gardens..... | 23.22  | 22.75        | + .47                          | 102                      | 19.77  | 19.15        | + .62                          | 103                      | 103  |
| "      | Abbey Leix, Blandsfort.....         | 20.76  | 19.12        | +1.64                          | 109                      | 16.85  | 17.43        | −.58                           | 97                       | 103  |
| "      | Birr Castle .....                   | 19.16  | 16.82        | +2.34                          | 114                      | 14.94  | 15.74        | −.80                           | 95                       | 105  |
| "      | Dublin, Fitzwilliam Square.....     | 17.05  | 13.95        | +3.10                          | 122                      | 15.06  | 13.42        | +1.64                          | 112                      | 117  |
| "      | Ardgillan, Balbriggan.....          | 18.22  | 14.73        | +3.49                          | 123                      | 17.07  | 14.23        | +2.84                          | 120                      | 122  |
| "      | Kells, Headfort .....               | 20.80  | 19.16        | +1.64                          | 109                      | 17.27  | 17.84        | −.57                           | 97                       | 103  |
| "      | Mullingar, Belvedere .....          | 19.76  | 18.90        | + .86                          | 105                      | 15.97  | 17.44        | −1.47                          | 92                       | 98   |
| "      | Greenore .....                      | 20.11  | 16.28        | +3.83                          | 124                      | 15.62  | 15.63        | −.01                           | 100                      | 112  |





## THE TOTAL FALL OF RAIN IN 1920 AND ITS RELATION TO THE AVERAGE.

The greatly increased number of average values now available enables a considerable improvement to be made in the detailed study of the geographical distribution of the rainfall of the year in its relation to the average. We are still hampered by an insufficiency of long records in Ireland and the north of Scotland, a defect which only time can remedy, but the new series of average values for the period 1881–1915 to which reference has been made elsewhere in this volume are in all districts more numerous than those for 1875–1909 formerly used.

We are glad to follow the precedent made last year of reproducing a map on the largest scale possible showing the distribution of actual rainfall during the year (see *frontispiece*). This map forms a graphical representation of the whole of the records in Part III, and is a summation of the twelve monthly rainfall maps given on the left-hand pages from pp. 86–108.

As has frequently been pointed out the distribution of total rainfall over any period so long as a year is invariably dominated by orographical control. In every year of which any rainfall map has been made, the fall in mountain areas exceeds that over the plains, and there is a general resemblance in the outline of the distribution between one year and another. The fluctuations which occur from year to year are of two kinds, widespread excess or defect being modified by changes in the degree of orographical influence, the latter giving rise to variations in the rainfall gradient between places of high and low fall.

Excessive orographical influence during the year as a whole occurs when Atlantic winds are more frequent or more violent than usual; slight orographical effect is produced when such winds are sub-normal. The year 1919 was, as a whole, one of relatively infrequent orographical rainfall, as was shown by the small rainfall gradient, by the deficient rainfall, relatively to the average, in the rainy districts, and the excessive totals in those of normally small rainfall. In 1920 the conditions were reversed. During the winter months orographical rainfall was exceptionally frequent and heavy, and winter conditions were continued well into April, whilst much orographical rain fell even in July. As a consequence the rainfall in the west was excessive, that in the east generally defective.

In England less than 30 in. (760 mm.) fell over most of the eastern half of the country, the principal exceptions being the Yorkshire Wolds, the Chilterns, the North and South Downs, and an area round

Louth where the great storm of May 29th had its fullest effect. In the normally driest districts, around the Wash and Thames Estuary and over most of the Fen District, the total for the year was slightly below 20 in. (500 mm.), the smallest totals observed being in the north of Kent, in Huntingdonshire, and in the south of Cambridgeshire, where from 17 to 18 in. (450 mm.) fell.

In the west the rainy districts were completely isolated by the line of 40 in. (1000 mm.). This included Dartmoor and practically the whole of Cornwall as well as Exmoor, and in all these districts the total rose well above 60 in. (1500 mm.) on the most elevated land, reaching 80 in. (2000 mm.) at several stations on Dartmoor and 92·87 in. (2359 mm.) at Princetown. On Exmoor the largest fall recorded was 75·04 in. (1906 mm.) at Simonsbath.

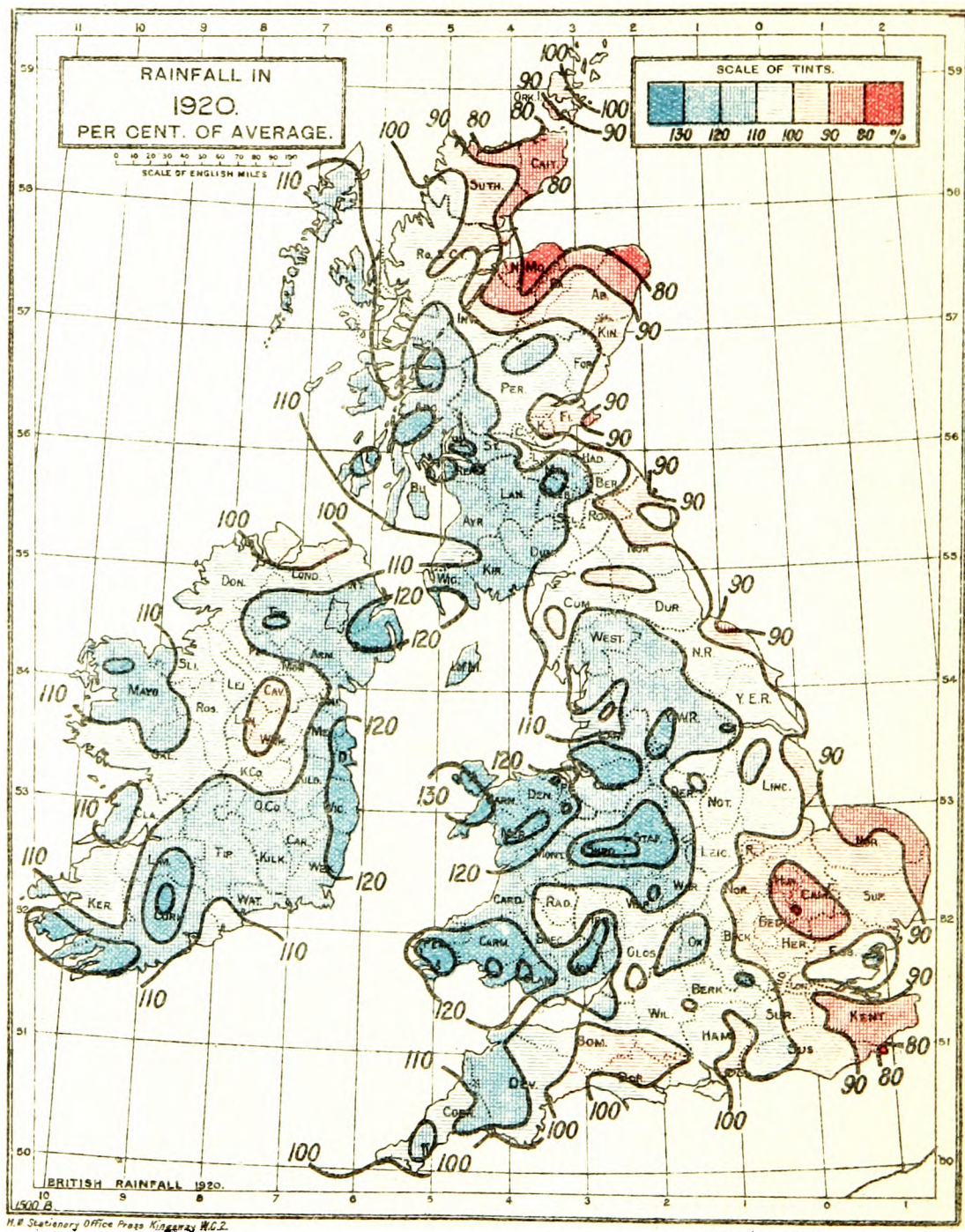
In the southern Pennines as much as 60 in. (1500 mm.) fell only very locally, but over Bowland Forest and the great tract of mountainous country stretching from Great Whernside to the Lake District, more than 60 in. was widespread and 88·00 in. (2235 mm.) fell as far east as Oughtershaw in Upper Wharfedale. In the Lake District an area of about 100 square miles appears to have had more than 100 in. (2500 mm.), the largest falls recorded being 203·20 in. (5161 mm.) on the Styne, 170·80 in. (4338 mm.) at Sprinkling Tarn, and 151·68 in. (3853 mm.) at Mickleden.

Wales was exceptionally wet, the total nowhere falling below 30 in. (760 mm.). The smallest totals were observed in the north and east of Flintshire where about 31 in. (790 mm.) fell around Rhyl and near Hawarden. Only a narrow fringe in the north of the principality and the sheltered valleys on the English border had less than 40 in. (1000 mm.), and more than 60 in. (1500 mm.) fell over the whole of the interior, with more than 80 in. (2000 mm.) on the hills of north-west Glamorgan, the Plynlimon range, the Berwyns, and Snowdonia. More than 100 in. fell widely in these districts, the most conspicuous wet areas being on the Brecon Beacons and around Snowdon. At Neuadd Reservoir in Taff Fechan one gauge recorded 123·17 in. (3128 mm.); near the summit of Plynlimon the total was 120·50 in., (3061 mm.) and at Crib Goch on Snowdon 183·49 in. (4661 mm.) fell, whilst seven other gauges in the Snowdon district yielded more than 150 in. (3800 mm.).

In Scotland, although the distribution differed less from the normal than elsewhere, there was again an unusually marked contrast between the east and west. From John o' Groats southward, on the shores of the Moray Firth, and thence along practically the whole east coast, ran a narrow strip with a rainfall not exceeding 25 in. (635 mm.), and the smallest authentic total was probably that recorded at Fortrose (20·65 in. or 525 mm.). The line of 40 in. (1000 mm.) penetrated to the west coast in the extreme north and the extreme south, and appeared on the coast of Ayrshire, but otherwise the whole of the west of Scotland



# RELATION OF RAINFALL IN 1920 TO THE AVERAGE OF 1881-1915.



The area coloured Red had rainfall below the average, that coloured Blue had rainfall above the average.

had a rainfall in excess of that amount. A large part of the southern Highlands and nearly the whole of the western half of the country from Renfrewshire and Islay northward had more than 60 in. (1500 mm.) during the year, and an extensive and apparently unbroken area stretching from Dunoon to western Ross-shire more than 80 in. (2000 mm.). The districts with more than 100 in. (2500 mm.) were unusually numerous and extensive, occupying more than 1000 square miles in the west of Perthshire, the east and north of Argyll, part of the Isle of Mull, and central Inverness-shire, and Ross-shire. The most noteworthy totals recorded were 188·10 in. (4778 mm.) at Loau, and 145·81 in. (3704 mm.) at Kinlochquoich, both near Loch Quoich.

The rainfall of Ireland was nearly everywhere excessive and fell below 40 in. (1000 mm.) only in the east Midlands, along narrow coastal strips in the north and south-east and in Co. Limerick. There were, however, well-defined districts in the Upper Shannon basin where less than 30 in. (760 mm.) fell. Considerable areas with more than 50 in. (1270 mm.) occurred as far east as the mountains of Antrim, Down, and Wicklow, with 83·23 in. (2114 mm.) at Foffany on the Mourne Mountains. The 50-in. area in the west was continuous except for the districts surrounding the mouth of the Shannon and Donegal Bay, where a great measure of shelter from rain-bearing winds is afforded by the mountains of Kerry and Connemara respectively. As is usual in Ireland only very restricted patches appear to have received as much as 100 in. (2500 mm.) during the year, and the largest amounts recorded were 110·66 in. (2811 mm.) at Aasleagh and 119·66 in. (3039 mm.) at Delphi Lodge in Western Mayo, and 105·50 in. (2680 mm.) at Gearahamean, near the Gap of Dunloe.

The map facing this page indicates the distribution of the year's rainfall in its relation to the average of the 35 years 1881–1915, and continues the series commenced in 1905. A selection of the 450 records used in the construction of the map is given in the tables on pp. 144–148.

The most conspicuous feature is the pronounced contrast between the east and west of the British Isles. In Great Britain a continuous line from near Cape Wrath to the Isle of Wight divides the country into two portions in which the year was respectively dry and wet. There were one or two minor exceptions, small relatively wet patches occurring in Essex and Northumberland, and the rainfall of the year being somewhat in excess in the Orkney Islands, but apart from this the fall as a percentage of the average decreased towards the east coast, over most of which there was a deficiency of more than 10 per cent. rising to 20 per cent. in Scotland between Helmsdale and Peterhead and in Kent at Dungeness.

In the west there were also some minor exceptions to the general wetness, a narrow strip in the south of Devon and Cornwall, and portions



of the centre and north of Ireland having very slightly less than their average fall. Over most western districts, however, the rainfall was more than 10 per cent. above the average, and this excess occurred everywhere in an enormous area extending from Co. Kerry in the south-west and Devonshire in the south-east northwards to the Hebrides, and presumably including the whole of the Irish Sea and St. George's Channel. More isolated, but still conspicuous areas with more than 10 per cent. excess lay in Connaught and in Co. Clare. Within the great wet area the rainfall rose to more than 20 per cent. above the average in a number of districts. In Scotland these all lay in the south-west and were scattered in an irregular manner over a triangular region extending from Islay to Fort William and Peebles. Farther south there was some evidence, though it was not very strong, of the frequently remarked tendency to alignment, but the direction of the strings of wet patches was from west to east instead of from south-west to north-east as has commonly been the case. Thus we find wet areas in Cos. Kerry and Cork, from Pembrokeshire to Glamorgan and Monmouthshire, and, possibly also associated with them, less marked rainy patches in Oxfordshire, Buckinghamshire, and Essex. A second strip, commencing with the patch in Co. Clare, appears to be connected with that in Dublin and Wicklow and with the great wet areas in North Wales, Shropshire, and Staffordshire, whilst a third stretched from Mayo to Galloway and is in line with the relatively wet northern Pennines. The greatest excesses occurred in the southern wet tracts; well-marked areas of more than 30 per cent. excess lying in the north-east of Cork, and between St. Bride's Bay and the Vale of Neath in South Wales, whilst farther north a rather more irregularly arranged group lay between Holyhead and North Shropshire.

The records quoted in the tables on pp. 144-148 are selected so as to give as far as possible an equal representation to all parts of the country. If it were possible to do this perfectly the average values would probably give as close an approximation to the general percentage for the countries and for the British Isles as would any other method of computation. We have this year endeavoured to test the adequacy of the representation by applying the cartographical method of measurement and the results are added for comparison with those worked in the ordinary manner. The cartographical method of computation is certainly the more accurate of the two, and the fact that it yields throughout slightly smaller percentage values suggests that the representation of the wetter districts in the table is unduly heavy. The areas between the successive isopleths on the map are given in the following table. This shows that 31 per cent. of the area of the British Isles had a rainfall below the average, and 69 per cent., or slightly more than two-thirds, a rainfall above the average, and that over 15 per cent. of the total area the year's rainfall was in excess by 20 per cent. or more.

| PER CENT. OF AVERAGE. |                    |         |         |         |         |         |                     |                |
|-----------------------|--------------------|---------|---------|---------|---------|---------|---------------------|----------------|
|                       | Less<br>than<br>80 | 80-90   | 90-100  | 100-110 | 110-120 | 120-130 | More<br>than<br>130 | Total<br>Area. |
|                       | sq. mi.            | sq. mi. | sq. mi. | sq. mi. | sq. mi. | sq. mi. | sq. mi.             | sq. mi.        |
| England .. ..         | 60                 | 3,670   | 12,210  | 20,680  | 11,100  | 2,390   | 200                 | 50,310         |
| Wales .. ..           | ..                 | ..      | ..      | 840     | 2,410   | 3,850   | 900                 | 8,000          |
| Isle of Man .. ..     | ..                 | ..      | ..      | ..      | 230     | ..      | ..                  | 230            |
| Scotland .. ..        | 640                | 2,870   | 5,240   | 8,610   | 11,050  | 1,170   | ..                  | 29,580         |
| Ireland .. ..         | ..                 | ..      | 1,350   | 12,100  | 15,000  | 3,850   | 140                 | 32,440         |
| British Isles .. ..   | 700                | 6,540   | 18,800  | 42,230  | 39,790  | 11,260  | 1,240               | 120,560        |

The general percentage values derived from the table are given in summary form below.

| COUNTRIES.              | No. of<br>Records<br>utilized. | Average.<br>35 years<br>1881-1915. | 1920. | Diff. from Average<br>1881-1915. |              | Diff. from<br>Average<br>computed<br>from<br>Maps. |
|-------------------------|--------------------------------|------------------------------------|-------|----------------------------------|--------------|--|
|                         |                                |                                    |       | Amount.                          | Per<br>cent. |  |
|                         |                                | in.                                | in.   | in.                              |              | in.  |
| England .....           | 99                             | 31·77                              | 33·39 | 1·62                             | + 5          | + 4  |
| Wales .....             | 19                             | 48·68                              | 60·66 | 11·98                            | +25          | + 21   |
| England and Wales ..... | 118                            | 34·50                              | 37·78 | 3·28                             | + 9          | + 7  |
| Scotland .....          | 57                             | 45·95                              | 48·92 | 2·97                             | + 6          | + 5  |
| Ireland .....           | 41                             | 41·23                              | 46·66 | 5·43                             | +13          | +11  |
| British Isles .....     | 219                            | 38·77                              | 42·32 | 3·55                             | + 9          | + 7  |

The general rainfall of the year was thus in excess of the average in each country, though in England and Scotland the large dry areas in the east nearly counterbalanced the wet areas in the west, and the general excess is slight. Wales, where the whole country had an excess, was markedly wet, certainly wetter than it has been for a decade past ; and Ireland also had a substantial excess.

It is interesting to observe the great preponderance of relatively wet years since 1910, when strictly comparable data first became available. In Wales, for example, only two years of the eleven had deficient rainfall, the fall even in these cases being within 5 per cent. of the average, whilst five years had excesses of 10 per cent. or more. Scotland had on the whole the least marked excess, but here, too, wet years preponderated over dry, and for the British Isles as a whole there was



a strong tendency towards wetness. There can be no doubt that the period in question represented one of the periodical wet spells, such as that observed generally over the British Isles between 1872 and 1882, which appear to be a feature of the climate of north-western Europe. It is worthy of note that the wet period of the seventies was followed by an equally marked dry period of somewhat greater duration.

*Comparison of the Total Rainfall 1910–1919 with average of 35 Years.*

| Year. | England. | Wales. | Eng. and<br>Wales. | Scotland. | Ireland. | British<br>Isles. |
|-------|----------|--------|--------------------|-----------|----------|-------------------|
| 1910  | 111      | 116    | 112                | 103       | 108      | 109               |
| 1911  | 94       | 101    | 96                 | 101       | 99       | 98                |
| 1912  | 123      | 119    | 122                | 111       | 108      | 115               |
| 1913  | 96       | 109    | 98                 | 96        | 107      | 99                |
| 1914  | 109      | 110    | 109                | 103       | 108      | 107               |
| 1915  | 110      | 105    | 109                | 92        | 102      | 102               |
| 1916  | 113      | 107    | 112                | 116       | 114      | 114               |
| 1917  | 97       | 96     | 96                 | 97        | 98       | 97                |
| 1918  | 107      | 114    | 108                | 108       | 112      | 109               |
| 1919  | 103      | 98     | 102                | 93        | 90       | 96                |
| 1920  | 105      | 125    | 109                | 105       | 111      | 109               |

NOTE.—The average used from 1910 to 1919 was for the period 1875–1909. For 1920 it was for the period 1881–1915. A comparison of these two averages is given in the article on the Distribution of Average Monthly Rainfall in Part IV of this volume.

**COMPARISON OF THE RAINFALL OF THE YEAR 1920 WITH  
THE AVERAGE OF THE PERIODS 1900-09 & 1881-1915.**

**ENGLAND.**

| DIV. | COUNTY<br>and river-division. | STATION.                               | Average<br>1900-09. | Average<br>1881-<br>1915. | Depth<br>in 1920. | Difference<br>from Average<br>1881-1915<br>Per<br>Amount.cent. |
|------|-------------------------------|--|---------------------|---------------------------|-------------------|--|
|      |                               |  | in.                 | in.                       | in.               | in.  |
| I    | London . . . . . 2            | St. Pancras (Camden Square) .          | 24·57               | 24·47                     | 23·59             | ·88 — 4  |
| II   | Surrey . . . . . 5            | Dorking (Denbies) . . . . .            | 32·31               | 32·24                     | 32·05             | ·19 — 1  |
| "    | " . . . . . 6                 | Haslemere (Courts Hill) . . . . .      | 35·28               | 35·62                     | 35·10             | ·52 — 1  |
| "    | Kent . . . . . 1              | Tenterden (View Tower) . . . . .       | 26·34               | 27·50                     | 24·26             | 3·24 — 12  |
| "    | " . . . . . 1                 | Folkestone (Cherry Gardens) . . . . .  | 29·26               | 29·13                     | 24·98             | 4·15 — 14  |
| "    | " . . . . . 2                 | Margate (Cliftonville) . . . . .       | 21·02               | 22·80                     | 17·77             | 5·03 — 12  |
| "    | " . . . . . 4                 | Rochester (Knights Place) . . . . .    | 25·80               | 26·03                     | 22·96             | 3·07 — 12  |
| "    | Sussex . . . . . 3            | Brighton (Old Steyne) . . . . .        | 25·58               | 27·69                     | 27·16             | ·53 — 2  |
| "    | " . . . . . 7                 | Crowborough (Uckfield Lodge) . . . . . | 35·76               | 36·00                     | 33·24             | 2·76 — 8   |
| "    | Hampshire . . . . . 1         | Totland Bay (Aston House) . . . . .    | 28·16               | 28·49                     | 30·36             | 1·87 + 7   |
| "    | " . . . . . 3                 | Fordingbridge (Oaklands) . . . . .     | 30·41               | 31·65                     | 31·78             | ·13 + 0  |
| "    | " . . . . . 5                 | Portsmouth (Victoria Park) . . . . .   | 27·00               | 27·75                     | 27·50             | ·25 — 1  |
| "    | " . . . . . 5                 | Ovington Rectory . . . . .             | 33·49               | 33·18                     | 36·19             | 3·01 + 9   |
| "    | " . . . . . 8                 | Sherborne St. John Rectory . . . . .   | 29·27               | 28·96                     | 27·36             | 1·60 — 6   |
| III  | Hertfordshire . . . . . 2     | Harpenden (Rothamsted) . . . . .       | 26·46               | 26·73                     | 25·74             | ·99 — 4  |
| "    | " . . . . . 3                 | Royston (Therfield Rectory) . . . . .  | 24·64               | 25·19                     | 21·21             | 3·98 — 16  |
| "    | Buckinghamshire . . . . . 3   | High Wycombe . . . . .                 | 26·44               | 25·90                     | 29·26             | 3·36 + 13  |
| "    | " . . . . . 5                 | Newport Pagnell (The Croft) . . . . .  | 23·16               | 23·69                     | 22·26             | 1·43 — 6   |
| "    | Oxfordshire . . . . . 3       | Oxford (Magdalen College) . . . . .    | 23·31               | 23·81                     | 24·09             | ·28 — 1  |
| "    | Northampton . . . . . 4       | Oundle (Milton Road) . . . . .         | 21·54               | 22·32                     | 20·39             | 1·93 — 9   |
| "    | Cambridgeshire . . . . . 2    | Stretham Engine . . . . .              | 19·36               | 21·20                     | 19·32             | 1·88 — 9   |
| "    | " . . . . . 3                 | Wisbech (Bank House) . . . . .         | 21·97               | 22·99                     | 21·73             | 1·26 — 5   |

## ENGLAND—(con.).

| DIV. | COUNTY<br>and river-division. | STATION.                            | Average<br>1900-09. | Average<br>1881-<br>1915. | Depth<br>in 1920. | Difference<br>from Average<br>1881-1915. |
|------|-------------------------------|-------------------------------------|---------------------|---------------------------|-------------------|--|
|      |                               |                                     |                     |                           |                   | Per<br>Amount.cent.                      |
|      |                               |                                     | in.                 | in.                       | in.               | in.                                      |
| IV   | Essex . . . . .               | 4 Chelmsford (High Street) . . . .  | 22.66               | 22.49                     | 23.52             | 1.03 + 5                                 |
| "    | " . . . . .                   | 5 Earls Colne (Chalkney House) . .  | 22.83               | 23.16                     | 23.25             | .09 + 0                                  |
| "    | Suffolk . . . . .             | 1 Cockfield Rectory . . . . .       | 23.74               | 24.77                     | 22.29             | 2.48 - 10                                |
| "    | " . . . . .                   | 3 Rendlesham Hall . . . . .         | 22.20               | 23.14                     | 21.04             | 2.10 - 9                                 |
| "    | Norfolk . . . . .             | 1 Beccles (Geldeston) . . . . .     | 22.74               | 23.66                     | 19.19             | 4.47 - 19                                |
| "    | " . . . . .                   | 2 Worstead (Dilham) . . . . .       | 25.67               | 26.29                     | 23.65             | 2.64 - 10                                |
| "    | " . . . . .                   | 3 Blakeney . . . . .                | 22.64               | 23.00                     | 19.52             | 3.48 - 15                                |
| "    | " . . . . .                   | 4 Swaffham . . . . .                | 24.61               | 25.56                     | 22.36             | 3.20 - 13                                |
| V    | Wiltshire . . . . .           | 1 Calne (High Street) . . . . .     | 27.34               | 28.86                     | 30.99             | 2.13 + 7                                 |
| "    | " . . . . .                   | 3 Warminster (Rye Hill) . . . . .   | 35.21               | 36.91                     | 36.74             | .17 - 0                                  |
| "    | " . . . . .                   | 6 New Swindon . . . . .             | 26.37               | 27.49                     | 29.22             | 1.73 + 6                                 |
| "    | Dorset . . . . .              | 1 Evershot (Melbury House) . .      | 37.70               | 38.66                     | 38.48             | .18 - 0                                  |
| "    | " . . . . .                   | 3 Weymouth (Westham) . . . . .      | 26.64               | 27.98                     | 29.65             | 1.67 + 6                                 |
| "    | " . . . . .                   | 3 Bere Regis (Bloxworth House) .    | 34.25               | 33.71                     | 33.41             | .30 - 1                                  |
| "    | South Devon . . . .           | 4 Princetown (H.M. Prison) . . .    | 79.53               | 82.65                     | 92.87             | 10.22 + 12                               |
| "    | " . . . . .                   | 6 Cullompton . . . . .              | 33.22               | 35.27                     | 37.16             | 1.89 + 5                                 |
| "    | " . . . . .                   | 7 Lyme Regis (Rousdon) . . . . .    | 32.38               | 33.49                     | 32.72             | .77 - 2                                  |
| "    | North Devon . . . .           | 2 Arlington Court . . . . .         | 53.81               | 53.77                     | 60.49             | 6.72 + 12                                |
| "    | " . . . . .                   | 3 Torrington (Enfield) . . . . .    | 37.72               | 39.25                     | 44.71             | 5.46 + 14                                |
| "    | Cornwall . . . . .            | 1 Bude . . . . .                    | 32.96               | 33.44                     | 37.24             | 3.80 + 11                                |
| "    | " . . . . .                   | 2 Penzance (Morrab Gardens) . .     | 40.32               | 40.93                     | 40.92             | .01 - 0                                  |
| "    | " . . . . .                   | 2 Falmouth (New Observatory) . .    | 41.95               | 42.90                     | 47.26             | 4.36 + 10                                |
| "    | " . . . . .                   | 2 St. Austell (Trevarna) . . . . .  | 43.87               | 45.84                     | 49.37             | 3.53 + 8                                 |
| "    | " . . . . .                   | 3 Callington (Pencrebar) . . . . .  | 41.91               | 43.80                     | 51.86             | 8.06 + 18                                |
| "    | " . . . . .                   | 4 Tresco Abbey . . . . .            | 31.44               | 32.63                     | 32.87             | .24 + 1                                  |
| "    | Somerset . . . . .            | 2 Street (Millfield) . . . . .      | 28.73               | 29.47                     | 27.38             | 2.09 - 7                                 |
| "    | " . . . . .                   | 3 Cothelstone House . . . . .       | 32.19               | 34.93                     | 35.90             | .97 + 3                                  |
| VI   | Gloucestershire . . .         | 2 Tewkesbury (Upper Lode) . . .     | 24.63               | 25.22                     | 25.96             | .74 + 3                                  |
| "    | " . . . . .                   | 5 Clifton College . . . . .         | 31.73               | 33.87                     | 38.54             | 4.67 + 14                                |
| "    | " . . . . .                   | 7 Northleach (Sherborne House) .    | 30.29               | 30.65                     | 33.78             | 3.13 + 10                                |
| "    | Herefordshire . . .           | 1 Hereford (Belmont) . . . . .      | 26.94               | 26.34                     | 32.91             | 6.57 + 25                                |
| "    | Shropshire . . . . .          | 3 Church Stretton (Wolstaston) .    | 31.74               | 31.90                     | 39.52             | 7.62 + 24                                |
| "    | " . . . . .                   | 4 Shifnal (Hatton Grange) . . . .   | 26.62               | 26.15                     | 34.43             | 8.28 + 32                                |
| "    | Staffordshire . . . .         | 2 Market Drayton (Old Springs) .    | 29.47               | 28.75                     | 33.52             | 4.77 + 17                                |
| "    | " . . . . .                   | 5 Tean (The Heath House) . . . .    | 32.10               | 31.83                     | 38.27             | 6.44 + 20                                |
| "    | Worcestershire . . .          | 2 Stourport (Lincombe Lock) . .     | 25.09               | 25.57                     | 28.18             | 2.61 + 10                                |
| "    | Warwickshire . . . .          | 1 Stratford on Avon (Shottery Hall) | 23.76               | 23.91                     | 24.50             | .59 + 2                                  |
| "    | " . . . . .                   | 1 Rugby (Caldecott) . . . . .       | 25.20               | 25.58                     | 25.72             | .14 + 1                                  |
| "    | " . . . . .                   | 4 Birmingham (Edgbaston) . . . .    | 26.59               | 26.49                     | 31.33             | 4.84 + 18                                |
| VII  | Leicestershire . . .          | 4 Thornton Reservoir . . . . .      | 25.73               | 26.20                     | 27.53             | 1.33 + 5                                 |
| "    | " . . . . .                   | 4 Belvoir Castle Gardens . . . . .  | 24.80               | 25.11                     | 26.17             | 1.06 + 4                                 |
| "    | Lincolnshire . . . .          | 3 Boston (Black Sluice, Skirbeck) . | 23.21               | 22.81                     | 23.79             | .98 + 4                                  |
| "    | " . . . . .                   | 3 Lincoln (Skellingthorpe Hall) . . | 22.72               | 23.12                     | 25.81             | 2.69 + 12                                |
| "    | " . . . . .                   | 4 Skegness (Estate Offices) . . . . | 22.54               | 22.51                     | 19.99             | 2.52 - 11                                |
| "    | " . . . . .                   | 4 Louth (Westgate) . . . . .        | 27.30               | 28.00                     | 26.50             | 1.50 - 5                                 |
| "    | Nottinghamshire . .           | 5 Worksop (Hodsock Priory) . . .    | 23.15               | 23.63                     | 25.11             | 1.48 + 6                                 |
| "    | Derbyshire . . . . .          | 5 Mickleover Manor . . . . .        | 25.93               | 26.05                     | 29.83             | 3.78 + 15                                |
| "    | " . . . . .                   | 8 Hardwick Hall . . . . .           | 31.83               | 31.50                     | 34.94             | 3.44 + 11                                |
| VIII | Cheshire . . . . .            | 1 Macclesfield (West Park) . . . .  | 33.59               | 34.11                     | 39.98             | 5.87 + 17                                |
| "    | South Lancashire . .          | 2 Garston (Grassendale Park) . . .  | 29.68               | 30.05                     | 36.01             | 5.96 + 20                                |
| "    | " . . . . .                   | 3 Manchester (Whitworth Park) . .   | ..                  | 31.68                     | 39.05             | 7.37 + 23                                |
| "    | Central " . . . . .           | 1 Burnley (Swinden) . . . . .       | 42.09               | 44.32                     | 50.13             | 5.81 + 13                                |
| "    | " . . . . .                   | 3 Southport (Hesketh Park) . . . .  | 31.13               | 31.99                     | 34.08             | 2.09 + 7                                 |
| "    | North " . . . . .             | 1 Barrow-in-Furness (Gas Works) .   | 37.01               | 37.60                     | 38.52             | .92 + 2                                  |
| "    | " . . . . .                   | 5 Garstang (Grizedale Reservoir) .  | 42.12               | 43.62                     | 48.63             | 5.01 + 11                                |
| IX   | Yorks, West Riding            | 1 Sedbergh (Akay) . . . . .         | 56.38               | 54.58                     | 64.18             | 9.60 + 18                                |
| "    | " . . . . .                   | 7 Wath-upon-Deane (Chapel St.) . .  | 24.61               | 24.80                     | 27.92             | 3.12 + 13                                |
| "    | " . . . . .                   | 8 Huddersfield (Cemetery) . . . .   | 33.85               | 33.91                     | 41.24             | 7.33 + 22                                |
| "    | " . . . . .                   | 9 Malham Tarn . . . . .             | 57.13               | 57.50                     | 65.12             | 7.62 + 13                                |
| "    | " . . . . .                   | 10 York (Museum Gardens) . . . . .  | 23.29               | 24.31                     | 26.10             | 1.79 + 7                                 |
| "    | " . . . . .                   | 11 Harrogate (Harlow Moor Obsy.) .  | 30.50               | 29.61                     | 34.93             | 5.32 + 19                                |
| "    | " . . . . .                   | 3 Patrington (Spurn Head) . . . .   | 19.36               | 19.72                     | 19.54             | .18 - 1                                  |
| "    | " . . . . .                   | 3 Hull (Pearson Park) . . . . .     | 24.84               | 25.38                     | 25.67             | .29 + 1                                  |
| "    | " . . . . .                   | 3 Lowthorpe (The Elms) . . . . .    | 25.09               | 26.47                     | 26.73             | .26 + 1                                  |

**ENGLAND—(con.).**

| DIV. | COUNTY<br>and river-division. | STATION.                               | Average<br>1900-09. | Average<br>1881-<br>1915. | Depth<br>in 1920. | Difference<br>from Average<br>1881-1915. |       |
|------|-------------------------------|--|---------------------|---------------------------|-------------------|--|-------|
|      |                               |  |                     |                           |                   | Per<br>Amount.                           | cent. |
| IX   | Yorks,North Riding            | 1 Leyburn (Bolton Hall) . . . . .      | 31·72               | 32·63                     | 38·53             | 5·90                                     | + 18  |
| "    | "                             | 2 Felixkirk (Mount St. John) . . . .   | 25·29               | 26·54                     | 28·75             | 2·21                                     | + 8   |
| "    | "                             | 5 Whitby . . . . .                     | 24·07               | 24·73                     | 22·40             | 2·33                                     | - 9   |
| "    | "                             | 6 Middlesbrough (Albert Park) . . . .  | 23·38               | 23·67                     | 25·56             | 1·89                                     | + 8   |
| X    | Durham . . . . .              | 1 Barnard Castle (County School) . . . | 28·02               | 29·73                     | 32·30             | 2·57                                     | + 9   |
| "    | Northumberland . . . .        | 3 Newcastle (Town Moor) . . . . .      | 27·61               | 27·22                     | 29·73             | 2·51                                     | + 9   |
| "    | "                             | 4 Hallington (Fawcett) . . . . .       | 28·11               | 28·24                     | 30·36             | 2·12                                     | + 7   |
| "    | "                             | 5 Rothbury (Crag-side) . . . . .       | 33·66               | 33·78                     | 32·29             | 1·49                                     | - 4   |
| "    | "                             | 5 Howick Hall Gardens . . . . .        | 29·69               | 28·23                     | 30·08             | 1·85                                     | + 6   |
| "    | Cumberland . . . . .          | 1 Carlisle (Spital Cemetery) . . . . . | 33·21               | 31·81                     | 32·11             | ·30                                      | + 1   |
| "    | "                             | 2 Borrowdale (Seathwaite) . . . . .    | 126·16              | 129·48                    | 128·08            | 1·40                                     | - 1   |
| "    | "                             | 3 Whitehaven (Irish Street) . . . . .  | 43·57               | 42·27                     | 49·48             | 7·21                                     | + 17  |
| "    | Westmorland . . . . .         | 1 Appleby (Castle Bank) . . . . .      | 35·15               | 35·03                     | 39·36             | 4·33                                     | + 12  |

**MONMOUTH AND WALES.**

|    |                      |   |   |       |       |        |       |     |
|----|----------------------|---|---|-------|-------|--------|-------|-----|
| XI | Monmouth . . . . .   | 3 | Abergavenny (Larchfield) . . . . .      | 34·83 | 37·53 | 46·58  | 9·05  | +24 |
| "  | Glamorgan . . . . .  | 3 | Ystalyfera (Wern House) . . . . .       | 63·91 | 64·89 | 85·71  | 20·82 | +32 |
| "  | " " "                | 5 | Cardiff (Ely Pumping Station) . . . . . | 41·02 | 42·12 | 47·57  | 5·45  | +13 |
| "  | " " "                | 5 | Glyncorwg Colliery . . . . .            | 82·90 | 85·42 | 103·01 | 17·59 | +21 |
| "  | Carmarthen . . . . . | 2 | Carmarthen (The Friary) . . . . .       | 47·85 | 48·30 | 61·35  | 13·05 | +27 |
| "  | " " "                | 2 | Llanwrda (Dolaucothy) . . . . .         | 55·89 | 57·55 | 73·47  | 15·92 | +28 |
| "  | Pembroke . . . . .   | 3 | St. David's . . . . .                   | 37·72 | 36·37 | 48·78  | 12·41 | +34 |
| "  | " " "                | 4 | Pembroke (Stackpole Court) . . . . .    | 37·83 | 39·26 | 51·22  | 11·96 | +30 |
| "  | Cardigan . . . . .   | 2 | Aberystwyth (Gogerddan) . . . . .       | 45·81 | 46·49 | 55·54  | 9·05  | +19 |
| "  | Brecon . . . . .     | 7 | Brecon (New Inn) . . . . .              | 55·53 | 59·01 | 64·59  | 5·58  | + 9 |
| "  | Radnor . . . . .     | 1 | Birmingham WW (Tyrmynydd) . . . . .     | 59·27 | 62·15 | 65·27  | 3·12  | + 5 |
| "  | Montgomery . . . . . | 5 | L. Vyrnwy (Bank Cynon Isaf) . . . . .   | 54·83 | 55·31 | 68·51  | 13·20 | +24 |
| "  | Denbigh . . . . .    | 1 | Wrexham (Pack Saddle Res.) . . . . .    | 33·43 | 32·00 | 41·59  | 9·59  | +30 |
| "  | " " "                | 2 | Denbigh (Garn) . . . . .                | 33·62 | 32·70 | 41·41  | 8·71  | +27 |
| "  | Merioneth . . . . .  | 1 | Bala (Eryl Aran) . . . . .              | 54·94 | 54·61 | 72·38  | 17·77 | +33 |
| "  | " " "                | 4 | Dolgelly (Bryntirion) . . . . .         | 58·25 | 58·44 | 77·12  | 18·68 | +32 |
| "  | Carnarvon . . . . .  | 2 | Llandudno . . . . .                     | 29·76 | 30·04 | 38·28  | 8·24  | +27 |
| "  | " " "                | 3 | Llandwrog (Glynllivon Park) . . . . .   | 42·50 | 44·65 | 59·63  | 14·98 | +34 |
| "  | Anglesey . . . . .   |   | Llanerchymedd . . . . .                 | 39·66 | 38·10 | 48·22  | 10·12 | +27 |

**ISLE OF MAN.**

|    |                       |  |                                      |       |       |       |      |     |
|----|-----------------------|--|--------------------------------------|-------|-------|-------|------|-----|
| XI | Isle of Man . . . . . |  | Douglas (Borough Cemetery) . . . . . | 41·41 | 41·19 | 47·13 | 5·94 | +14 |
|----|-----------------------|--|--------------------------------------|-------|-------|-------|------|-----|

**CHANNEL ISLANDS.**

|    |                    |  |   |       |       |       |      |     |
|----|--------------------|--|---|-------|-------|-------|------|-----|
| XI | Jersey . . . . .   |  | St. Aubins (Railway Station) . . . . .      | 31·51 | 33·49 | 26·72 | 6·77 | -20 |
| "  | Guernsey . . . . . |  | St. Peter Port (St. Martin's Rd.) . . . . . | 34·02 | 36·47 | 34·16 | 2·31 | - 6 |

**SCOTLAND.**

|      |                         |   |  |       |       |       |       |     |
|------|-------------------------|---|--|-------|-------|-------|-------|-----|
| XII  | Wigtown . . . . .       | 3 | Stoneykirk (Ardwell House) . . . . .     | 38·52 | 36·35 | 45·52 | 9·17  | +25 |
| "    | Kirkcudbright . . . . . | 3 | Dalry (Glendarroch) . . . . .            | 55·17 | 54·51 | 61·44 | 6·93  | +13 |
| "    | " " "                   | 4 | Auchencairn (Torr House) . . . . .       | 48·94 | 47·05 | 52·75 | 5·70  | +12 |
| "    | Dumfries . . . . .      | 3 | Dumfries (Crichton Roy. Inst.) . . . . . | ..    | 36·79 | 38·90 | 2·11  | + 6 |
| "    | " " "                   | 3 | Durrisdeer (Drumlanrig Gdns.) . . . . .  | 46·22 | 43·57 | 50·91 | 7·34  | +17 |
| "    | " " "                   | 5 | Langholm (Ewes) . . . . .                | 52·72 | 53·36 | 56·85 | 3·49  | + 7 |
| "    | Roxburgh . . . . .      | 3 | Hawick (Braxholme) . . . . .             | 32·27 | 33·36 | 36·00 | 2·64  | + 8 |
| XIII | Berwick . . . . .       | 4 | Marchmont House . . . . .                | 32·52 | 32·18 | 32·69 | ·51   | + 2 |
| "    | Haddington . . . . .    | 4 | Prestonkirk (Smeaton) . . . . .          | 26·00 | 24·87 | 25·16 | ·29   | + 1 |
| "    | Midlothian . . . . .    | 5 | Edinburgh University . . . . .           | ..    | 25·00 | 28·87 | 3·87  | +15 |
| XIV  | Lanark . . . . .        | 1 | Biggar (Cambus Wallace) . . . . .        | 30·23 | 31·06 | 37·21 | 6·15  | +20 |
| "    | " " "                   | 4 | Airdrie (Hillend Reservoir) . . . . .    | 38·13 | 37·32 | 40·29 | 2·97  | + 8 |
| "    | Ayr . . . . .           | 3 | Kilmarnock (North Craig Res.) . . . . .  | 45·21 | 41·23 | 45·70 | 4·47  | +11 |
| "    | " " "                   | 8 | Girvan (Pinmore) . . . . .               | 53·19 | 49·84 | 52·35 | 2·51  | + 5 |
| "    | Renfrew . . . . .       | 3 | Shaws W. W. (Loch Thom) . . . . .        | 67·46 | 65·36 | 78·21 | 12·85 | +20 |

## SCOTLAND—(con.).

| DIV.  | COUNTY.<br>and river-division. | STATION.                           | Average<br>1900-09. | Average<br>1881-<br>1915 | Depth<br>in 1920. | Difference<br>from Average<br>1881-1915. |     |
|-------|--------------------------------|------------------------------------|---------------------|--------------------------|-------------------|--|-----|
|       |                                |                                    |                     |                          |                   | Per<br>Amount.cent.                      |     |
|       |                                |                                    | in.                 | in.                      | in.               | in.                                      |     |
| XV    | Argyll . . . . .               | 2 Loch Sunart (Glenborrodale) . .  | 69.47               | 68.97                    | 74.84             | 5.87                                     | + 9 |
| "     | " . . . . .                    | 8 Lochgilhead (Poltalloch) . . .   | 53.47               | 52.23                    | 64.58             | 12.35                                    | +23 |
| "     | " . . . . .                    | 10 Campbeltown (Devaar) . . . .    | 47.33               | 45.07                    | 53.35             | 8.28                                     | +18 |
| "     | " . . . . .                    | 10 Skipness Castle . . . . .       | 49.95               | 48.77                    | 56.23             | 7.46                                     | +15 |
| "     | " . . . . .                    | 11 Inveraray Castle Gardens . . .  | 79.07               | 77.22                    | 95.81             | 18.59                                    | +24 |
| "     | " . . . . .                    | 14 Islay (Eallabus) . . . . .      | 51.26               | 48.86                    | 58.94             | 10.08                                    | +21 |
| "     | " . . . . .                    | 14 Lismore (Mousedale) . . . . .   | 42.32               | 43.71                    | 47.13             | 3.42                                     | + 8 |
| "     | " . . . . .                    | 14 Mull (Quinish) . . . . .        | 57.55               | 56.75                    | 63.87             | 7.12                                     | +13 |
| XVI   | Kinross . . . . .              | 2 Loch Leven Sluice . . . . .      | 36.70               | 35.77                    | 33.49             | 2.28                                     | - 6 |
| "     | Perth . . . . .                | 2 Loch Dhu . . . . .               | 81.21               | 79.77                    | 93.10             | 13.33                                    | +17 |
| "     | " . . . . .                    | 3 Balquhidder (Stronvar) . . . .   | 74.43               | 74.24                    | 84.79             | 10.55                                    | +14 |
| "     | " . . . . .                    | 7 Crieff (Strathearn Hydro) . . .  | "                   | 40.86                    | 43.34             | 2.48                                     | + 6 |
| "     | " . . . . .                    | 14 Blair Atholl . . . . .          | 33.36               | 33.09                    | 36.96             | 3.87                                     | +12 |
| "     | Forfar . . . . .               | 1 Kirriemuir (Lintrathen) . . . .  | 35.32               | 34.67                    | 35.16             | .49                                      | + 1 |
| "     | " . . . . .                    | 2 Dundee (Eastern Necropolis) . .  | 27.72               | 27.44                    | 29.67             | 2.23                                     | + 8 |
| "     | " . . . . .                    | 4 Montrose (Sunnyside Asylum)      | 28.52               | 27.03                    | 25.88             | 1.15                                     | - 4 |
| XVII  | Aberdeen . . . . .             | 1 Braemar (Bank) . . . . .         | 34.11               | 35.00                    | 39.43             | 4.43                                     | +13 |
| "     | " . . . . .                    | 1 Logie Coldstone School . . . . . | 34.05               | 30.92                    | 30.05             | .87                                      | - 3 |
| "     | " . . . . .                    | 1 Aberdeen (Cranford House) . .    | 32.70               | 31.74                    | 28.95             | 2.79                                     | - 9 |
| "     | " . . . . .                    | 4 New Deer Schoolhouse . . . . .   | 32.89               | 32.34                    | 26.84             | 5.50                                     | -17 |
| "     | Moray . . . . .                | 2 Gordon Castle . . . . .          | 30.64               | 29.77                    | 24.06             | 5.71                                     | -19 |
| "     | " . . . . .                    | 3 Grantown-on-Spey . . . . .       | 32.65               | 31.15                    | 25.49             | 5.66                                     | -18 |
| "     | Nairn . . . . .                | 2 Nairn (Delnies) . . . . .        | 25.73               | 24.94                    | 20.88             | 4.06                                     | -84 |
| XVIII | Inverness . . . . .            | 3 Alvie Manse . . . . .            | 30.71               | 30.28                    | 28.57             | 1.71                                     | - 6 |
| "     | " . . . . .                    | 7 Loch Quoich (Glenquoich) . . .   | 115.15              | 110.75                   | 124.57            | 13.82                                    | +12 |
| "     | " . . . . .                    | 9 Drumnadrochit . . . . .          | 35.08               | 35.64                    | 31.96             | 3.68                                     | -10 |
| "     | " . . . . .                    | 9 Inverness (High School) . . . .  | 28.12               | 26.87                    | 24.54             | 2.33                                     | - 9 |
| "     | " . . . . .                    | 13 Arisaig House . . . . .         | 62.88               | 62.86                    | 66.78             | 3.92                                     | + 6 |
| "     | " . . . . .                    | 17 Fort William (Atholl Bank) . .  | 77.59               | 77.84                    | 93.90             | 16.06                                    | +21 |
| "     | " . . . . .                    | 19 North Uist (Monach) . . . . .   | 42.13               | 46.62                    | 51.22             | 4.60                                     | +10 |
| "     | Ross & Cromarty . . . . .      | 4 Alness (Ardross Castle) . . . .  | 41.86               | 38.54                    | 36.84             | 1.70                                     | - 4 |
| "     | " . . . . .                    | 8 Loch Torridon (Bendamph) . . .   | 89.50               | 85.12                    | 87.82             | 2.70                                     | + 3 |
| "     | " . . . . .                    | 9 Applecross Gardens . . . . .     | 60.41               | 57.28                    | 61.70             | 4.42                                     | + 8 |
| "     | " . . . . .                    | 9 Glencarron Lodge . . . . .       | 87.59               | 87.75                    | 82.33             | 5.42                                     | - 6 |
| "     | " . . . . .                    | 10 Stornoway . . . . .             | 50.48               | 49.85                    | 56.36             | 6.51                                     | +13 |
| XIX   | Sutherland . . . . .           | 2 Dunrobin Castle . . . . .        | 33.07               | 31.65                    | 25.18             | 6.47                                     | -20 |
| "     | " . . . . .                    | 4 Tongue Manse . . . . .           | "                   | 41.00                    | 32.86             | 8.14                                     | -20 |
| "     | " . . . . .                    | 4 Melvich Schoolhouse . . . . .    | "                   | 36.00                    | 29.09             | 6.91                                     | -19 |
| "     | " . . . . .                    | 5 Loch More (Achfary) . . . . .    | "                   | 75.80                    | 76.89             | 1.09                                     | + 1 |
| "     | Caithness . . . . .            | 2 Wick . . . . .                   | 31.35               | 29.92                    | 26.14             | 3.78                                     | -13 |
| "     | Orkney . . . . .               | Pomona (Deerness) . . . . .        | 35.02               | 35.42                    | 35.99             | .57                                      | + 2 |
| "     | Shetland . . . . .             | Lerwick . . . . .                  | "                   | 38.01                    | 39.85             | 1.84                                     | + 5 |

## IRELAND.

|     |                         |                                    |       |       |       |       |     |
|-----|-------------------------|------------------------------------|-------|-------|-------|-------|-----|
| XX  | Cork . . . . .          | 6 Dunmanway (The Rectory) . .      | "     | 61.00 | 74.35 | 13.35 | +22 |
| "   | " . . . . .             | 7 Midleton (Ballinacurra) . . . .  | "     | 40.36 | 44.60 | 4.24  | +10 |
| "   | " . . . . .             | 9 Mallow (Summer Hill) . . . . .   | 38.20 | 37.30 | 50.39 | 13.09 | +35 |
| "   | Kerry . . . . .         | 3 Killarney (District Asylum) . .  | 50.48 | 54.71 | 56.55 | 1.84  | + 3 |
| "   | " . . . . .             | 4 Kenmare (Derreen) . . . . .      | 70.26 | 70.51 | 89.73 | 19.22 | +27 |
| "   | " . . . . .             | 6 Valentia (Glanleam) . . . . .    | 56.04 | 56.97 | 69.49 | 12.52 | +22 |
| "   | Waterford . . . . .     | 3 Waterford (Brook Lodge) . . . .  | 40.12 | 39.47 | 45.71 | 6.24  | +16 |
| "   | Tipperary . . . . .     | 1 Nenagh (Castle Lough) . . . . .  | 38.55 | 39.52 | 45.25 | 5.73  | +15 |
| "   | " . . . . .             | 3 Cahir (Bengurragh) . . . . .     | 38.55 | 39.60 | 44.37 | 4.77  | +12 |
| "   | Limerick . . . . .      | 2 Foynes (Coolnanes) . . . . .     | 39.23 | 39.43 | 42.87 | 3.44  | + 9 |
| "   | Clare . . . . .         | 2 Ennistymon House . . . . .       | 47.77 | 46.60 | 53.54 | 6.94  | +15 |
| XXI | Wexford . . . . .       | 4 Gorey (Courtown House) . . . .   | 33.34 | 34.67 | 44.63 | 9.96  | +29 |
| "   | Kilkenny . . . . .      | 2 Killkenny Castle . . . . .       | 32.57 | 33.15 | 39.30 | 6.15  | +19 |
| "   | Wicklow . . . . .       | 2 Shillelagh (Coollattin Gardens)  | "     | 41.90 | 47.93 | 6.03  | +14 |
| "   | Queens County . . . . . | 2 Abbey Leix (Blandsfort) . . . .  | 37.70 | 36.55 | 40.90 | 4.35  | +12 |
| "   | Kings . . . . .         | 1 Birr Castle . . . . .            | 32.77 | 32.56 | 37.31 | 4.75  | +15 |
| "   | Dublin . . . . .        | 2 Dublin (Fitz William Square)     | 26.93 | 27.37 | 33.98 | 6.61  | +24 |
| "   | " . . . . .             | 3 Balbriggan (Ardgillan) . . . . . | 28.62 | 28.96 | 37.04 | 8.08  | +28 |

## IRELAND—(con.).

| DIV.  | COUNTY<br>and river-division. | STATION.                         | Average<br>1900-09. | Average<br>1881-<br>1915. | Depth<br>in 1920. | Difference<br>from Average<br>1881-1915. | Per<br>Amount.cent. |
|-------|-------------------------------|----------------------------------|---------------------|---------------------------|-------------------|--|---------------------|
|       |                               |                                  | in.                 | in.                       | in.               | in.                                      |                     |
| XXI   | Meath ..... 4                 | Kells (Headfort) .....           | 34·25               | 37·00                     | 39·79             | 2·79                                     | + 8                 |
| "     | Westmeath..... 1              | Athlone (Twyford) .....          | 34·99               | 37·00                     | 38·76             | 1·76                                     | + 5                 |
| "     | " ..... 1                     | Mullingar (Belvedere).....       | 35·89               | 36·34                     | 35·67             | ·67                                      | - 2                 |
| "     | Louth ..... 3                 | Greenore .....                   | 32·95               | 31·91                     | 35·62             | 3·71                                     | + 12                |
| XXII  | Galway ..... 3                | Tuam (Gardenfield).....          | 44·06               | 44·08                     | 46·69             | 2·61                                     | + 16                |
| "     | " ..... 4                     | Woodlawn .....                   | 42·19               | 41·24                     | 41·51             | ·27                                      | + 1                 |
| "     | Roscommon .... 4              | Strokestown (Castlenode) ....    | ..                  | 35·00                     | 36·61             | 1·61                                     | + 5                 |
| "     | Mayo ..... 2                  | Crossmolina (Enniscoe) .....     | 54·37               | 53·27                     | 64·07             | 10·80                                    | + 20                |
| "     | " ..... 3                     | Blacksod Point .....             | 52·01               | 49·69                     | 57·96             | 8·27                                     | + 17                |
| "     | " ..... 6                     | Ballinrobe (Cranmore) .....      | 48·42               | 48·68                     | 53·14             | 4·46                                     | + 9                 |
| "     | Sligo ..... 2                 | Collooney (Markree Obsy.) ..     | 44·40               | 43·27                     | 46·38             | 3·11                                     | + 7                 |
| XXIII | Cavan ..... 1                 | Belturbet (Cloverhill) .....     | 35·52               | 34·63                     | 34·55             | ·08                                      | - 0                 |
| "     | Armagh ..... 5                | Armagh Observatory .....         | 32·09               | 31·75                     | 36·30             | 4·55                                     | + 14                |
| "     | Down ..... 2                  | Seaforde .....                   | 39·47               | 38·29                     | 45·73             | 7·44                                     | + 20                |
| "     | " ..... 4                     | Donaghadee (Orlock Hill) ....    | 31·71               | 31·22                     | 39·23             | 8·01                                     | + 26                |
| "     | Antrim ..... 1                | Belfast (Queen's University) ..  | 35·89               | 34·46                     | 42·89             | 8·43                                     | + 25                |
| "     | " ..... 5                     | Ballymena (Harryville) .....     | 42·52               | 41·50                     | 46·94             | 5·44                                     | + 13                |
| "     | Londonderry .... 5            | Limavady (Drenagh) .....         | 37·88               | 36·99                     | 35·95             | 1·04                                     | - 97                |
| "     | Tyrone ..... 3                | Omagh (Edenfel).....             | 42·30               | 40·12                     | 48·56             | 8·44                                     | + 21                |
| "     | Donegal ..... 1               | Malin Head .....                 | 34·87               | 31·99                     | 30·75             | 1·24                                     | - 4                 |
| "     | " ..... 2                     | Letterkenny (District Asylum) .. | ..                  | 46·00                     | 47·68             | 1·68                                     | + 4                 |
| "     | " ..... 3                     | Dunfanaghy (St. Helen's) ....    | ..                  | 45·00                     | 46·20             | 1·20                                     | + 3                 |
| "     | " ..... 5                     | Killybegs (Rockmount) .....      | 60·95               | 60·50                     | 64·28             | 3·78                                     | + 6                 |

METEOROLOGICAL OFFICE, AIR MINISTRY.

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BRITISH RAINFALL ORGANIZATION.

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BRITISH RAINFALL, 1920.

PART III.

GENERAL TABLE  
OF  
TOTAL RAINFALL IN 1920  
AT  
4952 STATIONS  
IN  
GREAT BRITAIN AND IRELAND,  
WITH THE NAMES OF  
THE OBSERVERS  
OR OTHER AUTHORITIES FOR THE OBSERVATIONS.

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ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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62, CAMDEN SQUARE, LONDON, N.W.1.

## EXPLANATORY NOTE.

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The counties are divided up into numbered areas, corresponding to the river-basins. A full description of these river-divisions for England and Wales was given in a special article in Part I of *British Rainfall, 1910* (pp. 37-66), and a similar article on the river-divisions of Scotland and Ireland appeared in Part I of *British Rainfall, 1911* (pp. 49-72), with detailed maps showing all the river-divisions in each Division. Reprints of these articles are available.

The Divisions in the General Table are the same as those adopted by the Registrars-General of England and Scotland. The stations in each river-division are arranged nearly in the order of their latitude from South to North.

For convenience, the first name is that of a place which can be easily found on any large scale map; occasionally it is in an adjoining county. The second name is added to fix the site of observation more closely, *e.g.*, "Haslemere (Courts Hill)" means Courts Hill, near Haslemere.

In the column headed "diameter," figures in old style type indicate the length of the sides of rectangular gauges.

The letter D signifies that daily observations have been received and are complete for the year; d that less complete daily records have been received; w indicates that weekly readings have been received, and M that the gauge is read only once a month, usually on the 1st. (R) denotes that the gauge used is a self-registering or a recording instrument, the correct reading of which depends upon the mechanism being in working order.

The total rainfall is printed in ordinary roman type under the heading of the unit in which the readings were made, *i.e.*, in inches or millimetres. The total as converted from inches to millimetres, or from millimetres to inches, is printed in old style type. If the record was taken during part of the year in inches and part in millimetres, the figures in both columns are printed in old style type, and in the few instances in which the readings have been made in *both* units throughout both columns are printed in roman type.

A few entries of total rain will be found in italics—indicating that the values have been corrected, *e.g.*, when snow has been lost, when the amount for a short period has been computed from other records, or when the gauge has been moved a short distance during the year. A record is not as a rule printed if the gauge has been moved more than a mile, or if there is a greater difference than 50 ft. of altitude between the two positions.

A note of interrogation (?) implies doubt, not necessarily error; it is not intended to cast any suspicion on the accuracy of the Observer. The absence of information is indicated by ..

## COUNTY INDEX TO GENERAL TABLE.

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### IRELAND.

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## ENGLAND AND WALES.

## DIVISION I.—LONDON. (Area, 117 sq. mi.)

| STATIONS.  | AUTHORITIES.                 | Rain Gauge. |                  |                        | Depth of Rain. |            | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|------------------------------|-------------|------------------|------------------------|----------------|------------|-------------------------------------|-------------------------------------|
|  |                              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |            |                                     |                                     |
| <b>1.—THAMES.—Right Bank Tributaries. 67 sq. mi.</b> |                              |             |                  |                        |                |            |                                     |                                     |
|  |                              | <i>in.</i>  | <i>ft. in.</i>   | <i>ft.</i>             | <i>mm.</i>     | <i>in.</i> |                                     |                                     |
| <b>BERMONDSEY.</b>                                   |                              |             |                  |                        |                |            |                                     |                                     |
| D Southwark Park .....                               | London County Council ..     | 5           | 9 11             | 19                     | 534            | 21·03      | 135                                 | 105                                 |
| D Shad Thames Pumping Station                        | London County Council ..     | 6           | 28 5             | 43                     | 492            | 19·37      | 136                                 | 103                                 |
| <b>LAMBETH.</b>                                      |                              |             |                  |                        |                |            |                                     |                                     |
| D Brockwell Park .....                               | London County Council ..     | 8           | 1 3              | 140                    | 540            | 21·25      | 137                                 | 102                                 |
| D Brixton Hill Reservoir .....                       | Met. Water Board.....        | 5           | 1 8              | 121                    | 511            | 20·12      | 159                                 | 99                                  |
| <b>BATTERSEA.</b>                                    |                              |             |                  |                        |                |            |                                     |                                     |
| d Battersea Park .....                               | London County Council ..     | 5           | 9 8              | 13                     | 521            | 20·51      | ..                                  | 104                                 |
| D Battersea Water Works.....                         | Mr. F. J. Goldworthy ...     | 5           | 3 6              | 26                     | 563            | 22·18      | 145                                 | 104                                 |
| Nine Elms (Heathwall) .....                          | London County Council ..     | 8           | 39 4             | 54                     | 502            | 19·75      | 160                                 | 103                                 |
| <b>WANDSWORTH.</b>                                   |                              |             |                  |                        |                |            |                                     |                                     |
| D Streatham (Conyers Road) ...                       | Met. Water Board.....        | 5           | 2 6              | 119                    | 529            | 20·81      | 156                                 | 110                                 |
| D Streatham Hill Reservoir ....                      | Met. Water Board.....        | 5           | 3 2              | 205                    | 522            | 20·56      | 153                                 | 99                                  |
| D Putney Heath Reservoir .....                       | Met. Water Board.....        | 5           | 1 0              | 180                    | 563            | 22·15      | 162                                 | 107                                 |
| D Balham High Road.....                              | (R) P. Dodd, Esq., C.E. .... | 6           | 1 6              | 89                     | 561            | 22·07      | 181                                 | 107                                 |
| D Wandsworth C. (Loxley Rd.)...                      | F. J. Brodie, Esq. ....      | 8           | 1 0              | 105                    | 617            | 24·29      | 188                                 | 121                                 |
| D Southfields (Coronation Gds)(R)                    | P. Dodd, Esq., C.E. ....     | 6           | 1 6              | 37                     | 580            | 22·84      | 171                                 | 103                                 |
| d Clapham Com. (Bromfelde Rd.)                       | H. N. Prentice, Esq.....     | 5           | 1 5              | 70                     | 521            | 20·50      | ..                                  | 96                                  |
| <b>CAMBERWELL.</b>                                   |                              |             |                  |                        |                |            |                                     |                                     |
| D Dulwich (South Croxted Road)                       | C. H. Bryant, Esq. ....      | 5           | 1 0              | 138                    | 541            | 21·31      | 168                                 | 102                                 |
| D Nunhead (Southwark W.W.)...                        | Met. Water Board.....        | 5           | 1 0              | 173                    | 512            | 20·14      | 142                                 | 102                                 |
| <b>DEPTFORD.</b>                                     |                              |             |                  |                        |                |            |                                     |                                     |
| d Telegraph Hill .....                               | London County Council ..     | 5           | 7 0              | 135                    | 511            | 20·11      | ..                                  | 98                                  |
| D Water Works .....                                  | Met. Water Board.....        | 5           | 1 0              | 20                     | 502            | 19·75      | 136                                 | 105                                 |
| <b>GREENWICH.</b>                                    |                              |             |                  |                        |                |            |                                     |                                     |
| D Deptford Pumping Station ..                        | London County Council ..     | 8           | 4 0              | 18                     | 522            | 20·57      | 143                                 | 99                                  |
| D Royal Observatory .....                            | Sir F. W. Dyson, F.R.S. ..   | 8           | 1 0              | 150                    | 541            | 21·30      | 167                                 | 107                                 |
| D Royal Observatory .....                            | Sir F. W. Dyson, F.R.S. ..   | 8           | 0 5              | 149                    | 544            | 21·43      | 168                                 | 106                                 |
| Westcombe Park Road .....                            | Rev. T. R. Price .....       | 8           | 1 3              | 154                    | 532            | 20·93      | 164                                 | ..                                  |
| <b>LEWISHAM.</b>                                     |                              |             |                  |                        |                |            |                                     |                                     |
| D Forest Hill (Barr Beacon)....                      | Met. Water Board.....        | 5           | 3 3              | 340                    | 596            | 23·45      | 158                                 | 121                                 |
| D Clarendon Road .....                               | G. E. Dacey, Esq. ....       | 5           | 1 0              | 98                     | 557            | 21·94      | 190                                 | 109                                 |
| <b>WOOLWICH.</b>                                     |                              |             |                  |                        |                |            |                                     |                                     |
| D Eltham (High Street) .....                         | Met. Water Board.....        | 5           | 1 0              | 245                    | 517            | 20·37      | 144                                 | 108                                 |
| <b>2.—THAMES—Left Bank Tributaries. 50 sq. mi.</b>   |                              |             |                  |                        |                |            |                                     |                                     |
| <b>KENSINGTON.</b>                                   |                              |             |                  |                        |                |            |                                     |                                     |
| D Harley Gardens .....                               | Mrs. Hamlyn Price .....      | 5           | 1 5              | 29                     | 594            | 23·37      | 160                                 | 113                                 |
| D Victoria & Albert Museum....                       | E. Hart, Esq. ....           | 8           | 0 6              | 27                     | 568            | 22·38      | 171                                 | 109                                 |
| D Holland House.....                                 | Mr. P. B. Rintoul .....      | 5           | 4 0              | 69                     | 612            | 24·10      | 150                                 | 113                                 |
| d Cam House.....                                     | Rt. Hon. Lord Phillimore     | 5           | 3 0              | 100                    | 602            | 23·72      | ..                                  | 103                                 |
| D Campden Hill.....                                  | Met. Water Board.....        | 8           | 1 0              | 142                    | 675            | 26·58      | 168                                 | 136                                 |
| <b>HAMMERSMITH.</b>                                  |                              |             |                  |                        |                |            |                                     |                                     |
| D The Creek .....                                    | London County Council ..     | 8           | 15 5             | 35                     | 545            | 21·45      | 151                                 | 106                                 |
| <b>FULHAM.</b>                                       |                              |             |                  |                        |                |            |                                     |                                     |
| D Aclfold Road .....                                 | Mrs. H. W. Carter .....      | 5           | 1 0              | 13                     | 561            | 22·10      | 137                                 | 99                                  |
| D Hammersmith Cemetery .....                         | Mr. R. J. Brown .....        | 5           | 1 0              | 16                     | 578            | 22·76      | 175                                 | 103                                 |

## DIVISION I.—LONDON—(con.).

| STATIONS.                               | AUTHORITIES.                                  | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|---|-------------|------------------|------------------------|-----|----------------|-------|--|--|
|   |   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |  |  |
| 2.—THAMES—Left Bank Tributaries—(con.). |   |             |                  |                        |     |                |       |  |  |
| CHELSEA.                                |   |             |                  |                        |     |                |       |  |  |
| D Lots Road Pumping Station..           | London County Council ..                      | 8           | 32               | 0                      | 48  | 516            | 20·32 | 149                                    | 108                                    |
| Western Pumping Station....             | London County Council ...                     | 8           | 1                | 0                      | 19  | 524            | 20·61 | 146                                    | 103                                    |
| D Physic Garden.....                    | W. Hales, Esq. ....                           | 5           | 1                | 0                      | 20  | 536            | 21·11 | 153                                    | 104                                    |
| D Oakley Street .....                   | A. Hampton Brown, Esq. .                      | 5           | 1                | 0                      | 25  | 547            | 21·53 | 161                                    | 109                                    |
| D St. Luke's Gardens .....              | T. W. E. Higgins, Esq., C.E.                  | 5           | 1                | 0                      | 25  | 596            | 23·46 | 161                                    | 118                                    |
| WESTMINSTER.                            |   |             |                  |                        |     |                |       |  |  |
| King's Scholar's Pond .....             | London County Council ..                      | 8           | 11               | 6                      | 31  | 550            | 21·66 | 167                                    | 106                                    |
| D St. George's Square .....             | T. H. McEwen, Esq. ....                       | 8           | 0                | 6                      | ..  | 583            | 22·95 | 141                                    | 110                                    |
| D Buckingham Palace.....                | Mr. W. Osborne.....                           | 5           | 8                | 6                      | 35  | 565            | 22·24 | 165                                    | 107                                    |
| Kensington Gardens.....                 | Mr. W. Beecher .....                          | 8           | 2                | 0                      | 80  | 583            | 22·96 | 163                                    | ..                                     |
| D Kensington Palace.....                | Meteorological Office.....                    | 8           | 1                | 0                      | 80  | 611            | 24·08 | 179                                    | 117                                    |
| D St. James's Park.....                 | Meteorological Office.....                    | 8           | 1                | 0                      | 27  | 547            | 21·52 | 163                                    | 104                                    |
| D Hyde Park .....                       | Royal Humane Society ..                       | 8           | 1                | 3                      | ..  | 463            | 18·24 | 137                                    | 94                                     |
| D Spring Gardens.....                   | (1) London County Council ..                  | 8           | 66               | 4                      | 95  | 559            | 21·99 | 154                                    | 114                                    |
| D Spring Gardens.....                   | (2) London County Council ..                  | 12          | 65               | 11                     | 95  | 557            | 21·92 | 154                                    | 114                                    |
| D Spring Gardens.....                   | (3) London County Council ..                  | 8           | 6                | 0                      | 35  | 566            | 22·29 | 155                                    | 116                                    |
| D Strand .....                          | J. J. Steward, Esq. ....                      | 5           | 40               | 0                      | 80  | 523            | 20·60 | 145                                    | 104                                    |
| ST. MARYLEBONE.                         |   |             |                  |                        |     |                |       |  |  |
| D Royal Botanic Gardens.....            | Mr. J. L. North .....                         | 8           | 1                | 0                      | 130 | 583            | 22·96 | 163                                    | 119                                    |
| W Hamilton Terrace .....                | E. Heron Allen, Esq., F.R.S.                  | 5           | 0                | 6                      | ..  | 566            | 22·30 | ..                                     | ..                                     |
| HAMPSTEAD.                              |   |             |                  |                        |     |                |       |  |  |
| D Barrow Hill Reservoir .....           | Met. Water Board.....                         | 5           | 1                | 0                      | 195 | 588            | 23·13 | 164                                    | 119                                    |
| M Kemplay Road .....                    | C. Clarke, Esq. ....                          | 5           | 2                | 0                      | ..  | 509            | 20·05 | ..                                     | ..                                     |
| D Kidderpore Reservoir .....            | Met. Water Board .....                        | 5           | 1                | 0                      | 322 | 642            | 25·28 | 142                                    | 109                                    |
| D New End Square.....                   | Mr. W. Pikesley .....                         | 5           | 1                | 0                      | ..  | 681            | 26·83 | 157                                    | 119                                    |
| D Observatory .....                     | E. L. Hawke, Esq. ....                        | 8           | 1                | 0                      | 451 | 634            | 24·97 | 167                                    | 112                                    |
| d Golder's Hill .....                   | London County Council ..                      | 5           | 9                | 8                      | 350 | 607            | 23·88 | ..                                     | 124                                    |
| ST. PANCRAS.                            |   |             |                  |                        |     |                |       |  |  |
| D Camden Square .....                   | British Rainfall Organization                 | 8           | 0                | 9                      | 111 | 599            | 23·59 | 175                                    | 116                                    |
| D Camden Square .....                   | <i>Snowdon</i> British Rainfall Organization  | 5           | 1                | 0                      | 111 | 588            | 23·14 | 164                                    | 113                                    |
| W Camden Square .....                   | <i>weekly</i> British Rainfall Organization   | 5           | 1                | 2                      | 111 | 598            | 23·56 | ..                                     | ..                                     |
| M Camden Square .....                   | <i>float g.</i> British Rainfall Organization | 8           | 0                | 11                     | 111 | 588            | 23·16 | ..                                     | ..                                     |
| STOKE NEWINGTON.                        |   |             |                  |                        |     |                |       |  |  |
| D New River Filter Beds.....            | Met. Water Board.....                         | 5           | 1                | 0                      | 101 | 589            | 23·19 | 157                                    | 109                                    |
| D New River Reservoirs .....            | Met. Water Board.....                         | 5           | 1                | 0                      | 105 | 597            | 23·49 | 161                                    | 115                                    |
| HACKNEY.                                |   |             |                  |                        |     |                |       |  |  |
| Clapton Pond .....                      | Norman Scorgie, Esq., C.F.                    | 5           | 1                | 0                      | 69  | 528            | 20·80 | 143                                    | 99                                     |
| D Clapton Pond .....                    | (R) Norman Scorgie, Esq., C.E.                | 8           | 2                | 3                      | 70  | 528            | 20·79 | 143                                    | 100                                    |
| HOLBORN.                                |   |             |                  |                        |     |                |       |  |  |
| d Stone Yard .....                      | E. F. Spurrell, Esq. ....                     | 5           | 12               | 0                      | 89  | 535            | 21·07 | ..                                     | 93                                     |
| FINSBURY.                               |   |             |                  |                        |     |                |       |  |  |
| D New River Head.....                   | Met. Water Board .....                        | 5           | 1                | 0                      | 95  | 538            | 21·20 | 154                                    | 106                                    |
| CITY OF LONDON.                         |   |             |                  |                        |     |                |       |  |  |
| d Guildhall .....                       | E. E. Finch, Esq., C.E. ...                   | 8           | 2                | 6                      | 50  | 499            | 19·63 | ..                                     | ..                                     |
| D Guildhall.....                        | (R) E. E. Finch, Esq., C.E. ...               | 8           | 51               | 0                      | 99  | 527            | 20·75 | 159                                    | 107                                    |
| BETHNAL GREEN.                          |   |             |                  |                        |     |                |       |  |  |
| D Victoria Park .....                   | London County Council ..                      | 5           | 9                | 3                      | 43  | 516            | 20·32 | 139                                    | 113                                    |
| POPLAR.                                 |   |             |                  |                        |     |                |       |  |  |
| D Isle of Dogs (Stewart Street)..       | London County Council ..                      | 8           | 1                | 0                      | 16  | 552            | 21·75 | 148                                    | 106                                    |
| D Old Ford Pumping Station...           | Met. Water Board.....                         | 8           | 0                | 9                      | 19  | 570            | 22·43 | 146                                    | 107                                    |
| Old Ford (Penstock House)...            | London County Council ..                      | 8           | 1                | 0                      | 43  | 544            | 21·42 | 146                                    | 102                                    |
| WOOLWICH.                               |   |             |                  |                        |     |                |       |  |  |
| D N. Woolwich Pumping Station           | London County Council ..                      | 8           | 0                | 9                      | 12  | 504            | 19·83 | 138                                    | 102                                    |
| D Barking Outfall .....                 | London County Council ..                      | 8           | 0                | 9                      | 9   | 478            | 18·80 | 171                                    | 95                                     |

## DIVISION II.—SOUTH-EASTERN COUNTIES.

| STATIONS.                                  | AUTHORITIES.                     | Rain Gauge. |                  |                        | Depth of Rain. |     | Days with<br>·01 in<br>or<br>more | Days with<br>·04 in.<br>or<br>more. |     |
|--|----------------------------------|-------------|------------------|------------------------|----------------|-----|-----------------------------------|-------------------------------------|-----|
|  |                                  | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |     |                                   |                                     |     |
|  |                                  |             |                  |                        |                |     |                                   |                                     |     |
| SURREY. (Area, 725 sq. mi.).               |                                  | in.         | ft.              | in.                    | ft.            | mm. | in.                               |                                     |     |
| <b>1.—ARUN. 45 sq. mi.</b>                 |                                  |             |                  |                        |                |     |                                   |                                     |     |
| D Haslemere (Beech Side Cottage)           | J. Jackson, Esq. ....            | 5           | 0                | 9                      | 570            | 943 | 37·11                             | 200                                 | 135 |
| Haslemere (Clammer Hill)                   | Col. Farquhar Glennie ....       | 5           | 1                | 6                      | 400            | 864 | 34·01                             | 177                                 | 128 |
| Chiddingfold (Stonehurst)                  | " Surrey Advertiser "            |             |                  |                        | 220            | 802 | 31·57                             |                                     |     |
| D Holmbury St. Mary (Joldwynds)            | F. C. Bayard, Esq. ....          | 5           | 1                | 0                      | 530            | 833 | 32·80                             | 172                                 | 148 |
| <b>2.—MEDWAY. 50 sq. mi.</b>               |                                  |             |                  |                        |                |     |                                   |                                     |     |
| D Felbridge (Chartham Park)                | I. D. Margary, Esq. ....         | 5           | 1                | 0                      | 270            | 776 | 30·57                             | 168                                 | 117 |
| D Dormans Park (Hill Crest)                | Mrs. H. R. Mill ....             | 5           | 1                | 0                      | 320            | 774 | 30·47                             | 188                                 | 114 |
| D Oxted (Stone Hall)                       | W. P. Metcalfe, Esq. ....        | 5           | 1                | 2                      | 320            | 692 | 27·24                             | 168                                 | 120 |
| D Limpsfield (Ballards Shaw)               | F. C. Bayard, Esq. ....          | 5           | 1                | 1                      | 500            | 642 | 25·28                             | 168                                 | 122 |
| <b>3.—THAMES—Darent. 22 sq. mi.</b>        |                                  |             |                  |                        |                |     |                                   |                                     |     |
| D Farleigh (Croydon Ment. Hosp.)           | Croydon Corporation ....         | 8           | 1                | 0                      | 500            | 741 | 29·16                             | 163                                 | 121 |
| Chelsham (Fairchildes)                     | A. S. Daniell, Esq. ....         | 8           | 1                | 0                      | 600            | 806 | 31·73                             |                                     |     |
| Chelsham (Fairchildes)                     | Mr. G. Mansfield ....            | 5           | 0                | 8                      | 600            | 822 | 32·36                             |                                     |     |
| D Addington (Hares Bnk Pmp Sta)            | Croydon Corporation ....         | 8           | 1                | 0                      | 331            | 687 | 27·05                             | 216                                 | 119 |
| D Addington Hills Reservoir                | Croydon Corporation ....         | 8           | 0                | 9                      | 473            | 728 | 28·67                             | 233                                 | 125 |
| D Norwood (Auckland Road)                  | Miss J. Cooper ....              | 5           | 1                | 5                      | 230            | 523 | 20·60                             | 141                                 | 100 |
| d Anerley (Town Hall)                      | F. C. Bayard, Esq. ....          | 8           | 40               | 0                      | 191            | 533 | 21·00                             |                                     |     |
| <b>4.—THAMES—Wandle. 71 sq. mi.</b>        |                                  |             |                  |                        |                |     |                                   |                                     |     |
| D Kingswood (Margery Hall Res.)            | W. Vaux Graham, Esq., C.E.       | 5           | 1                | 0                      | 691            | 747 | 29·40                             | 162                                 | 125 |
| M Woldingham Reservoir                     | W. Vaux Graham, Esq., C.E.       | 5           | 1                | 6                      | 851            | 744 | 29·30                             |                                     |     |
| D Caterham Reservoir                       | A. E. Cornwall-Walker, Esq.      | 5           | 1                | 2                      | 717            | 761 | 29·95                             | 183                                 | 135 |
| D Chipstead (Eyhurst)                      | D. Morphew, Esq. ....            | 5           | 0                | 11                     | 538            | 796 | 31·35                             | 190                                 | 126 |
| d Chipstead (Walpole Avenue)               | F. C. Bayard, Esq. ....          | 5           | 1                | 0                      | 530            | 741 | 29·17                             |                                     | 114 |
| D Caterham Asylum                          | F. C. Bayard, Esq. ....          | 5           | 1                | 0                      | 607            | 769 | 30·28                             | 184                                 | 119 |
| Tadworth (Glade House)                     | W. J. Saunders, Esq. ....        | 5           | 1                | 6                      | 545            | 738 | 29·04                             | 174                                 |     |
| D Chelsham & Woldingham                    | W. V. W. Vaux Graham, Esq., C.E. | 5           | 1                | 6                      | 479            | 766 | 30·17                             | 163                                 | 122 |
| Warlingham (Westerham Rd.)                 | R. W. Peacock, Esq. ....         | 5           | 1                | 0                      | 600            | 693 | 27·30                             | 159                                 | 126 |
| D Caterham Valley Depot                    | A. E. Cornwall-Walker, Esq.      | 5           | 1                | 6                      | 431            | 803 | 31·62                             | 192                                 | 132 |
| D Banstead (Burgh Heath)                   | Capt. E. R. Taylor ....          | 5           | 1                | 0                      | 571            | 750 | 29·54                             | 177                                 | 117 |
| d Banstead (Burgh Heath Res.)              | W. Vaux Graham, Esq., C.E.       | 5           | 1                | 0                      | 570            | 704 | 27·73                             |                                     | 121 |
| Chipstead (The Lodge)                      | F. E. Goad, Esq. ....            | 5           | 0                | 9                      | 525            | 736 | 28·98                             | 174                                 | 117 |
| D Chipstead (How Green Res.)               | W. Vaux Graham, Esq., C.E.       | 5           | 1                | 0                      | 528            | 753 | 29·64                             | 154                                 | 124 |
| D Kenley Pumping Station                   | A. E. Cornwall-Walker, Esq.      | 5           | 1                | 6                      | 275            | 687 | 27·04                             | 182                                 | 129 |
| D Banstead (The Asylum)                    | F. C. Bayard, Esq. ....          | 5           | 1                | 0                      | 406            | 654 | 25·73                             | 168                                 | 124 |
| D Purley (Oakwood Avenue)                  | E. W. Finch, Esq. ....           | 5           | 0                | 10                     | 380            | 650 | 25·61                             | 183                                 | 111 |
| D Purley (Riddlesdown Rd.) No. 1           | J. Edmund Clark, Esq. ....       | 5           | 1                | 0                      | 360            | 682 | 26·87                             | 192                                 | 117 |
| D Purley (Riddlesdown Rd.) No. 2           | J. Edmund Clark, Esq. ....       | 5           | 1                | 0                      | 360            | 674 | 26·55                             | 192                                 | 116 |
| D Purley (Pumping Station)                 | A. E. Cornwall-Walker, Esq.      | 5           | 1                | 0                      | 225            | 668 | 26·28                             | 179                                 | 116 |
| D Sanderstead (Beechwood Road)             | E. Alexander, Esq. ....          | 5           | 1                | 0                      | 370            | 646 | 25·43                             | 184                                 | 112 |
| D South Croydon (Avondale Rd.)             | Dr. A. D. Williams ....          | 5           | 2                | 3                      | 225            | 649 | 25·55                             | 182                                 | 113 |
| d South Croydon (Newark Road)              | A. H. Jukes, Esq. ....           | 5           | 1                | 1                      | 177            | 606 | 23·86                             | 165                                 | 108 |
| D Wallington (Alcester Road)               | F. C. Bayard, Esq. ....          | 5           | 4                | 1                      | 140            | 608 | 23·95                             | 198                                 | 113 |
| D Wallington (Alcester Road)               | F. C. Bayard, Esq. ....          | 8           | 1                | 0                      | 140            | 581 | 22·86                             | 190                                 | 109 |
| D Carshalton (Sewage Works)                | F. C. Bayard, Esq. ....          | 5           | 1                | 0                      | 118            | 581 | 22·87                             | 164                                 | 105 |
| D Beddington (Sewage Farm)                 | Croydon Corporation ....         | 5           | 1                | 0                      | 129            | 520 | 20·47                             | 160                                 | 105 |
| D Beddington Cor. (Millgreen Rd.)          | F. C. Bayard, Esq. ....          | 5           | 5                | 0                      | 77             | 594 | 23·38                             | 161                                 | 117 |
| D Mitcham (Brook Cottage)                  | F. C. Bayard, Esq. ....          | 5           | 1                | 0                      | 100            | 596 | 23·47                             | 151                                 | 103 |
| D Wimbledon (Kingston Road)                | H. A. Marshall, Esq. ....        | 5           | 1                | 0                      | 54             | 596 | 23·47                             | 176                                 | 121 |
| D Wimbledon (Trinity Road)                 | P. J. Bevan, Esq., C.E. ....     | 5           | 1                | 0                      | 53             | 569 | 22·41                             | 158                                 | 106 |
| D Wimbledon (Sewage Works)                 | J. Bowen, Esq., C.E. ....        | 5           | 1                | 0                      | 55             | 515 | 20·28                             | 152                                 | 101 |
| <b>5.—THAMES—Mole &amp; c. 229 sq. mi.</b> |                                  |             |                  |                        |                |     |                                   |                                     |     |
| Lowfield Heath (Hunts Gr. Ho.)             | A. E. Robinson, Esq. ....        | 5           | 0                | 7                      | 200            | 808 | 31·82                             | 164                                 | 125 |
| D Horley (Smallfield)                      | F. C. Bayard, Esq. ....          | 5           | 1                | 0                      | 215            | 556 | 21·89                             | 167                                 | 114 |
| D Outwood (The Orchards)                   | F. C. Bayard, Esq. ....          | 5           | 1                | 0                      | 280            | 689 | 27·13                             | 175                                 | 116 |
| D Dorking (Stone House, Rose Hill)         | Lt.-Col. J. R. Greenhill ...     | 5           | 1                | 0                      | 240            | 766 | 30·16                             | 166                                 | 116 |
| D Dorking (Denbies)                        | Mr. J. Ansell ....               | 5           | 0                | 9                      | 610            | 814 | 32·05                             | 190                                 | 130 |
| D Dorking (Pixham Firs)                    | J. Croft Deverell, Esq. ....     | 8           | 0                | 6                      | 150            | 764 | 30·06                             | 176                                 | 123 |
| D Brockham (North Lodge)                   | H. R. Kempe, Esq., C.E. ....     | 8           | 0                | 9                      | 160            | 711 | 27·98                             | 154                                 | 113 |
| D Reigate (Hartswood)                      | R. C. Clutton, Esq. ....         | 5           | 1                | 0                      | 174            | 663 | 26·11                             | 165                                 | 119 |
| D South Nutfield (Hale Edge)               | R. C. Grant, Esq. ....           | 5           | 1                | 0                      | 270            | 656 | 25·82                             | 154                                 | 115 |

## DIVISION II.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.                                 | AUTHORITIES.                        | Rain Gauge. |               |                  |     | Depth of Rain. |       | Days with .01 in. or more. | Days with .04 in. or more. |
|---|-------------------------------------|-------------|---------------|------------------|-----|----------------|-------|----------------------------|----------------------------|
|   |                                     | Diam.       | Height Ground | above Sea Level. |     | 1920           |       |                            |                            |
| SURREY—(con.).                            |                                     | in.         | ft.           | in.              | ft. | mm.            | in.   |                            |                            |
| 5.—THAMES—Mole & c.—(con.).               |                                     |             |               |                  |     |                |       |                            |                            |
| d Earlswood (Sewage Farm) . . . . .       | F. T. Clayton, Esq., C.E. . . . .   | 5           | 1             | 6                | 196 | 639            | 25·16 | 149                        | 111                        |
| d Redhill (Station Road) . . . . .        | W. H. Fowler, Esq. . . . .          | 5           | 18            | 0                | 270 | 674            | 26·53 | 171                        | 124                        |
| d Redhill (Warwick Road) . . . . .        | A.E. Cornewall-Walker, Esq. . . . . | 5           | 1             | 6                | 284 | 707            | 27·82 | 187                        | 123                        |
| d Reigate (The Knowle) . . . . .          | G. Weston, Esq. . . . .             | 5           | 1             | 0                | 390 | 657            | 25·85 | 160                        | 117                        |
| d Reigate (Undercroft) . . . . .          | Paul Crosfield, Esq. . . . .        | 5           | 0             | 4                | 242 | 701            | 27·61 | 175                        | 117                        |
| d Reigate (Wray Lodge) . . . . .          | A. Rosling, Esq. . . . .            | 5           | 1             | 0                | 316 | 756            | 29·76 | 158                        | 125                        |
| d Reigate (Wray Park Road) . . . . .      | Mr. F. W. Hedges . . . . .          | 5           | 1             | 0                | 281 | 735            | 28·94 | 175                        | 122                        |
| d Reigate (Castle Grounds) . . . . .      | F. T. Clayton, Esq., C.E. . . . .   | 5           | 1             | 6                | 350 | 699            | 27·51 | 188                        | 115                        |
| d Reigate (Gas Works) . . . . .           | F. S. Smith, Esq. . . . .           | 8           | 1             | 0                | 270 | 704            | 27·71 | 143                        | 104                        |
| d Reigate (Laglands) . . . . .            | J. Welch, Esq. . . . .              | 5           | 1             | 2                | 375 | 734            | 28·91 | 165                        | 126                        |
| d Nutfield Priory . . . . .               | Mrs. Fielden . . . . .              | 8           | 1             | 2                | 468 | 664            | 26·16 | 189                        | 115                        |
| d Nutfield Priory . . . . .               | Mr. J. Moffatt . . . . .            | 8           | 1             | 2                | 331 | 732            | 28·84 | 192                        | 119                        |
| Betchingley (South Park Fm.) . . . . .    | W. Lambert, Esq. . . . .            | 5           | 0             | 4                | 340 | 748            | 29·44 | 162                        | 120                        |
| Betchworth (Snower Hill) . . . . .        | T. Du Buisson, Esq. . . . .         | 8           | 0             | 11               | 250 | 699            | 27·53 | 169                        | 118                        |
| d Buckland (The White House) . . . . .    | J. Herbert Scrutton, Esq. . . . .   | 8           | 1             | 6                | 260 | 765            | 30·12 | 215                        | 139                        |
| d Mickleham (Juniper Hall) . . . . .      | G. MacAndrew, Esq. . . . .          | 5           | 1             | 0                | 183 | 779            | 30·66 | ..                         | ..                         |
| d Headley Rectory . . . . .               | Rev. T. E. R. Phillips . . . . .    | 5           | 1             | 0                | 575 | 725            | 28·54 | 167                        | 114                        |
| d Headley (The Hurst) . . . . .           | Mrs. Lyall . . . . .                | 5           | 1             | 3                | 420 | 705            | 27·76 | 151                        | 115                        |
| d Walton (Walton Manor) . . . . .         | Mr. J. Millichamp . . . . .         | 5           | 1             | 0                | 600 | 751            | 29·56 | 184                        | 120                        |
| d Ashtead (The Hut) . . . . .             | F. C. Bayard, Esq. . . . .          | 5           | 0             | 5                | 200 | 624            | 24·57 | 149                        | 106                        |
| d Cobham (Hatchford Park) . . . . .       | Sir H. B. Samuelson, Bart. . . . .  | 8           | 1             | 8                | 150 | 774            | 30·49 | ..                         | 124                        |
| d Oxshott (Bevendean) . . . . .           | Mr. J. W. Harris . . . . .          | 5           | 1             | 0                | 200 | 656            | 25·84 | 147                        | 134                        |
| d Banstead (The Hall) . . . . .           | F. C. Bayard, Esq. . . . .          | 8           | 1             | 0                | 480 | 797            | 31·39 | 179                        | 126                        |
| d Epsom (The Durdans) . . . . .           | J. Barclay, Esq. . . . .            | 8           | 0             | 11               | 217 | 682            | 26·85 | 168                        | 120                        |
| d Epsom (Hylands Road) . . . . .          | F. Holroyd, Esq. . . . .            | 5           | 1             | 0                | 225 | 620            | 24·40 | 161                        | 113                        |
| d Epsom (Sewage Farm) . . . . .           | E. R. Capon, Esq. C.E. . . . .      | 8           | 1             | 0                | 121 | 616            | 24·27 | 149                        | 105                        |
| d Whiteley Village (Fox Oak) . . . . .    | H. E. Cooke, Esq. . . . .           | 8           | 3             | 4                | 195 | 581            | 22·89 | 163                        | 105                        |
| d Cobham (Fairmile Hatch) . . . . .       | Mrs. Trollope . . . . .             | 5           | 1             | 0                | ..  | 579            | 22·81 | ..                         | ..                         |
| d Weybridge (Gower Road) . . . . .        | Miss J. A. Sanger . . . . .         | 5           | 0             | 7                | 117 | 647            | 25·49 | 170                        | 118                        |
| d Sutton (Camborne Road) . . . . .        | F. E. Wright, Esq. . . . .          | 5           | 1             | 0                | 250 | 618            | 24·34 | 156                        | 112                        |
| d Claygate (Hertslets) . . . . .          | N. C. Armitage, Esq. . . . .        | 5           | 1             | 0                | 106 | 585            | 23·04 | 184                        | 111                        |
| d Esher (Sewage Works) . . . . .          | F. C. Bayard, Esq. . . . .          | 5           | 1             | 0                | 42  | 538            | 21·20 | 149                        | 107                        |
| d Sutton (High Sch., Cheam Rd.) . . . . . | Miss A. Marsden . . . . .           | 5           | 1             | 0                | 197 | 518            | 20·39 | 147                        | 97                         |
| d Sutton (Water Works) . . . . .          | W. Vaux Graham, Esq. C.E. . . . .   | 5           | 1             | 6                | 166 | 546            | 21·50 | 155                        | 108                        |
| d Sutton (Sewage Works) . . . . .         | W. H. Grieves, Esq., C.E. . . . .   | 8           | 1             | 6                | 94  | 597            | 23·50 | ..                         | 106                        |
| d Surbiton (Worthington Road) . . . . .   | W. Stephens, Esq. . . . .           | 5           | 1             | 0                | 82  | 664            | 26·15 | 187                        | 134                        |
| d Surbiton (Seething Wells) . . . . .     | Met. Water Board . . . . .          | 5           | 0             | 10               | 34  | 583            | 22·96 | 156                        | 115                        |
| Thames Ditton Vicarage . . . . .          | "Surrey Advertiser" . . . . .       | ..          | ..            | ..               | ..  | 577            | 22·70 | ..                         | ..                         |
| d West Molesey (Walton Works) . . . . .   | Met. Water Board . . . . .          | 5           | 0             | 6                | 35  | 486            | 19·13 | 142                        | 103                        |
| d Norbiton (Wolverton Avenue) . . . . .   | Dr. W. H. Kesteven . . . . .        | 3           | 0             | 9                | 30  | 650            | 25·57 | 227                        | 139                        |
| d New Malden (Sewage Works) . . . . .     | R. H. Jeffes, Esq. . . . .          | 5           | 1             | 0                | 48  | 556            | 21·91 | ..                         | 103                        |
| Kingston (Palace Road) .No. 1             | Charles Price, Esq. . . . .         | 5           | 0             | 10               | 30  | 582            | 22·93 | 153                        | ..                         |
| Kingston (Palace Road) .No. 2             | Charles Price, Esq. . . . .         | 5           | 0             | 10               | 30  | 579            | 22·81 | 153                        | ..                         |
| d Kingston (County Hall) . . . . .        | H. Wilson, Esq. . . . .             | 5           | 0             | 9                | 31  | 606            | 23·87 | 173                        | 106                        |
| d Kingston Sewage Works . . . . .         | F. C. Bayard, Esq. . . . .          | 5           | 1             | 0                | 25  | 656            | 25·81 | 170                        | 107                        |
| d Raynes Pk (Cottenham Pk P.S.)           | J. Bowen Esq., C.E. . . . .         | 5           | 1             | 2                | 50  | 560            | 22·05 | 161                        | 107                        |
| d Raynes Park (W. Barnes P.S.)            | G. Jerram, Esq., C.E. . . . .       | 5           | 1             | 2                | 47  | 504            | 19·84 | 152                        | 100                        |
| d Wimbledon (Merton Hall Rd.)             | Rev. J. A. Barrow-Clough . . . . .  | 5           | 1             | 0                | 70  | 489            | 19·25 | 165                        | 102                        |
| d Wimbledon (The Downs) . . . . .         | F. C. Bayard, Esq. . . . .          | 5           | 1             | 0                | 162 | 586            | 23·09 | 178                        | 111                        |
| d Richmond (The Terrace) . . . . .        | F. C. Bayard, Esq. . . . .          | 8           | 1             | 6                | 109 | 605            | 23·81 | 161                        | 108                        |
| d Richmond (Kew Observatory) (R)          | Meteorological Office . . . . .     | 11          | 1             | 9                | 18  | 600            | 23·62 | 160                        | 107                        |
| d Barnes (Castelnau) . . . . .            | C. F. B. Marshall, Esq. . . . .     | 5           | 1             | 0                | 50  | 650            | 25·57 | ..                         | ..                         |
| 6.—THAMES—Wey. 236 sq. mi.                |                                     |             |               |                  |     |                |       |                            |                            |
| d Haslemere (Courts Hill) . . . . .       | Mr. E. Biles . . . . .              | 8           | 4             | 8                | 481 | 892            | 35·10 | 181                        | 133                        |
| d Haslemere (Hangerfield) . . . . .       | J. P. Trew, Esq. . . . .            | 5           | 1             | 1                | 680 | 876            | 34·50 | 176                        | 139                        |
| d Haslemere (Frensham Hall) No. 1         | H. Windibank, Esq. . . . .          | 5           | 1             | 0                | 550 | 853            | 33·57 | 158                        | ..                         |
| d Haslemere (Frensham Hall) No. 2         | H. Windibank, Esq. . . . .          | 5           | 2             | 3                | 625 | 930            | 36·61 | 170                        | 138                        |
| d Haslemere (Hazelhurst) . . . . .        | Mrs. T. P. Newman . . . . .         | 5           | 1             | 0                | 550 | 912            | 35·90 | 191                        | 141                        |
| d Oakwood Hill (Honeywood Ho)             | The Lady Tredegar . . . . .         | 5           | 1             | 0                | 280 | 796            | 31·33 | 188                        | 131                        |
| d Witley (Sandhills) . . . . .            | L. W. Lodge, Esq. . . . .           | 8           | 1             | 0                | 450 | 837            | 32·97 | 192                        | 135                        |
| d Witley (King Edward's School)           | J. Wood, Esq. . . . .               | 5           | 1             | 3                | 330 | 758            | 29·85 | 166                        | 121                        |
| d Witley (Great Roke) . . . . .           | C. W. Dixon, Esq. . . . .           | 5           | 5             | 6                | 300 | 763            | 30·04 | 199                        | 118                        |
| d Witley (The Mount) . . . . .            | Mrs. J. H. Foster . . . . .         | 5           | 1             | 0                | 375 | 847            | 33·33 | 216                        | 143                        |

## DIVISION II.—SOUTH-EASTERN COUNTIES.—(con).

| STATIONS.                         | AUTHORITIES.                  | Rain Gauge. |                  |                       |     | Depth of Rain. |         | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|-----------------------------------|-------------------------------|-------------|------------------|-----------------------|-----|----------------|---------|-------------------------------------|-------------------------------------|
|                                   |                               | Diam.       | Height<br>Ground | above<br>Sea<br>Level |     | 1920           |         |                                     |                                     |
| SURREY—(con.).                    |                               | in.         | ft.              | in.                   | ft. | mm.            | in.     |                                     |                                     |
| 6.—THAMES—Wey—(con.).             |                               |             |                  |                       |     |                |         |                                     |                                     |
| D Hascombe Place                  | C. T. Musgrave, Esq.          | 5           | 1                | 0                     | 390 | 828            | 32·59   | 158                                 | 136                                 |
| D Cranleigh (Stonewall)           | W. Welch, Esq.                | 5           | 1                | 0                     | 182 | 809            | 31·86   | 156                                 | 124                                 |
| D Ewhurst (Downhurst Lodge)       | Mr. C. W. Bradfield           | 5           | 1                | 0                     | 350 | 798            | 31·42   | 165                                 | 130                                 |
| D Ewhurst (Garlands)              | Late Sir G. Johnston, Bart.   | 5           | 2                | 6                     | 345 | 798            | 31·41   | 169                                 | ..                                  |
| D Ewhurst (Coneyhurst)            | Mr. J. Russell                | 8           | 1                | 0                     | 581 | 810            | 31·88   | 174                                 | 124                                 |
| D Ewhurst (Woolpit)               | Mr. W. Harrison               | 5           | 1                | 6                     | 600 | 763            | 30·05   | ..                                  | ..                                  |
| D Godalming (Charterhouse)        | O. H. Latter, Esq.            | 5           | 1                | 0                     | 130 | 630            | 24·80   | 174                                 | 113                                 |
| D Shackleford (Hall Place)        | W. E. Horne, Esq., M.P.       | 8           | 1                | 6                     | 200 | 665            | 26·17   | ..                                  | ..                                  |
| D Peaslake (Dewdney)              | Sir F. G. Ogilvie, C.B.       | 5           | 1                | 0                     | 532 | 837            | 32·94   | ..                                  | ..                                  |
| D Bramley (The Limes)             | Rev. C. J. Etty               | 5           | 0                | 9                     | 136 | 700            | 27·57   | 173                                 | 128                                 |
| D Wonerish (Little Tangley)       | Mr. S. Pankhurst              | 5           | 1                | 0                     | 200 | 639            | 25·15   | ..                                  | ..                                  |
| D Shere (Manor House)             | R. A. Bray, Esq.              | 5           | 1                | 0                     | 330 | 725            | 28·54   | 156                                 | 120                                 |
| D Albury (Dalton Hill Gardens)    | "Surrey Advertiser"           | ..          | ..               | ..                    | ..  | 697            | 27·45   | ..                                  | ..                                  |
| D Abinger Hall                    | F. C. Bayard, Esq.            | 8           | 2                | 0                     | 320 | 822            | 32·37   | 176                                 | 131                                 |
| D Farnham (Crooksbury Ridges)     | F. R. Walters, Esq., M.D.     | 5           | 1                | 4                     | 440 | 746            | 29·38   | 222                                 | 127                                 |
| D Farnham (Short Heath Lodge)     | Col. G. Chrystie              | 5           | 1                | 0                     | 365 | 705            | 27·76   | 192                                 | 118                                 |
| D Wanborough (The Schools)        | E. E. Marriott, Esq.          | ..          | ..               | ..                    | ..  | 501            | 19·71 ? | ..                                  | ..                                  |
| D Gomshall (The Croft)            | C. Waithman, Esq.             | 5           | 1                | 0                     | ..  | 760            | 29·93   | ..                                  | ..                                  |
| D Guildford (Piccard's Rough)     | H. A. Powell, Esq., M.D.      | 5           | 2                | 0                     | 330 | 599            | 23·60   | 169                                 | 111                                 |
| D Guildford (Briarfield)          | Miss M. E. Swaine             | 5           | 2                | 6                     | 300 | 670            | 26·38   | 164                                 | 119                                 |
| D Guildford (Roy. Gram. School)   | H. N. Weller, Esq.            | 5           | 1                | 2                     | 200 | 596            | 23·47   | ..                                  | ..                                  |
| D Guildford (Newlands Corner)     | Mr. H. Tann                   | 5           | 1                | 6                     | 550 | 711            | 27·98   | 185                                 | 122                                 |
| D Guildford (Cross Lanes)         | F. F. Smallpeice, Esq.        | 5           | 0                | 8                     | 200 | 667            | 26·27   | 175                                 | 114                                 |
| D Horsley (Woodcote Lodge)        | Miss Roscoe                   | 5           | 0                | 6                     | 620 | 781            | 30·74   | 144                                 | ..                                  |
| D Merrow (Craigie)                | Miss Lomer                    | 5           | 0                | 9                     | 250 | 578            | 22·77   | 156                                 | ..                                  |
| D Merrow (Craigie)                | Paddock Miss Lomer            | 5           | 0                | 9                     | 250 | 656            | 25·81   | 155                                 | ..                                  |
| D Normandy (The Manor House)      | Rt. Rev. Bishop Hose, D.D.    | 5           | 1                | 1                     | 149 | 665            | 26·19   | 192                                 | 117                                 |
| D E. Horsley (Rowbarns Grange)    | D. W. Sissons, Esq.           | 5           | 1                | 7                     | 250 | 730            | 28·75   | ..                                  | ..                                  |
| D Worplesdon (Perry Hill Farm)    | Messrs. R. & M. Claydon       | 5           | 1                | 0                     | ..  | 648            | 25·51   | ..                                  | ..                                  |
| D Worplesdon (Perry Hill School)  | "Surrey Advertiser"           | ..          | ..               | ..                    | ..  | 614            | 24·17   | ..                                  | ..                                  |
| D Worplesdon Hill (Pinewood)      | G. W. Hayes, Esq.             | 5           | 1                | 4                     | 180 | 540            | 21·28   | 163                                 | 108                                 |
| D Woking (Hook Heath)             | W. S. Patterson, Esq.         | 5           | 1                | 0                     | 160 | 568            | 22·37   | 147                                 | 109                                 |
| D Woking (Northwood)              | S. Price-Williams, Esq., C.E. | 5           | 1                | 4                     | 114 | 586            | 23·06   | 140                                 | ..                                  |
| D Woking (The Green)              | Mrs. Howlett                  | 5           | 0                | 9                     | 122 | 572            | 22·54   | 148                                 | 112                                 |
| D Pyrford (Wintergreen Wood)      | Lady Davy                     | 6           | 1                | 0                     | 150 | 565            | 22·23   | 144                                 | 108                                 |
| D Pyrford (Kelmars)               | H. D. Richardson, Esq.        | 5           | 1                | 0                     | 100 | 574            | 22·59   | 147                                 | 113                                 |
| D Horsell (The Vicarage)          | Rev. Norman Pares             | 5           | 1                | 9                     | 140 | 582            | 22·91   | 158                                 | 115                                 |
| D Horsell (Inglewood)             | Vernon B. Longhurst, Esq.     | 5           | 1                | 0                     | 115 | 583            | 22·94   | 173                                 | 108                                 |
| D Wisley (R.H.S. Gardens)         | S. T. Wright, Esq.            | 8           | 1                | 0                     | 150 | 605            | 23·83   | 177                                 | 113                                 |
| D Byfleet (West Hall Gardens)     | Mr. G. Carpenter              | 5           | 1                | 0                     | 61  | 602            | 23·72   | 142                                 | 112                                 |
| D West Byfleet (Kilmeena)         | F. Littleboy, Esq.            | 5           | 1                | 0                     | 100 | 593            | 23·33   | 169                                 | 113                                 |
| D Byfleet (Woodbine Cottage)      | J. E. Dowell, Esq.            | 5           | 1                | 1                     | 59  | 566            | 22·30   | 158                                 | 112                                 |
| D Weybridge (St. George's Hill)   | Mrs. Buckley                  | 5           | 0                | 10                    | 235 | 582            | 22·92   | ..                                  | 101                                 |
| D Weybridge (St. George's Hill)   | H. I. Bond, Esq.              | 5           | 0                | 8                     | 115 | 532            | 20·93   | 155                                 | 103                                 |
| D Weybridge (Heath Field)         | Miss A. T. Gardiner           | 5           | 1                | 0                     | 100 | 596            | 23·47   | 154                                 | 112                                 |
| D Weybridge (West Oaks)           | A. Whittet, Esq.              | 5           | 1                | 0                     | 36  | 565            | 22·25   | 173                                 | 105                                 |
| D Weybridge (Station Road)        | H. K. G. Rogers, Esq.         | 5           | 1                | 0                     | 85  | 598            | 23·56   | 179                                 | 107                                 |
| D Weybridge (Windsor Walk)        | "Surrey Advertiser"           | ..          | ..               | ..                    | ..  | 570            | 22·46   | ..                                  | ..                                  |
| 7.—THAMES—Bourne. 55 sq. mi.      |                               |             |                  |                       |     |                |         |                                     |                                     |
| D Knapp Hill (Ulundi)             | Mr. G. C. H. Simmonds         | 5           | 1                | 0                     | 181 | 649            | 25·55   | 202                                 | 121                                 |
| D Knapp Hill (Lynbrook)           | Charles Wigan, Esq.           | 5           | 1                | 8                     | 200 | 588            | 23·17   | 164                                 | 107                                 |
| D Knapp Hill (High Street)        | W. H. Cullis, Esq.            | 5           | 1                | 0                     | 120 | 583            | 22·95   | 178                                 | 118                                 |
| D Chobham (Sandpit Hall)          | K. A. H. Power, Esq.          | 5           | 1                | 0                     | 100 | 606            | 23·86   | 162                                 | 105                                 |
| D Chobham (The Manor House)       | F. A. Walter, Esq.            | 5           | 1                | 0                     | 150 | 622            | 24·49   | 171                                 | 126                                 |
| D Bagshot (Pennyhill Park)        | "Surrey Advertiser"           | ..          | ..               | ..                    | ..  | 704            | 27·71   | ..                                  | ..                                  |
| D Windlesham (Windlesham Ho.)     | "Surrey Advertiser"           | ..          | ..               | ..                    | ..  | 704            | 27·70   | ..                                  | ..                                  |
| D Chertsey (Ottershaw)            | Mrs. R. H. Otter              | 5           | 1                | 0                     | 200 | 636            | 25·02   | 184                                 | 117                                 |
| D Chertsey (Botleys Park)         | Mr. H. Whitmarsh              | 5           | 1                | 5                     | 111 | 610            | 24·00   | 154                                 | 114                                 |
| D Virginia Water (S. Ann's Heath) | Rev. J. Peck                  | 8           | 1                | 1                     | 120 | 569            | 22·40   | 172                                 | 110                                 |
| D Egham Park                      | J. R. Fitz Gerald, Esq.       | 4           | 0                | 10                    | 150 | 636            | 25·04   | 158                                 | 117                                 |
| D Englefield Green (Queenswood)   | S. J. Rigden, Esq.            | 8           | 2                | 0                     | 200 | 654            | 25·74   | 170                                 | 124                                 |

## DIVISION II.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.                                | AUTHORITIES.                     | Rain Gauge. |                  |         |                        | Depth of Rain. |       | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|----------------------------------|-------------|------------------|---------|------------------------|----------------|-------|-------------------------------------|-------------------------------------|
|  |                                  | Diam.       | Height<br>Ground | ft. in. | above<br>Sea<br>Level. | 1920           |       |                                     |                                     |
| SURREY—(con.).                           |                                  | in.         | ft.              | in.     | ft.                    | mm.            | in.   |                                     |                                     |
| 8.—THAMES—Loddon. 17 sq. mi.             |                                  |             |                  |         |                        |                |       |                                     |                                     |
| Frimley Green (Corry Hill) . . .         | Miss D. E. Bailey . . . . .      | 6           | 1                | 3       | 285                    | 610            | 24·03 | 224                                 | ..                                  |
| d Frimley Green Waterworks . . .         | F. J. Garland, Esq. . . . .      | 5           | 2                | 6       | 220                    | 541            | 21·29 | 140                                 | 100                                 |
| d Frimley Green (Brompton San.) .        | A. L. Bartlett, Esq. . . . .     | 5           | 0                | 9       | 380                    | 643            | 25·33 | 169                                 | 118                                 |
| d Frimley Green (Ridgemount) . .         | C. C. Haviland, Esq. . . . .     | 5           | 0                | 9       | 350                    | 678            | 26·71 | 202                                 | 120                                 |
| d Frimley (Tomlinscote) . . . . .        | Mr. T. Dawson . . . . .          | 5           | 1                | 9       | 200                    | 630            | 24·82 | 189                                 | 110                                 |
| d Camberley (Way's End) . . . . .        | E. Ernest Green, Esq. . . . .    | 5           | 0                | 11      | 295                    | 589            | 23·20 | 190                                 | 112                                 |
| KENT. (Area, 1532 sq. mi.)               |                                  |             |                  |         |                        |                |       |                                     |                                     |
| 1.—ROTHER & C. 217 sq. mi.               |                                  |             |                  |         |                        |                |       |                                     |                                     |
| d Dungeness . . . . .                    | Meteorological Office . . . . .  | 8           | 1                | 3       | 22                     | 485            | 19·08 | 144                                 | 98                                  |
| Lydd (Westbroke House) . . . . .         | A. Finn, Esq. . . . .            | ..          | ..               | ..      | ..                     | 572            | 22·50 | ..                                  | ..                                  |
| Brookland (Thrift Farm) . . . . .        | C. Clark, Esq. . . . .           | 12          | 3                | 0       | 11                     | 608            | 23·93 | ..                                  | ..                                  |
| d Snave (Poplar House) . . . . .         | T. K. Tickner, Esq. . . . .      | 8           | 2                | 3       | 10                     | 549            | 21·60 | 144                                 | 111                                 |
| d Hawkhurst (Hensill) . . . . .          | F. Ross Thomson, Esq. . . . .    | 5           | 3                | 0       | 180                    | 642            | 25·29 | ..                                  | 104                                 |
| Hawkhurst (Pixhall) . . . . .            | Jesse W. Norris, Esq. . . . .    | 5           | 1                | 3       | 355                    | 755            | 29·73 | 149                                 | 122                                 |
| Tenterden (Summerhill) . . . . .         | Mrs. Wilkin . . . . .            | 8           | 1                | 0       | 150                    | 599            | 23·60 | 145                                 | 111                                 |
| Tenterden (Ashenden) . . . . .           | Major Herbert Neve . . . . .     | 5           | 1                | 0       | 190                    | 608            | 23·95 | 161                                 | ..                                  |
| d Tenterden (View Tower) . . . . .       | J. Ellis Mace, Esq. . . . .      | 8           | 1                | 5       | 190                    | 629            | 24·76 | 200                                 | 116                                 |
| d Tenterden (View Tow.) <i>Snowdn.</i> . | J. Ellis Mace, Esq. . . . .      | 8           | 1                | 5       | 190                    | 616            | 24·26 | 183                                 | 114                                 |
| d Benenden (National Sanat'm) . .        | Dr. Niven Robertson . . . . .    | 5           | 1                | 0       | 180                    | 580            | 22·84 | 156                                 | 106                                 |
| m Biddenden (Sandpit Wood) . . .         | J. Ellis Mace, Esq. . . . .      | 5           | 1                | 0       | 218                    | 644            | 25·35 | ..                                  | ..                                  |
| d Hythe . . . . .                        | J. Singleton Green, Esq. C.E. .  | 5           | 1                | 0       | 0                      | 583            | 22·97 | 175                                 | 110                                 |
| d Hythe (Sandling Park) . . . . .        | Rt. Hon. L. Hardy, M.P. . . .    | 8           | 1                | 0       | 220                    | 636            | 25·02 | 158                                 | 126                                 |
| d Sandgate . . . . .                     | C. Law Green, Esq., C.E. . . .   | 5           | 4                | 0       | 176                    | 587            | 23·11 | 165                                 | 116                                 |
| d Folkestone (Borough Sanat'm.) .        | A. E. Nichols, Esq., C.E. . . .  | 5           | 1                | 0       | 101                    | 617            | 24·30 | 153                                 | 117                                 |
| d Folkestone (Cheriton Road) . . .       | J. Duncan Walker, Esq. . . . .   | 5           | 1                | 0       | 160                    | 578            | 22·74 | 159                                 | 118                                 |
| Folkestone (Cherry Gardens) . . .        | H. T. Turner, Esq., C.E. . . . . | 5           | 1                | 6       | 230                    | 634            | 24·98 | ..                                  | ..                                  |
| Capel (Lower Standen) . . . . .          | H. T. Turner, Esq., C.E. . . . . | 5           | 2                | 11      | 250                    | 645            | 25·38 | ..                                  | ..                                  |
| d Dover (Water Works) . . . . .          | W. B. Smith, Esq., C.E. . . . .  | 5           | 1                | 6       | 200                    | 650            | 25·57 | 148                                 | 121                                 |
| d Kearsney (Chilton Farm) . . . . .      | W. B. Smith, Esq., C.E. . . . .  | 5           | 1                | 6       | 127                    | 605            | 23·81 | 143                                 | 119                                 |
| 2.—STOUR & C. 386 sq. mi.                |                                  |             |                  |         |                        |                |       |                                     |                                     |
| d Lympne Aerodrome . . . . .             | Air Ministry . . . . .           | 8           | 1                | 0       | 348                    | 630            | 24·80 | ..                                  | ..                                  |
| d Lyminge (Elham Valley W.W.) . .        | Phillip Harris, Esq., . . . . .  | 5           | 1                | 6       | 485                    | 687            | 27·05 | 174                                 | 124                                 |
| d Dover (Martin Mill Pump. Stat.) .      | F. L. Ball, Esq. . . . .         | 5           | 11               | 0       | 298                    | 548            | 21·58 | 154                                 | 113                                 |
| d Kennington (Coombe Cottage) . .        | Mrs. Dell . . . . .              | 5           | 1                | 0       | 190                    | 664            | 26·14 | ..                                  | 113                                 |
| Ashford (Eastwell Park) (R.) . . .       | Mr. J. E. Weston . . . . .       | 9           | 3                | 6       | 410                    | 646            | 25·44 | 150                                 | 125                                 |
| d Charing Pumping Station . . . . .      | F. L. Ball, Esq. . . . .         | 5           | 1                | 0       | 593                    | 586            | 23·05 | 148                                 | 113                                 |
| m Deal and Walmer W.W. . . . .           | A. Mantle, Esq. . . . .          | 12          | 1                | 0       | 110                    | 586            | 23·08 | ..                                  | ..                                  |
| d Deal and Walmer W.W. . . . .           | A. Mantle, Esq. . . . .          | 5           | 1                | 0       | 110                    | 586            | 23·09 | 160                                 | 115                                 |
| d Great Mongeham Rectory . . . . .       | Rev. W. H. Rammell . . . . .     | 5           | 1                | 8       | 100                    | 542            | 21·33 | 144                                 | 106                                 |
| d Sandwich (Upton House, Word) . .       | Capt. W. Elwin Napier . . . . .  | 5           | 1                | 0       | 32                     | 542            | 21·36 | 151                                 | 107                                 |
| d Chilham (Lower Ensden) . . . . .       | F. Ivo Neame, Esq. . . . .       | 5           | 4                | 10      | 223                    | 596            | 23·48 | 179                                 | 114                                 |
| Wingham (Margate W.W.) . . . . .         | Mr. W. R. Hosking . . . . .      | 5           | 1                | 0       | 138                    | 575            | 22·64 | ..                                  | 115                                 |
| d Canterbury (Medical Hall) . . . .      | A. Lander, Esq. . . . .          | 5           | 0                | 11      | 39                     | 542            | 21·33 | 154                                 | 109                                 |
| Canterbury (Irrigation Works) . .        | C. Terry, Esq., C.E. . . . .     | 5           | 2                | 6       | 15                     | 583            | 22·95 | 152                                 | ..                                  |
| d Canterbury (St. Thomas's Hill) .       | P. J. Spillett, Esq. . . . .     | 5           | 0                | 6       | 66                     | 592            | 23·30 | 162                                 | 120                                 |
| d Wickhambreaux (The Willows) . .        | A. Baird, Esq. . . . .           | 5           | 0                | 8       | 22                     | 554            | 21·83 | 187                                 | 120                                 |
| d Minster (Gas Works) . . . . .          | W. Thomson, Esq., C.E. . . . .   | 5           | 1                | 0       | 60                     | 504            | 19·84 | ..                                  | ..                                  |
| d Ramsgate (Southwood W. W.) . .         | W. Thomson, Esq., C.E. . . . .   | 8           | 1                | 0       | 169                    | 488            | 19·21 | 143                                 | 104                                 |
| d Ramsgate (Archer House) . . . .        | Miss L. M. Wainwright . . . .    | 5           | 1                | 0       | 75                     | 466            | 18·34 | ..                                  | ..                                  |
| d Reculver . . . . .                     | Allington Collard, Esq. . . . .  | 5           | 5                | 2       | 27                     | 468            | 18·41 | 150                                 | 105                                 |
| d Broadstairs (Domus) . . . . .          | Capt. W. B. Marling . . . . .    | 8           | 1                | 0       | 60                     | 510            | 20·09 | 145                                 | 104                                 |
| d St. Peter's (Selwyn House) . . . .     | Mr. D. Hewitt . . . . .          | 5           | 1                | 4       | 140                    | 501            | 19·73 | ..                                  | 102                                 |
| d St. Peter's . . . . .                  | Rev. H. C. V. Snowden . . . .    | 5           | 0                | 9       | 140                    | 516            | 20·33 | 154                                 | 111                                 |
| d St. Peter's Court . . . . .            | A. J. Richardson, Esq. . . . .   | 5           | 1                | 0       | 135                    | 511            | 20·11 | 157                                 | 105                                 |
| d Birchington (Hollydene) . . . . .      | W. Tomlin, Esq., Junr. . . . .   | 6           | 6                | 0       | 75                     | 503            | 19·79 | ..                                  | 103                                 |
| d Birchington (Rose Bank) . . . . .      | Mr. G. Hoare . . . . .           | 5           | 5                | 0       | 45                     | 494            | 19·46 | ..                                  | 107                                 |
| d Margate (Cliftonville) . . . . .       | J. W. Gunnis, Esq. . . . .       | 8           | 1                | 0       | 130                    | 567            | 22·34 | 154                                 | 105                                 |
| d Margate (Cliftonville) . . . . .       | C. J. Pemble, Esq. . . . .       | 5           | 1                | 0       | 51                     | 451            | 17·77 | 139                                 | 92                                  |
| 3.—SWALE & C. 167 sq. mi.                |                                  |             |                  |         |                        |                |       |                                     |                                     |
| d Selling (Luton) . . . . .              | F. Ivo Neame, Esq. . . . .       | 5           | 4                | 9       | 263                    | 634            | 24·98 | 178                                 | 123                                 |
| d Bicknor Rectory . . . . .              | Rev. E. W. Edwards . . . . .     | 5           | 1                | 6       | 517                    | 681            | 26·82 | 157                                 | 125                                 |

## DIVISION II.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.                                    | AUTHORITIES.                          | Rain Gauge. |                  |                        | Depth of Rain. |     | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |     |
|--|---------------------------------------|-------------|------------------|------------------------|----------------|-----|-------------------------------------|-------------------------------------|-----|
|  |                                       | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |     |                                     |                                     |     |
|  |                                       | in.         | ft.              | in.                    | ft.            | mm. | in.                                 |                                     |     |
| KENT—(con.).                                 |                                       |             |                  |                        |                |     |                                     |                                     |     |
| 3.—SWALE & C.—(con.).                        |                                       |             |                  |                        |                |     |                                     |                                     |     |
| D Dunkirk (Dunkirk House) . . . . .          | Col. E. F. Gosset . . . . .           | 5           | 0                | 11                     | 400            | 584 | 22·99                               | 161                                 | 111 |
| D Ospringe (Lorenden) . . . . .              | Walter C. Stunt, Esq. . . . .         | 5           | 1                | 6                      | 180            | 588 | 23·16                               | 152                                 | 117 |
| D Teynham (Norton Court) . . . . .           | Capt. A. W. Rickards . . . . .        | 5           | 0                | 10                     | 100            | 563 | 22·17                               | 144                                 | 119 |
| D Teynham (New Gardens) . . . . .            | Col. J. F. Honeyball . . . . .        | 5           | 1                | 5                      | 30             | 515 | 20·26                               | 139                                 | 102 |
| D Whitstable (Western Ho.) No. 1 . . . . .   | J. W. Hayward, Esq. . . . .           | 5           | 0                | 10                     | 17             | 477 | 18·77                               | 129                                 | 105 |
| D Whitstable (Western Ho.) No. 2 . . . . .   | J. W. Hayward, Esq. . . . .           | 5           | 0                | 11                     | 17             | 469 | 18·47                               | 129                                 | 104 |
| D Herne Bay (Water Works) . . . . .          | J. Roberts, Esq. . . . .              | 5           | 1                | 0                      | 130            | 438 | 17·26                               | ..                                  | ..  |
| D Sheppey (Eastch'ch, Old Rides) . . . . .   | H.C. Warren, Esq. . . . .             | 5           | 2                | 0                      | 40             | 464 | 18·27                               | ..                                  | 93  |
| 4.—MEDWAY. 506 sq. mi.                       |                                       |             |                  |                        |                |     |                                     |                                     |     |
| D Woodchurch (Hengherst) . . . . .           | W. Mitchell, Esq. . . . .             | 5           | 1                | 0                      | 152            | 573 | 22·57                               | 163                                 | 117 |
| D Kilndown School . . . . .                  | J. A. Ager, Esq. . . . .              | 5           | 1                | 3                      | 365            | 708 | 27·86                               | 143                                 | 117 |
| D Scotney Castle . . . . .                   | E. W. Hussey, Esq. . . . .            | 5           | 3                | 9                      | 203            | 656 | 25·81                               | ..                                  | ..  |
| D Goudhurst (Maypole) . . . . .              | G. Parker Hinds, Esq. . . . .         | 8           | 1                | 8                      | 412            | 682 | 26·85                               | 140                                 | 115 |
| D Goudhurst (Lidwells) . . . . .             | Rev. H. P. FitzGerald . . . . .       | 5           | 1                | 0                      | 260            | 679 | 26·75                               | 184                                 | 125 |
| D Goudhurst (Brandfold) . . . . .            | Mr. C. Markwell . . . . .             | 5           | 2                | 0                      | 238            | 707 | 27·84                               | 146                                 | ..  |
| D High Halden (Middle Quarter) . . . . .     | Mr. B. H. Budding . . . . .           | 5           | 1                | 0                      | 114            | 621 | 24·45                               | 164                                 | 106 |
| D Biddenden (Augustus Villa) . . . . .       | E. Donne, Esq. . . . .                | 5           | 0                | 8                      | 175            | 603 | 23·75                               | 146                                 | 112 |
| D Tunbridge Wells (Hawkenbury) . . . . .     | D. W. Horner, Esq. . . . .            | 5           | 1                | 6                      | 435            | 705 | 27·77                               | 145                                 | 123 |
| D Tunbridge Wells (Calverley Park) . . . . . | Dr. F. C. Linton . . . . .            | 5           | 1                | 0                      | 356            | 638 | 25·13                               | 156                                 | 112 |
| D Tun. Wells (The White House) . . . . .     | Miss Monica Robins . . . . .          | 5           | 1                | 6                      | 360            | 682 | 26·84                               | 143                                 | 113 |
| D Speldhurst (Little Court) . . . . .        | P. L. Rooper, Esq. . . . .            | 8           | 1                | 3                      | 350            | 677 | 26·67                               | 189                                 | 123 |
| D Pembury (The Spring) . . . . .             | Miss L. M. Fowler . . . . .           | 5           | 1                | 2                      | 416            | 702 | 27·62                               | 189                                 | 129 |
| D Pembury Waterworks . . . . .               | W. H. Maxwell, Esq., C.E. . . . .     | 8           | 1                | 8                      | 197            | 634 | 24·98                               | 152                                 | 117 |
| D Paddock Wood (Matfield Grange) . . . . .   | C. A. Perkin, Esq. . . . .            | 5           | 1                | 0                      | 370            | 640 | 25·20                               | 150                                 | 113 |
| D Paddock Wood (Matfield) . . . . .          | D'Arcy W. Reeve, Esq. . . . .         | 5           | 1                | 0                      | 321            | 674 | 26·55                               | 155                                 | 119 |
| D Edenbridge (Falconhurst) . . . . .         | Hon. Mrs. John Talbot . . . . .       | 5           | 1                | 6                      | 375            | 702 | 27·62                               | 161                                 | 124 |
| D Markbeech (Edells) . . . . .               | Miss M. F. Pearse . . . . .           | 5           | 1                | 0                      | 320            | 551 | 21·68                               | 186                                 | 107 |
| D Markbeech (High Buckhurst) . . . . .       | Late Edmund Dean, Esq. . . . .        | 5           | 1                | 0                      | 400            | 668 | 26·31                               | 161                                 | 103 |
| D Chiddingstone Hoath (Truggers) . . . . .   | Alsager Vian, Esq. . . . .            | 5           | 0                | 8                      | 388            | 755 | 29·72                               | 164                                 | 116 |
| D Penshurst (Parkholt) . . . . .             | Mr. J. M. Sturgess . . . . .          | 5           | 0                | 9                      | 265            | 638 | 25·13                               | 146                                 | 113 |
| D Tonbridge (Mabledon Park) . . . . .        | J. F. W. Deacon, Esq. . . . .         | 5           | 1                | 2                      | 190            | 680 | 26·76                               | 154                                 | 117 |
| D Tonbridge (Brooklands) . . . . .           | G. J. Kimmins, Esq. . . . .           | 5           | 0                | 10                     | 120            | 633 | 24·93                               | 142                                 | 109 |
| D Tonbridge (Lyons) . . . . .                | Dr. E. S. Cardell . . . . .           | ..          | 0                | 8                      | 75             | 580 | 22·85                               | ..                                  | 105 |
| D Hadlow Place . . . . .                     | Late C. J. G. Hulkes, Esq. . . . .    | 5           | 1                | 0                      | 50             | 574 | 22·62                               | 185                                 | ..  |
| D Hildenborough (Hollanden Ho.) . . . . .    | C. H. Scott, Esq. . . . .             | 8           | 1                | 0                      | 99             | 637 | 25·09                               | 174                                 | 116 |
| D Ulcombe Place . . . . .                    | A. O. Walker, Esq. . . . .            | 5           | 1                | 0                      | 350            | 585 | 23·03                               | 151                                 | 115 |
| D Linton Park . . . . .                      | Mr. C. Pratt . . . . .                | 5           | 0                | 8                      | ..             | 600 | 23·62                               | 154                                 | 122 |
| D Langley (Rumwood Court) . . . . .          | Mr. W. J. Gould . . . . .             | 5           | 1                | 9                      | 354            | 620 | 24·40                               | 168                                 | 113 |
| D Otham (Synyards) . . . . .                 | Ambrose Boyson, Esq. . . . .          | 5           | 1                | 0                      | 315            | 662 | 26·06                               | 201                                 | 119 |
| D Wateringbury (The Limes) . . . . .         | Alan Lambert, Esq. . . . .            | 5           | 1                | 0                      | 130            | 578 | 22·76                               | 166                                 | 110 |
| D Wateringbury (Manor Farm) . . . . .        | W. Pye English, Esq. . . . .          | 5           | 3                | 0                      | 152            | 546 | 21·49                               | 168                                 | 102 |
| D Sevenoaks (River Hill) . . . . .           | Lt.-Col. J. M. Rogers, D.S.O. . . . . | 8           | 2                | 0                      | 535            | 643 | 25·32                               | 156                                 | 115 |
| D Sevenoaks (Soar Farm, Plaxtol) . . . . .   | H. Stonham, Esq. . . . .              | 5           | 3                | 0                      | 300            | 662 | 26·05                               | 154                                 | 130 |
| D Maidstone (W. W., Barming) . . . . .       | W. J. Ware, Esq., C.E. . . . .        | 5           | 1                | 6                      | 250            | 547 | 21·55                               | 155                                 | 110 |
| D Maidstone (Brenchley Gardens) . . . . .    | T. F. Bunting, Esq., C.E. . . . .     | 5           | 0                | 9                      | 50             | 535 | 21·05                               | 154                                 | 110 |
| D Maidstone (Mill Street) . . . . .          | T. F. Bunting, Esq., C.E. . . . .     | 8           | 6                | 0                      | 38             | 536 | 21·12                               | 156                                 | 107 |
| D East Malling (Broadwater) . . . . .        | C. B. Mercer, Esq. . . . .            | 5           | 1                | 6                      | 166            | 583 | 22·94                               | 173                                 | 119 |
| D Maidstone (Allington Lock) . . . . .       | Mr. W. Smith . . . . .                | 5           | 1                | 0                      | 45             | 549 | 21·63                               | 145                                 | ..  |
| D Detling (The Croft) . . . . .              | R. Cooke, Esq. . . . .                | 5           | 1                | 2                      | 330            | 623 | 24·53                               | 196                                 | 118 |
| D Detling (The Croft) . . . . .              | R. Cooke, Esq. . . . .                | 5           | 1                | 0                      | 330            | 625 | 24·61                               | 195                                 | 118 |
| M Detling (Pollhill Fields) . . . . .        | R. Cooke, Esq. . . . .                | 5           | 1                | 0                      | 553            | 632 | 24·88                               | ..                                  | ..  |
| D Chatham (Woolmans Wood) . . . . .          | W. Coles Finch, Esq. . . . .          | 5           | 3                | 0                      | 470            | 576 | 22·69                               | 148                                 | 108 |
| D Halling Pumping Station . . . . .          | F. L. Ball, Esq. . . . .              | 5           | 1                | 0                      | 75             | 545 | 21·46                               | ..                                  | 97  |
| D Rainham (Mardale House) . . . . .          | Dr. F. W. H. Penfold . . . . .        | 5           | 1                | 0                      | 85             | 588 | 23·17                               | 182                                 | 108 |
| D Chatham (Luton W.W.) . . . . .             | W. Coles Finch, Esq. . . . .          | 5           | 3                | 0                      | 88             | 512 | 20·17                               | ..                                  | 99  |
| D Rochester (Knights Place) . . . . .        | Miss F. H. Pye . . . . .              | 5           | 3                | 0                      | 320            | 583 | 22·96                               | 149                                 | 118 |
| D Strood Water Works . . . . .               | W. Banks, Esq., C.E. . . . .          | 5           | 3                | 0                      | 112            | 533 | 21·00                               | 140                                 | 100 |
| D Frindsbury (The Shrubbery) . . . . .       | Warwick Stunt, Esq. . . . .           | 5           | 2                | 0                      | 150            | 503 | 19·82                               | ..                                  | 98  |
| D Frindsbury (Stonehouse Farm) . . . . .     | E. W. Wood, Esq. . . . .              | 5           | 5                | 0                      | 20             | 546 | 21·48                               | 135                                 | 104 |
| D Hoo (Chattenden) . . . . .                 | W. Daniel, Esq. . . . .               | 5           | 1                | 6                      | ..             | 554 | 21·81                               | ..                                  | ..  |
| D Hoo St. Mary (St. Mary's Hall) . . . . .   | H. Pye, Esq. . . . .                  | 5           | 5                | 6                      | 146            | 559 | 22·02                               | 163                                 | 99  |

## DIVISION II.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.  | AUTHORITIES. | Rain Gauge. |                  |                        | Depth of Rain. |       | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|--|--------------|-------------|------------------|------------------------|----------------|-------|--|--|
|  |              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |       |  |  |
|  |              | in.         | ft. in.          | ft.                    | mm.            | in.   |  |  |
| KENT—(con.).   |              |             |                  |                        |                |       |  |  |
| 5.—THAMES—Darent. 256 sq. mi.                                      |              |             |                  |                        |                |       |  |  |
| D Westerham (Quebec Square) .. Met. Water Board.....               |              | 5           | 1 0              | 380                    | 744            | 29·27 | 158                                    | 121                                    |
| D Westerham Hill Pumping Stat. Met. Water Board.....               |              | 5           | 1 0              | 539                    | 766            | 30·14 | 173                                    | 124                                    |
| M Sevenoaks (Tonbdge Rd. Res.) .. A. Grainger, Esq. ....           |              | 5           | 1 6              | 556                    | 695            | 27·37 | ..                                     | ..                                     |
| D Sevenoaks (The Old House) .. W. Tattersall, Esq. ....            |              | 8           | 1 0              | 510                    | 715            | 28·14 | 174                                    | 121                                    |
| D Sevenoaks (Speldhurst Close) .. Rev. D. D. Mackinnon ..          |              | 5           | 1 0              | 470                    | 684            | 26·94 | 172                                    | 124                                    |
| D Tatsfield (Betsom Hill) .. Met. Water Board.....                 |              | 5           | 0 7              | 820                    | 792            | 31·16 | 175                                    | 136                                    |
| Seal (St. Lawrence Reservoir) .. A. Grainger, Esq. ....            |              | 8           | 1 0              | 665                    | 731            | 28·79 | ..                                     | ..                                     |
| Seal (Oak Bank Reservoir) .. A. Grainger, Esq. ....                |              | 8           | 1 0              | 550                    | 712            | 28·04 | ..                                     | ..                                     |
| D Seal (Wildernesse Gardens) .. Mr. J. Shelton .....               |              | 5           | 1 0              | 300                    | 651            | 25·63 | 166                                    | 115                                    |
| Seal (Kemsing Pumping Stat.) .. A. Grainger, Esq. ....             |              | 5           | 1 0              | 292                    | 676            | 26·60 | ..                                     | ..                                     |
| D Sevenoaks (Chevening Gardens) Mr. J. C. Sutton .....             |              | 5           | 1 0              | 360                    | 753            | 29·64 | 167                                    | 121                                    |
| D Knockholt (Kent Waterworks) .. Met. Water Board .....            |              | 5           | 1 0              | 785                    | 741            | 29·18 | 160                                    | 125                                    |
| D Otford (Beechy Lees) .. Mr. R. Edwards .....                     |              | 5           | 0 10             | 480                    | 714            | 28·12 | 166                                    | 125                                    |
| D Downe (Council School) .. A. J. Ridge, Esq. ....                 |              | 5           | 0 10             | 500                    | 723            | 28·46 | 197                                    | 116                                    |
| Chelsfield (Woodlands) .. W. A. Waring, Esq. ....                  |              | 5           | 4 4              | 400                    | 599            | 23·60 | 151                                    | ..                                     |
| D Keston (Forest Lodge) .. W. H. Dodgson, Esq. ....                |              | 5           | 1 0              | 300                    | 682            | 26·83 | 157                                    | 126                                    |
| D West Wickham (Wickham Court) .. F. C. Bayard, Esq. ....          |              | 5           | 1 2              | 300                    | 633            | 24·94 | 144                                    | 115                                    |
| West Wickham (Ingleside) .. G. B. Kershaw, Esq., C.E. ..           |              | 5           | 1 0              | 248                    | 519            | 20·45 | ..                                     | ..                                     |
| D Hayes (Hayes Place) .. F. C. Bayard, Esq. ....                   |              | 8           | 1 0              | 350                    | 633            | 24·93 | 162                                    | 122                                    |
| D Orpington (Kent Waterworks) .. Met. Water Board.....             |              | 5           | 1 0              | 220                    | 609            | 23·97 | 160                                    | 115                                    |
| Orpington (Lynwood) .. W. Jones, Esq. ....                         |              | 5           | 1 4              | 272                    | 570            | 22·46 | ..                                     | ..                                     |
| d Cobham (Sole Street House) .. J. Scratton, Esq. ....             |              | 5           | 1 8              | 311                    | 609            | 23·99 | ..                                     | ..                                     |
| D Cobham (Scaler's Hill) .. A. W. Booth, Esq. ....                 |              | 5           | 1 9              | 250                    | 628            | 24·73 | 136                                    | 113                                    |
| D Bromley Common (Elmfield) .. Rev. J. P. Faunthorpe ..            |              | 5           | 0 9              | 240                    | 542            | 21·33 | 172                                    | 108                                    |
| d Bickley (Sunnydene) .. Sir J. Wrench Towse .....                 |              | 5           | 1 0              | 227                    | 608            | 23·92 | ..                                     | 125                                    |
| D Bickley (St. Luke's Vicarage) .. Rev. C. C. Gosselin .....       |              | 5           | 2 0              | ..                     | 542            | 21·33 | 149                                    | 106                                    |
| D Bickley (Farrants) .. L. E. Chalmers, Esq. ....                  |              | 8           | 1 0              | 300                    | 573            | 22·57 | 159                                    | 113                                    |
| D Bromley (Hazelcroft) .. Rev. H. A. Soames .....                  |              | 5           | 1 0              | 180                    | 558            | 21·96 | 152                                    | 112                                    |
| d Bromley (The Palace) .. F. C. Bayard, Esq. ....                  |              | 5           | 1 0              | 187                    | 558            | 21·96 | ..                                     | 101                                    |
| Bromley (Gilbert Road) .. Edward Kinder, Esq. ....                 |              | 5           | 1 4              | 200                    | 554            | 21·79 | ..                                     | ..                                     |
| d Bromley (Hammelton Road) .. Rev. F. N. Style .....               |              | 5           | 1 0              | 231                    | 540            | 21·28 | ..                                     | 110                                    |
| D Beckenham (Croydon Road) .. J. A. Angell, Esq., C.E. ..          |              | 8           | 1 0              | 110                    | 644            | 25·36 | 177                                    | 117                                    |
| d Chislehurst (Hawkwood) .. F. C. Bayard, Esq. ....                |              | 5           | 1 0              | 300                    | 528            | 20·79 | ..                                     | 104                                    |
| D Southfleet (Kent Waterworks) .. Met. Water Board.....            |              | 5           | 1 0              | 82                     | 535            | 21·05 | 147                                    | 98                                     |
| d Wilmington (Kent Waterworks) .. Met. Water Board.....            |              | 5           | 1 0              | 25                     | 478            | 18·84 | ..                                     | 89                                     |
| D Dartford (West Hill House) .. F. C. Bayard, Esq. ....            |              | 5           | 1 3              | 100                    | 651            | 25·62 | 151                                    | 105                                    |
| d Gravesend (Park House) .. W. G. Rea, Esq. ....                   |              | 5           | 38 4             | 78                     | 510            | 20·07 | ..                                     | 89                                     |
| D Higham Waterworks .. C. H. Clark, Esq. ....                      |              | 8           | 1 0              | 141                    | 660            | 26·00 | 175                                    | 114                                    |
| D Bexley Heath (Rookwood) .. G. Berry Hamlin, Esq. ....            |              | 5           | 1 0              | 161                    | 554            | 21·82 | 167                                    | 112                                    |
| M Bexley Heath (Rookwood) .. G. Berry Hamlin, Esq. ....            |              | 5           | 1 0              | 161                    | 544            | 21·40 | ..                                     | ..                                     |
| D Erith (Crossness) .. London County Council ..                    |              | 14          | 0 6              | 16                     | 468            | 18·44 | 148                                    | 98                                     |
| SUSSEX. (Area, 1458 sq. mi.)                                       |              |             |                  |                        |                |       |  |  |
| 1.—LAVANT & C. 175 sq. mi.   |              |             |                  |                        |                |       |  |  |
| D Selsey (Large Acres) .. Field .. E. Heron Allen, Esq., F.R.S. .. |              | 5           | 1 0              | 25                     | 737            | 29·03 | 183                                    | 134                                    |
| D Selsey (Large Acres) .. Lawn .. E. Heron Allen, Esq., F.R.S. ..  |              | 5           | 1 0              | 25                     | 744            | 29·27 | 183                                    | 134                                    |
| D Bognor (Waterloo Square) .. A. G. Thompson, Esq., C.E. ..        |              | 8           | 1 0              | 21                     | 740            | 29·13 | 177                                    | 119                                    |
| D Bognor (Albert Road) .. H. L. F. Guernonprez, Esq. ....          |              | 8           | 1 0              | 17                     | 727            | 28·63 | 173                                    | 121                                    |
| Bognor (Lidsey Lodge) .. H. Neale, Esq. ....                       |              | 8           | 1 2              | 25                     | 692            | 27·23 | 145                                    | ..                                     |
| D Merston (Abelands) .. Miss V. Kennard .....                      |              | 5           | 0 6              | 24                     | 744            | 29·27 | 184                                    | 126                                    |
| D Bosham (Cobnor) .. Major S. W. B. Beale .....                    |              | 5           | 0 6              | 12                     | 709            | 27·92 | 143                                    | 122                                    |
| Yapton (Bonhams) .. W. Harrison, Esq. ....                         |              | 5           | 1 0              | 24                     | 710            | 27·97 | 166                                    | 115                                    |
| Yapton (Drove Farm) .. W. Harrison, Esq. ....                      |              | 5           | 1 0              | 14                     | 699            | 27·51 | 166                                    | 115                                    |
| D Chichester (Westgate) .. G. Ashley Tyacke, Esq. ....             |              | 8           | 0 6              | 40                     | 771            | 30·35 | 169                                    | 123                                    |
| D Chichester (Summersdale) .. Rev. H. J. Peckham .....             |              | 5           | 1 0              | 100                    | 794            | 31·26 | 187                                    | 129                                    |
| D Chichester (West Broyle Gdns.) .. T. Weller-Poley, Esq. ....     |              | 5           | 1 4              | 107                    | 789            | 31·08 | 161                                    | 131                                    |
| D Emsworth (West Bourne) .. Rev. L. B. Birkett .....               |              | 5           | 1 0              | 30                     | 734            | 28·91 | 181                                    | 127                                    |
| D Funtington .. J. A. Greenwood, Esq. ....                         |              | 5           | 1 0              | 95                     | 761            | 29·96 | 148                                    | 123                                    |
| West Stoke Rectory .. Rev. Preb. W. F. Shaw ..                     |              | 5           | 1 0              | 176                    | 730            | 28·74 | ..                                     | ..                                     |
| D Chichester (Goodwood Gardens) .. Mr. F. Brock .....              |              | 5           | 1 3              | 133                    | 854            | 33·64 | 190                                    | 137                                    |
| D Emsworth (Watergate House) .. W. M. Christy, Esq. ....           |              | 5           | 1 0              | 236                    | 828            | 32·61 | 185                                    | 128                                    |
| West Dean Park .. Mr. W. H. Smith .....                            |              | 10          | 1 6              | 190                    | 948            | 37·32 | 143                                    | ..                                     |
| d Chilgrove House .. Late Miss Woods .....                         |              | 5           | 1 1              | 266                    | 847            | 33·36 | ..                                     | ..                                     |
| Compton (Compton House) .. Kenneth M. Langdale, Esq. ....          |              | 5           | 1 0              | 263                    | 928            | 36·52 | 194                                    | 137                                    |



## DIVISION II.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.                                   | AUTHORITIES.                              | Rain Gauge. |                  |                        | Depth of Rain. |     | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |     |
|---|---|-------------|------------------|------------------------|----------------|-----|-------------------------------------|-------------------------------------|-----|
|   |   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |     |                                     |                                     |     |
| SUSSEX—(con.).                              |   | in.         | ft.              | in.                    | ft.            | mm. | in.                                 |                                     |     |
| 2.—ARUN. 285 sq. mi.                        |   |             |                  |                        |                |     |                                     |                                     |     |
| d Littlehampton (Met. Station) . . . . .    | C. Thomas Gardner, Esq. . . . .           | 5           | 1                | 0                      | 16             | 719 | 28·30                               | 156                                 | 121 |
| d Tortington House . . . . .                | Mrs. Travers . . . . .                    | 5           | 0                | 8                      | 25             | 734 | 28·91                               | ..                                  | 109 |
| d Patching (Dulaney House) . . . . .        | E. Noel, Esq. . . . .                     | 5           | 0                | 9                      | 125            | 826 | 32·50                               | 164                                 | 127 |
| d Patching Farm . . . . .                   | Michael Drewitt, Esq. . . . .             | 5           | 1                | 0                      | 180            | 842 | 33·14                               | 148                                 | 123 |
| d West Chiltington (Gaywood) . . . . .      | E. Burney-Young, Esq. . . . .             | 5           | 1                | 0                      | 134            | 820 | 32·29                               | ..                                  | 114 |
| d Cocking Rectory . . . . .                 | Mrs. Randall . . . . .                    | 5           | 1                | 0                      | 195            | 988 | 38·89                               | 180                                 | ..  |
| d Elsted (Telegraph House) . . . . .        | The Earl Russell . . . . .                | 5           | 1                | 0                      | 625            | 908 | 35·76                               | 151                                 | 135 |
| d Bepton (Fairfield) . . . . .              | Major W. A. Chauncy . . . . .             | 5           | 0                | 8                      | 158            | 837 | 32·95                               | 158                                 | 119 |
| d Selham (Selham House) . . . . .           | C. C. Lacaita, Esq. . . . .               | 5           | 1                | 0                      | 115            | 828 | 32·59                               | 142                                 | 122 |
| d Stedham (Rotherhill) . . . . .            | Dr. W. A. Wills . . . . .                 | 8           | 0                | 6                      | 190            | 959 | 37·76                               | 178                                 | 147 |
| d Rogate (Durford Abbey Farm) . . . . .     | J. Harmsworth, Esq. . . . .               | 5           | 4                | 0                      | 156            | 918 | 36·14                               | 183                                 | 140 |
| d Petworth Park Gardens . . . . .           | Mr. E. W. Pull . . . . .                  | 5           | 1                | 0                      | 182            | 861 | 33·88                               | 143                                 | 124 |
| d Tillington (River House) . . . . .        | Hon. Lady Cunliffe, C.B.E. . . . .        | 5           | 1                | 0                      | 230            | 714 | 28·12                               | ..                                  | ..  |
| d Lodsworth . . . . .                       | Lt.-Col. E. O. Hollist, R.A. . . . .      | 8           | 2                | 0                      | 220            | 699 | 27·52                               | ..                                  | ..  |
| d Midhurst (K. Edward VII. San.) . . . . .  | Dr. B. Ash . . . . .                      | 5           | 1                | 0                      | 481            | 818 | 32·19                               | 177                                 | 119 |
| d Wisborough Green (Lowfold) . . . . .      | B. de F. Osmaston, Esq. . . . .           | 5           | 1                | 6                      | 150            | 713 | 28·06                               | ..                                  | ..  |
| d Linchmere (Borden Wood) . . . . .         | Edmund Lamb, Esq. . . . .                 | 8           | 1                | 0                      | 260            | 924 | 36·36                               | ..                                  | 131 |
| d Linchmore (Hollycombe) . . . . .          | Late J. C. Hawkshaw, Esq. . . . .         | 8           | 6                | 6                      | 550            | 904 | 35·58                               | ..                                  | 112 |
| d Fernhurst (Blackdown House) . . . . .     | Lady Philipson Stow . . . . .             | 5           | 1                | 0                      | 550            | 840 | 33·07                               | 166                                 | 128 |
| d Lower Beeding (The Warren) . . . . .      | Leicester M. Reed, Esq. . . . .           | 5           | 0                | 10                     | 430            | 805 | 31·71                               | 145                                 | 120 |
| d Horsham (Christ's Hospital) . . . . .     | Major Gabriel Green, M.C. . . . .         | 8           | 1                | 3                      | 184            | 761 | 29·96                               | 156                                 | 119 |
| d Horsham (Wimblehurst) . . . . .           | Miss E. M. Allcard . . . . .              | 5           | 1                | 0                      | 195            | 780 | 30·70                               | 174                                 | 119 |
| 3.—ADUR & C. 237 sq. mi.                    |   |             |                  |                        |                |     |                                     |                                     |     |
| d Worthing (Victoria Park) . . . . .        | Dr. R. H. Wilshaw . . . . .               | 8           | 1                | 0                      | 36             | 671 | 26·40                               | 139                                 | 101 |
| d East Preston (Bay Trees) . . . . .        | Rev. J. B. Orme . . . . .                 | 5           | 0                | 9                      | 25             | 749 | 29·50                               | 179                                 | 137 |
| d Brighton (Old Steyne) . . . . .           | F. W. Braybon, Esq. . . . .               | 5           | 1                | 0                      | 32             | 690 | 27·16                               | 173                                 | 117 |
| d Hove (Marine Park) . . . . .              | Dr. A. Griffith . . . . .                 | 8           | 1                | 0                      | 40             | 684 | 26·94                               | 169                                 | 114 |
| d Brighton W.W. (Goldstone Bot.) . . . . .  | J. Johnston, Esq., C.E. . . . .           | 8           | 0                | 7                      | 140            | 702 | 27·62                               | 162                                 | 117 |
| d Brighton W.W. (Lewes Road) . . . . .      | J. Johnston, Esq., C.E. . . . .           | 8           | 4                | 9                      | 140            | 802 | 31·57                               | 175                                 | 124 |
| d Brighton W.W. (Shoreham) . . . . .        | J. Johnston, Esq., C.E. . . . .           | 8           | 1                | 9                      | 12             | 732 | 28·84                               | 146                                 | 116 |
| d Brighton W.W. (Upper Portslade) . . . . . | J. Johnston, Esq., C.E. . . . .           | 8           | 1                | 3                      | 167            | 778 | 30·65                               | 165                                 | 117 |
| d Brighton W.W. (Race Hill Res.) . . . . .  | J. Johnston, Esq., C.E. . . . .           | 8           | 1                | 0                      | 466            | 816 | 32·13                               | 173                                 | 128 |
| d Preston Park . . . . .                    | P. J. Trouncer, Esq. . . . .              | 8           | 1                | 3                      | 96             | 760 | 29·91                               | ..                                  | ..  |
| d Falmer (Brighton W. W.) . . . . .         | J. Johnston, Esq., C.E. . . . .           | 8           | 1                | 8                      | 209            | 809 | 31·86                               | 210                                 | 125 |
| d Patcham (Brighton W. W.) . . . . .        | J. Johnston, Esq., C.E. . . . .           | 5           | 1                | 6                      | 207            | 804 | 31·67                               | 184                                 | 133 |
| d Bramber (Burletts) . . . . .              | Hatton G. Sugden, Esq. . . . .            | 5           | 3                | 6                      | 75             | 894 | 35·18                               | 157                                 | 128 |
| d Washington Vicarage . . . . .             | Rev. A. H. S. Patrick . . . . .           | 5           | 1                | 0                      | 251            | 777 | 30·60                               | 177                                 | 113 |
| d Ditchling (Sillwood House) . . . . .      | Miss Tupper . . . . .                     | 5           | 1                | 0                      | 220            | 915 | 36·04                               | ..                                  | ..  |
| d Wykehurst Park Gardens . . . . .          | Mr. T. Tyson . . . . .                    | 5           | 1                | 6                      | 360            | 735 | 28·93                               | ..                                  | 113 |
| d Cuckfield (Henmead Hall) . . . . .        | Mrs. Maxwell Campbell . . . . .           | 5           | 3                | 5                      | 365            | 767 | 30·19                               | 237                                 | 129 |
| d Billingshurst (Duncan's Farm) . . . . .   | Miss Edith Beck . . . . .                 | 5           | 1                | 0                      | 130            | 800 | 31·48                               | 160                                 | 131 |
| 4.—OUSE. 224 sq. mi.                        |   |             |                  |                        |                |     |                                     |                                     |     |
| d Seaford College . . . . .                 | Col. F. W. Savage . . . . .               | 5           | 1                | 6                      | 39             | 666 | 26·21                               | ..                                  | 104 |
| d Seaford (Bowden House School) . . . . .   | J. F. Thomas, Esq. . . . .                | 5           | 1                | 0                      | 190            | 708 | 27·87                               | 160                                 | 112 |
| d Newhaven (Poverty Bottom WW) . . . . .    | J. T. Bickford, Esq. . . . .              | 8           | 1                | 1                      | 51             | 747 | 29·40                               | 145                                 | 116 |
| d Lewes (Little Dene) . . . . .             | Mr. F. Down . . . . .                     | 8           | 0                | 11                     | 58             | 832 | 32·77                               | ..                                  | ..  |
| d Lewes W. W. (Kingston) . . . . .          | A. Wells, Esq. . . . .                    | 8           | 1                | 3                      | 13             | 862 | 33·94                               | 201                                 | 131 |
| d Framfield (High Cross) . . . . .          | Maj. R. L. Thornton, C.B.E., D.L. . . . . | 5           | 0                | 9                      | 195            | 758 | 29·84                               | ..                                  | ..  |
| d Wivelsfield Green . . . . .               | T. D. Evans, Esq. . . . .                 | 5           | 1                | 0                      | ..             | 739 | 29·09                               | ..                                  | ..  |
| d Uckfield (Pilt Down) . . . . .            | W. M. Alderton, Esq. . . . .              | ..          | ..               | ..                     | 150            | 675 | 26·56                               | 154                                 | 119 |
| d Haywards Heath (Gower Road) . . . . .     | Mr. J. F. Shirley . . . . .               | 5           | 3                | 4                      | 242            | 630 | 24·81                               | 161                                 | 112 |
| d Buxted (Strawberry Hall) . . . . .        | C. Rintoul, Esq. . . . .                  | 5           | 1                | 0                      | 180            | 729 | 28·71                               | 161                                 | ..  |
| d Buxted (Hadlow Down) . . . . .            | C. H. Scriven, Esq. . . . .               | 5           | 1                | 6                      | 350            | 783 | 30·82                               | 179                                 | 127 |
| d Mayfield (Five Ashes) . . . . .           | Miss Emily Aston . . . . .                | 5           | 1                | 5                      | 300            | 759 | 29·88                               | 185                                 | 124 |
| d Lindfield (The Bungalow) . . . . .        | Mrs. M. Weedon . . . . .                  | 5           | 0                | 11                     | 177            | 703 | 27·66                               | 167                                 | 116 |
| d Ardingly (Lywood House) . . . . .         | G. Forrester Scott, Esq. . . . .          | 5           | 0                | 9                      | 240            | 735 | 28·92                               | 179                                 | 118 |
| d Ardingly (Wakehurst Place) . . . . .      | G. W. E. Loder, Esq. . . . .              | 8           | 1                | 3                      | 437            | 857 | 33·74                               | 180                                 | 118 |
| d Horsted Keynes (Birchgrove) . . . . .     | Miss G. C. Price-Davies . . . . .         | 5           | 0                | 9                      | 400            | 751 | 29·56                               | 169                                 | 123 |
| d Balcombe (The Gables) . . . . .           | Mr. G. J. Warren . . . . .                | 8           | 1                | 3                      | 358            | 841 | 33·12                               | 176                                 | 132 |
| d Balcombe (Stockcroft) . . . . .           | R. Newton, Esq. . . . .                   | 5           | 1                | 1                      | 341            | 849 | 33·42                               | 181                                 | 125 |
| d Balcombe (Waterworks) . . . . .           | F. Martin, Esq., C.E. . . . .             | 8           | 1                | 0                      | 471            | 820 | 32·27                               | ..                                  | 111 |
| d Balcombe (Highley Manor) . . . . .        | Mr. B. T. Brooks . . . . .                | 8           | 1                | 6                      | 420            | 949 | 37·36                               | 175                                 | 133 |

## DIVISION II.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.                          | AUTHORITIES.                   | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|------------------------------------|--------------------------------|-------------|------------------|------------------------|-----|----------------|-------|-------------------------------------|-------------------------------------|
|                                    |                                | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |                                     |                                     |
| SUSSEX—(con.).                     |                                | in.         | ft.              | in.                    | ft. | mm.            | in.   |                                     |                                     |
| 5.—CUCKMERE & C. 189 sq. mi.       |                                |             |                  |                        |     |                |       |                                     |                                     |
| D Eastbourne (Wilmington Sq.)      | Dr. W. G. Willoughby           | 5           | 1                | 0                      | 36  | 756            | 29·76 | 172                                 | 125                                 |
| D Eastbourne (Arundel Road)        | Miss Woodd                     | 8           | 1                | 6                      | 87  | 713            | 28·06 | 165                                 | 117                                 |
| Eastbourne (Arundel Road)          | J. C. Wright, Esq.             | 5           | 1                | 0                      | 70  | 756            | 29·76 | ..                                  | ..                                  |
| D West Dean                        | A. Wilkins, Esq.               | 8           | 1                | 6                      | 112 | 699            | 27·53 | 181                                 | 120                                 |
| D Jevington (Church Farm)          | A. Wilkins, Esq.               | 8           | 1                | 6                      | 274 | 763            | 30·02 | 143                                 | 129                                 |
| D Litlington (Plough & Harrow Inn) | A. Wilkins, Esq.               | 8           | 1                | 6                      | 19  | 838            | 32·98 | 149                                 | 119                                 |
| d Willingdon Sewage Farm           | W. Walker, Esq.                | 5           | 1                | 0                      | 24  | 772            | 30·40 | ..                                  | 118                                 |
| D Pevensey Pumping Station         | W. Walker, Esq.                | 5           | 1                | 0                      | 12  | 648            | 25·50 | 145                                 | 123                                 |
| D Pevensey Bay Pumping Station     | W. Walker, Esq.                | 5           | 1                | 0                      | 7   | 614            | 24·18 | 149                                 | 118                                 |
| D St. Leonards (Gensing Gardens)   | W. Ruskin Butterfield, Esq.    | 8           | 1                | 0                      | 179 | 675            | 26·57 | 200                                 | 115                                 |
| d Hailsham Vicarage                | Rev. F. Clyde Harvey           | 5           | 1                | 0                      | 105 | 738            | 29·06 | ..                                  | 115                                 |
| D Hailsham (Magham Down)           | E. M. Bear, Esq.               | 5           | 1                | 0                      | 90  | 718            | 28·26 | 156                                 | 114                                 |
| d Hastings (Newgates)              | (R) P. H. Palmer, Esq., C.E.   | 8           | 5                | 6                      | 240 | 709            | 27·92 | ..                                  | 116                                 |
| D Hastings (Halton Reservoir)      | P. H. Palmer, Esq., C.E.       | 5           | 1                | 3                      | 301 | 689            | 27·12 | 142                                 | 119                                 |
| d Hastings (Fairlight Reservoir)   | P. H. Palmer, Esq., C.E.       | 5           | 1                | 3                      | 523 | 682            | 26·86 | ..                                  | 121                                 |
| D Hastings (Cemetery)              | Walter Field, Esq.             | 5           | 0                | 8                      | 478 | 657            | 25·86 | 177                                 | 116                                 |
| D Ninfield (Hazard's Grn Pmp. St.) | C. P. King, Esq.               | 8           | 0                | 10                     | 74  | 599            | 23·60 | 185                                 | 110                                 |
| D Battle (Forewood W.W.)           | P. H. Palmer, Esq., C.E.       | 5           | 1                | 3                      | 46  | 664            | 26·14 | 148                                 | 112                                 |
| D Horeham Road (Coxlow)            | Miss P. C. Harrison            | 5           | 1                | 0                      | 260 | 742            | 29·23 | 165                                 | 119                                 |
| D Horeham Grange                   | W. F. Beauford, Esq.           | 5           | 1                | 2                      | 260 | 786            | 30·94 | 147                                 | 121                                 |
| D Horeham Rd. (Hollycroft Cott.)   | J. Hamlin, Esq.                | 5           | 1                | 0                      | 300 | 802            | 31·56 | 155                                 | 126                                 |
| D Heathfield (The White Cottage)   | J. F. Leigh Clare, Esq.        | 5           | 1                | 0                      | 500 | 764            | 30·08 | 155                                 | 139                                 |
| D Heathfield (South Ridge)         | P. Lennox Wright, Esq.         | 8           | 1                | 3                      | 540 | 858            | 33·78 | 163                                 | 128                                 |
| Cross-in-Hand (Heatherden)         | "Sussex Express"               | ..          | ..               | ..                     | ..  | 823            | 32·39 | ..                                  | ..                                  |
| 6.—ROTHER. 194 sq. mi.             |                                |             |                  |                        |     |                |       |                                     |                                     |
| D Westfield Vicarage               | Rev. E. J. Morgan              | 5           | 5                | 6                      | 101 | 742            | 29·21 | 193                                 | 124                                 |
| D Icklesham Vicarage               | Rev. Philip Houghton           | 5           | 0                | 6                      | 110 | 590            | 23·24 | ..                                  | ..                                  |
| D Winchelsea (Mariteau House)      | C. W. Campion, Esq.            | 5           | 1                | 0                      | 120 | 674            | 26·52 | 166                                 | 109                                 |
| D Brede Pumping Station            | P. H. Palmer, Esq., C.E.       | 5           | 1                | 3                      | 37  | 734            | 28·91 | 152                                 | 125                                 |
| D Udimore (The Hammonds)           | Major R. P. Mair               | 8           | 1                | 0                      | 144 | 634            | 24·94 | 138                                 | 102                                 |
| D Beckley (Little Harriers)        | B. E. de N. Ramus, Esq.        | 5           | 1                | 0                      | 150 | 692            | 27·24 | 149                                 | 118                                 |
| D Heathfield (Tottingworth Park)   | Mr. J. Masson                  | 5           | 1                | 0                      | 500 | 828            | 32·58 | 153                                 | 131                                 |
| D Northiam (Great Dixter)          | Nathaniel Lloyd, Esq., OBE     | 8           | 1                | 0                      | 210 | 627            | 24·70 | 165                                 | 113                                 |
| D Wadhurst (The Olives)            | Miss Edith P. Luck             | 5           | 1                | 0                      | 380 | 761            | 29·96 | 166                                 | 120                                 |
| D Hurst Green (Boarzell)           | Sir F. W. Fison, Bart.         | 8           | 1                | 0                      | 271 | 661            | 26·04 | 154                                 | 111                                 |
| 7.—MEDWAY. 117 sq. mi.             |                                |             |                  |                        |     |                |       |                                     |                                     |
| D Crowborough (Jarvis Brook)       | Crowborough Water Co.          | 5           | 1                | 0                      | 325 | 819            | 32·23 | 167                                 | 137                                 |
| D Crowborough (Uckfield Lodge)     | Mrs. A. M. Driberg             | 5           | 1                | 0                      | 796 | 844            | 33·24 | 173                                 | 144                                 |
| D Crowborough (Te Whare)           | Miss Hames                     | 5           | 1                | 0                      | 796 | 900            | 35·44 | 210                                 | 138                                 |
| D Wadhurst (Lower Cousley Wd)      | F. Wilkin, Esq.                | 5           | 1                | 0                      | 416 | 659            | 25·95 | 159                                 | 117                                 |
| d Forest Row (Wych Cross Place)    | D. W. Freshfield, Esq., D.C.L. | 5           | 1                | 0                      | 600 | 740            | 29·14 | ..                                  | 118                                 |
| D Forest Row (Hindleap Lodge)      | Viscount Bryce, F.R.S.         | 5           | 1                | 0                      | 620 | 831            | 32·73 | 150                                 | 125                                 |
| Forest Row (Charlwood Farm)        | A. Hoare, Esq.                 | 5           | 2                | 0                      | 350 | 818            | 32·22 | 168                                 | ..                                  |
| D Coleman's Hatch (Holly Hill)     | J. MacAndrew, Esq.             | 5           | 1                | 0                      | 352 | 780            | 30·71 | 154                                 | 134                                 |
| D Frant (Henley House)             | Rev. E. Malden                 | 5           | 1                | 6                      | 440 | 748            | 29·47 | 180                                 | 124                                 |
| D Frant (Eridge Castle)            | Mr. A. Wilson                  | 5           | 2                | 0                      | 400 | 780            | 30·71 | 159                                 | 138                                 |
| Frant (Highfield)                  | C. M. R. Cleeve, Esq.          | 5           | 2                | 3                      | 413 | 718            | 28·27 | 144                                 | 119                                 |
| D Tunbridge Wells (Frant Road)     | Alban G. Robins, Esq.          | 5           | 1                | 0                      | 430 | 760            | 29·91 | 171                                 | 118                                 |
| D Crawley Down (The Grange)        | T. H. W. Buckley, Esq.         | 5           | 1                | 0                      | 430 | 803            | 31·60 | 156                                 | 112                                 |
| D East Grinstead (Highfields)      | G. Mason, Esq.                 | 5           | 1                | 0                      | 400 | 710            | 27·97 | 154                                 | 116                                 |
| D E. Grinstead (Brockhurst Obsy)   | F. J. Hanbury, Esq.            | 8           | 1                | 0                      | 435 | 813            | 32·02 | 201                                 | 122                                 |
| 8.—THAMES—Mole. 27 sq. mi.         |                                |             |                  |                        |     |                |       |                                     |                                     |
| D Worth (South Hill)               | Miss R. M. Ravenshaw           | 8           | 1                | 6                      | 558 | 889            | 35·00 | 174                                 | 130                                 |
| D Worth (Worth Lodge)              | C. W. Nix, Esq.                | 5           | 3                | 0                      | 340 | 830            | 32·69 | 181                                 | 113                                 |
| 9.—THAMES—Wey. 10 sq. mi.          |                                |             |                  |                        |     |                |       |                                     |                                     |
| D Liphook (Ripsley)                | W. D. Bosanquet, Esq.          | 5           | 1                | 0                      | 401 | 894            | 35·20 | 179                                 | 144                                 |

## DIVISION II.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.  | AUTHORITIES.                           | Rain Gauge. |                  |                       |     | Depth of Rain. |        | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|--|--|-------------|------------------|-----------------------|-----|----------------|--------|--|--|
|  |  | Diam.       | Height<br>Ground | above<br>Sea<br>Level |     | 1920           |        |  |  |
| HAMPSHIRE. (Area, 1622 sq. mi.)                            |  | in.         | ft.              | in.                   | ft. | mm.            | in.    |  |  |
| 1.—ISLE OF WIGHT. 150 sq. mi.                              |  |             |                  |                       |     |                |        |  |  |
| d Chale (Blackgang) . . . . .                              | James Gibb, Esq. . . . .               | 5           | 6                | 0                     | 150 | 634            | 24·94  | 142                                    | 125                                    |
| d Ventnor (Flint Cottage) . . . . .                        | J. S. Ineson, Esq. . . . .             | 5           | 1                | 0                     | 99  | 711            | 27·99  | 167                                    | 122                                    |
| d Ventnor (Royal National Hos.) . . . . .                  | Miss M. Gibson . . . . .               | 5           | 1                | 0                     | 60  | 764            | 30·08  | 186                                    | 128                                    |
| d Shanklin (Pomona Road) . . . . .                         | E. C. Cooper, Esq., C.E. . . . .       | 8           | 1                | 0                     | 184 | 798            | 31·43  | 145                                    | 122                                    |
| d Sandown (Free Library) . . . . .                         | C. E. Gilchrist, Esq. . . . .          | 8           | 1                | 0                     | 30  | 809            | 31·85  | 198                                    | 136                                    |
| d Brighstone Rectory . . . . .                             | Rev. E. W. Silver . . . . .            | 5           | 1                | 0                     | 100 | 712            | 28·03  | ..                                     | 103                                    |
| d Brighstone (Pitt Place) . . . . .                        | A. A. H. Wykeham, Esq. . . . .         | 8           | 1                | 0                     | 200 | 948            | 37·31  | ..                                     | 116                                    |
| Totland Vicarage . . . . .                                 | Mrs. Hall . . . . .                    | 5           | 0                | 11                    | 150 | 741            | 29·19  | 179                                    | ..                                     |
| d Totland Bay (Aston House) . . . . .                      | J. Dover, Esq. . . . .                 | 8           | 1                | 3                     | 145 | 771            | 30·36  | 165                                    | 121                                    |
| d Bembridge (The Grange) . . . . .                         | Major F. A. Edwards . . . . .          | 5           | 0                | 9                     | 100 | 750            | 29·54  | 169                                    | 129                                    |
| d Newport (Pyle Street) . . . . .                          | Miss M. A. Orme . . . . .              | 5           | 1                | 0                     | 36  | 889            | 34·99  | 162                                    | 134                                    |
| d Ryde (New Lodge, S. John's Pk) . . . . .                 | Mrs. Dobie . . . . .                   | 5           | 1                | 1                     | 147 | 844            | 33·23  | 214                                    | 129                                    |
| Ryde (Perivale) . . . . .                                  | Major E. C. Murray . . . . .           | 5           | 1                | 3                     | 193 | 807            | 31·78  | 169                                    | 126                                    |
| d Ryde (Pier Street) . . . . .                             | G. Nicholson, Esq. . . . .             | 12          | 10               | 8                     | 35  | 805            | 31·68  | 160                                    | 118                                    |
| d Ryde (Esplanade Gardens) . . . . .                       | B. F. Holness, Esq., C.E. . . . .      | 8           | 1                | 3                     | 6   | 784            | 30·86  | 158                                    | 116                                    |
| d Wootton (Fernhill) . . . . .                             | Col. C. G. Brodie, M.C. . . . .        | 8           | 0                | 6                     | 118 | 768            | 30·24  | 157                                    | 118                                    |
| d East Cowes (Spring Hill) . . . . .                       | G. Shedden, Esq. . . . .               | 5           | 1                | 0                     | 121 | 746            | 29·38  | 162                                    | 122                                    |
| d Cowes W. W. (Broadfields) . . . . .                      | J. W. Webster, Esq., C.E. . . . .      | 5           | 1                | 0                     | 161 | 798            | 31·43  | 158                                    | 123                                    |
| d Cowes (Upper Moor Green) . . . . .                       | J. G. K. Day, Esq. . . . .             | 5           | 4                | 0                     | 160 | 765            | 30·13  | 158                                    | 124                                    |
| 2.—STOUR. 32 sq. mi.                                       |  |             |                  |                       |     |                |        |  |  |
| Bournemouth (Pleasure Gdns) . . . . .                      | C. Dales, Esq. . . . .                 | 5           | 1                | 0                     | 41  | 815            | 32·07  | 188                                    | 137                                    |
| d Bournemouth (West Cliff) . . . . .                       | Rev. G. A. Rideout . . . . .           | 5           | 1                | 0                     | 145 | 803            | 31·62  | 194                                    | 132                                    |
| d Bournemouth (Rodney House) 1S. Hyla Greves, Esq. . . . . | 1S. Hyla Greves, Esq. . . . .          | 5           | 1                | 0                     | 145 | 740            | 29·14  | 176                                    | 127                                    |
| d Bournemouth (Rodney House) 3S. Hyla Greves, Esq. . . . . | 3S. Hyla Greves, Esq. . . . .          | 5           | 1                | 0                     | 145 | 765            | 30·13  | 186                                    | 132                                    |
| M Bournemouth (Rodney House) 2S. Hyla Greves, Esq. . . . . | 2S. Hyla Greves, Esq. . . . .          | 5           | 1                | 0                     | 145 | 774            | 30·48  | ..                                     | ..                                     |
| d Bournemouth (Vale View) . . . . .                        | C. Dales, Esq. . . . .                 | 5           | 1                | 0                     | 145 | 740            | 29·15  | 194                                    | 136                                    |
| d Bournemouth (Derby Road) . . . . .                       | Mrs. G. Bennett . . . . .              | 10          | 2                | 0                     | 102 | 754            | 29·69  | 177                                    | 137                                    |
| d Christchurch (Heron Court) . . . . .                     | The Earl of Malmesbury . . . . .       | 5           | 1                | 2                     | 25  | 910            | 35·82  | 185                                    | 143                                    |
| Ringwood (St. Leonards) . . . . .                          | S. O. Ferry, Esq. . . . .              | 5           | 0                | 8                     | 60  | 730            | 28·73  | ..                                     | ..                                     |
| 3.—EAST AVON & C. 114 sq. mi.                              |  |             |                  |                       |     |                |        |  |  |
| d Ringwood (Bisterne) . . . . .                            | Major J. D. Mills . . . . .            | 8           | 1                | 2                     | 45  | 807            | 31·77  | ..                                     | 124                                    |
| Ringwood (West Mount) . . . . .                            | R. F. Williams, Esq. . . . .           | 5           | 1                | 0                     | 100 | 810            | 31·88  | 190                                    | ..                                     |
| d Fordingbridge (Cuckoo Hill) . . . . .                    | Heywood Sumner, Esq. . . . .           | 5           | 1                | 0                     | 150 | 819            | 32·24  | 183                                    | 141                                    |
| Fordingbridge (Docks) . . . . .                            | E. W. Poore, Esq. . . . .              | 8           | 0                | 8                     | 140 | 763            | 30·04  | 174                                    | ..                                     |
| d Fordingbridge (Oaklands) . . . . .                       | S. B. Rake, Esq. . . . .               | 8           | 1                | 0                     | 135 | 807            | 31·78  | 217                                    | 139                                    |
| 4.—TEST & SOLENT. 551 sq. mi.                              |  |             |                  |                       |     |                |        |  |  |
| d Milford-on-Sea (Salt Grass) . . . . .                    | A. C. G. Heygate, Esq. . . . .         | 5           | 1                | 0                     | 6   | 775            | 30·51  | 164                                    | 126                                    |
| Milford-on-Sea (Milford House) . . . . .                   | E. L. Agar, Esq. . . . .               | 5           | 0                | 8                     | 23  | 711            | 27·98  | 170                                    | 119                                    |
| d Lymington (The Salterns) . . . . .                       | P. A. Ouvry, Esq. . . . .              | 5           | 1                | 0                     | 4   | 750            | 29·54  | 178                                    | 122                                    |
| d Calshot . . . . .  | The Air Ministry . . . . .             | 8           | 3                | 0                     | 10  | 664            | 26·13  | 159                                    | 117                                    |
| Burley (Manor House) . . . . .                             | Col. F. Willan . . . . .               | 5           | 1                | 4                     | 210 | 741            | 29·17  | ..                                     | ..                                     |
| d Fawley (Cadland) . . . . .                               | Mr. Lewis Smith . . . . .              | 8           | 4                | 6                     | 52  | 777            | 30·60  | 142                                    | 127                                    |
| d Hythe (Heathfield, Dibden) . . . . .                     | Mr. Jesse Reeves . . . . .             | 5           | 1                | 3                     | 131 | 887            | 34·92  | 210                                    | 139                                    |
| Lyndhurst (Deerhurst) . . . . .                            | R. Paget, Esq. . . . .                 | 5           | 1                | 0                     | 220 | 844            | 33·21  | 192                                    | ..                                     |
| Lyndhurst (Cuffnells) . . . . .                            | R. G. Hargreaves, Esq. . . . .         | 5           | 1                | 0                     | 195 | 907            | 35·72? | ..                                     | ..                                     |
| d Lyndhurst (Allum Green) . . . . .                        | Miss S. R. Fenwick . . . . .           | 5           | 0                | 8                     | ..  | 842            | 33·14  | 166                                    | 134                                    |
| d Fritham (Fritham House) . . . . .                        | H. H. S. Northcote, Esq. . . . .       | 5           | 1                | 0                     | 399 | 901            | 35·47  | 185                                    | 138                                    |
| d Totton (Shorne Hill) . . . . .                           | Capt. J. H. W. Rennie . . . . .        | 5           | 1                | 0                     | 130 | 804            | 31·67  | 189                                    | 134                                    |
| d Southampton (East Park) . . . . .                        | Col. Sir C. F. Close, K.B.E. . . . .   | 8           | 1                | 0                     | 66  | 803            | 31·60  | 179                                    | 131                                    |
| Southampton (Shirley) . . . . .                            | J. A. Crowther, Esq., C.E. . . . .     | 5           | 8                | 0                     | 70  | 677            | 26·66  | 168                                    | 128                                    |
| M Southampton Common Res. . . . .                          | E. C. Rodda, Esq., C.E. . . . .        | 5           | 1                | 0                     | 193 | 777            | 30·59  | ..                                     | ..                                     |
| d Cadnam (Copythorne House) . . . . .                      | N. M. Lawrence, Esq. . . . .           | 5           | 3                | 0                     | 130 | 814            | 32·06  | 199                                    | 134                                    |
| Melchet Court . . . . .                                    | Mr. F. Clipstone . . . . .             | 5           | 2                | 6                     | 200 | 781            | 30·74  | ..                                     | 104                                    |
| d Romsey (Timsbury) . . . . .                              | (R) D. Kitchingman, Esq., C.E. . . . . | 8           | 1                | 8                     | 96  | 767            | 30·20  | 184                                    | 133                                    |
| d Braishfield Manor . . . . .                              | Alfred C. King, Esq. . . . .           | 5           | 1                | 2                     | 206 | 786            | 30·93  | 185                                    | 137                                    |
| West Tytherley (Buckholt) . . . . .                        | R. J. Townshend, Esq. . . . .          | 5           | 1                | 0                     | 410 | 814            | 32·05  | 191                                    | 141                                    |
| d Horsebridge (Bossington House) . . . . .                 | Mrs. Mansell-Jones . . . . .           | 8           | 0                | 9                     | 98  | 766            | 30·14  | 181                                    | 131                                    |
| d Ashley Old Manor House . . . . .                         | Legh S. Powell, Esq. . . . .           | 5           | 1                | 3                     | 235 | 800            | 31·51  | 168                                    | 129                                    |
| d Ashley (Upper Somborne) . . . . .                        | Mr. Charles Alleway . . . . .          | 5           | 1                | 0                     | 250 | 829            | 32·65  | 177                                    | 131                                    |
| d Ashley (Upper Somborne) . . . . .                        | Mr. Charles Alleway . . . . .          | 8           | 1                | 0                     | 250 | 829            | 32·63  | 177                                    | 131                                    |
| d Broughton . . . . .                                      | W. Steele Tomkins, Esq. . . . .        | 5           | 3                | 0                     | 125 | 794            | 31·27  | 150                                    | 125                                    |

## DIVISION II.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.                         | AUTHORITIES.  | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|-----------------------------------|---|-------------|------------------|------------------------|-----|----------------|-------|-------------------------------------|-------------------------------------|
|                                   |   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |                                     |                                     |
| HAMPSHIRE—(con.).                 |   | in.         | ft.              | in.                    | ft. | mm.            | in.   |                                     |                                     |
| 4.—TEST & SOLENT—(con.).          |   |             |                  |                        |     |                |       |                                     |                                     |
|                                   | Stockbridge (Houghton Lodge) . . . . .                            | 5           | 1                | 0                      | 190 | 766            | 30·14 | 151                                 | 119                                 |
|                                   | Crawley (Chilbolton Down) . . . . .                               | 8           | 1                | 2                      | 350 | 785            | 30·89 | 166                                 | 134                                 |
| D                                 | Micheldever (Stoke Charity) . . . . .                             | 5           | 1                | 0                      | 221 | 754            | 29·67 | 169                                 | 125                                 |
| D                                 | Andover Sewage Works . . . . .                                    | 8           | 1                | 0                      | ..  | 788            | 31·04 | 160                                 | 133                                 |
| D                                 | Fyfield Rectory . . . . .   | 5           | 1                | 4                      | 255 | 736            | 28·96 | 197                                 | 135                                 |
| D                                 | St. Marybourne (Bournside) . . . . .                              | 5           | 1                | 0                      | 300 | 791            | 31·13 | 183                                 | 134                                 |
|                                   | Oakley (Malshanger) . . . . .                                     | 5           | 1                | 1                      | 400 | 770            | 30·32 | 174                                 | 131                                 |
|                                   | Hurstbourne Tarrant (Rookery) R. E. C. Burder, Esq. . . . .       | 5           | 1                | 0                      | 331 | 892            | 35·11 | 211                                 | 150                                 |
| D                                 | Litchfield (Dunley Manor) . . . . .                               | 5           | 3                | 10                     | 420 | 817            | 32·17 | 193                                 | 150                                 |
| D                                 | Vernham Dean (Rowe House) . . . . .                               | 5           | 0                | 7                      | 620 | 839            | 33·02 | 161                                 | 137                                 |
| D                                 | Ashmansworth Manor House . . . . .                                | 5           | 0                | 10                     | 800 | 947            | 37·27 | 188                                 | 149                                 |
| 5.—ITCHEN & SPITHEAD. 422 sq. mi. |   |             |                  |                        |     |                |       |                                     |                                     |
| D                                 | Alverstoke (Monckton House) . . . . .                             | 5           | 1                | 3                      | 15  | 715            | 28·14 | 165                                 | 123                                 |
| D                                 | Portsmouth (Eastney) . . . . .                                    | 8           | 0                | 6                      | 16  | 671            | 26·40 | 140                                 | 111                                 |
| D                                 | Portsmouth (Victoria Park) . . . . .                              | 5           | 1                | 0                      | 15  | 698            | 27·50 | 170                                 | 123                                 |
| D                                 | Hayling Island (Richmond Ho.) E. S. McEuen, Esq. . . . .          | 5           | 1                | 2                      | 16  | 753            | 29·66 | 158                                 | 120                                 |
| D                                 | Lee-on-Solent (Edinburgh Ho Sch) Trevor J. Tatham, Esq. . . . .   | 5           | 1                | 0                      | 15  | 734            | 28·90 | 165                                 | 125                                 |
| D                                 | Porchester (Noel Cottage) . . . . .                               | 5           | 1                | 9                      | ..  | 667            | 26·28 | 144                                 | 110                                 |
| D                                 | Fareham (Burpham House) . . . . .                                 | 5           | 1                | 6                      | 30  | 734            | 28·88 | 142                                 | 115                                 |
| D                                 | Fareham (Roche Court) . . . . .                                   | 5           | 1                | 0                      | 104 | 842            | 33·13 | 175                                 | 134                                 |
| D                                 | Havant (Farlington) . . . . .                                     | 5           | 1                | 0                      | 77  | 664            | 26·15 | 158                                 | 119                                 |
| M                                 | Havant (Farlington) . . . . .                                     | 5           | 1                | 0                      | 77  | 664            | 26·13 | ..                                  | ..                                  |
| D                                 | Havant . . . . .  | 5           | 1                | 0                      | 25  | 701            | 27·61 | 166                                 | 118                                 |
| M                                 | Havant . . . . .  | 5           | 1                | 0                      | 25  | 707            | 27·85 | ..                                  | ..                                  |
| D                                 | Netley (Lake House) . . . . .                                     | 8           | 1                | 0                      | 54  | 824            | 32·45 | 203                                 | 133                                 |
| D                                 | Cowplain (Forest View) . . . . .                                  | 5           | 5                | 0                      | 222 | 888            | 34·98 | 201                                 | 136                                 |
| D                                 | Wickham (The Lower House) . . . . .                               | 5           | 1                | 0                      | 100 | 788            | 31·01 | ..                                  | 117                                 |
|                                   | Wickham (Park Place) . . . . .                                    | 5           | 1                | 0                      | 150 | 856            | 33·71 | 176                                 | ..                                  |
|                                   | Southampton (Chapel) . . . . .                                    | 5           | 6                | 0                      | 10  | 760            | 29·92 | 167                                 | 123                                 |
|                                   | Southampton (Portsmouth) . . . . .                                | 5           | 2                | 6                      | 10  | 758            | 29·83 | 162                                 | 123                                 |
| D                                 | Botley (Fairthorne Manor) . . . . .                               | 8           | 1                | 0                      | 70  | 838            | 32·99 | 194                                 | 142                                 |
|                                   | Botley (Brook House) . . . . .                                    | 5           | 3                | 2                      | 45  | 834            | 32·83 | ..                                  | ..                                  |
| D                                 | Botley (Botley Hill) . . . . .                                    | 5           | 1                | 6                      | 36  | 812            | 31·95 | 179                                 | 131                                 |
| D                                 | Curdridge (Beechcroft) . . . . .                                  | 5           | 1                | 0                      | 96  | 789            | 31·08 | 170                                 | 128                                 |
| D                                 | Curdridge (Kitnocks House) . . . . .                              | 5           | 0                | 6                      | 185 | 792            | 31·19 | 178                                 | 130                                 |
| D                                 | Soberton (Mislingford) . . . . .                                  | 5           | 1                | 0                      | 136 | 862            | 33·92 | 173                                 | 131                                 |
| M                                 | Soberton (Mislingford) . . . . .                                  | 5           | 1                | 0                      | 136 | 861            | 33·88 | ..                                  | ..                                  |
| M                                 | Chalton (Woodcroft) . . . . .                                     | 5           | 1                | 0                      | 230 | 938            | 36·93 | ..                                  | ..                                  |
| D                                 | Bishops Waltham (Palace Ho.) A. F. Hardy, Esq. . . . .            | 5           | 1                | 3                      | 116 | 843            | 33·19 | 181                                 | 131                                 |
|                                   | Bishops Waltham (Swanmore H.) W. H. Myers, Esq. . . . .           | 8           | 1                | 0                      | 390 | 1010           | 39·77 | 170                                 | 142                                 |
| D                                 | Droxford (Uplands) . . . . .                                      | 5           | 1                | 0                      | 279 | 928            | 36·54 | 214                                 | 145                                 |
| D                                 | Droxford (Fairfield House) . . . . .                              | 5           | 1                | 0                      | 254 | 880            | 34·65 | 191                                 | 137                                 |
| D                                 | Droxford (Fir Hill) . . . . .                                     | 5           | 3                | 6                      | 212 | 873            | 34·38 | 151                                 | 130                                 |
| D                                 | Petersfield (Ditcham Park) . . . . .                              | 8           | 1                | 0                      | 555 | 978            | 38·51 | 207                                 | 145                                 |
| M                                 | Petersfield (Downley) . . . . .                                   | 5           | 1                | 2                      | 374 | 1025           | 40·35 | ..                                  | ..                                  |
| D                                 | Fair Oak (Fisher's Pond) . . . . .                                | 5           | 1                | 0                      | 91  | 790            | 31·12 | 157                                 | 119                                 |
| D                                 | Otterbourne House . . . . .                                       | 5           | 1                | 0                      | 111 | 803            | 31·63 | 194                                 | 121                                 |
| D                                 | Otterbourne (W. W., Shawford) E. C. Rodda, Esq., C.E. . . . .     | 5           | 1                | 0                      | 113 | 801            | 31·53 | 178                                 | 123                                 |
| D                                 | Westbury House Gardens . . . . .                                  | 5           | 2                | 10                     | 296 | 949            | 37·37 | 159                                 | 134                                 |
| D                                 | Twyford (Pumping Station). (R) D. Kitchingman, Esq., C.E. . . . . | 8           | 1                | 9                      | 139 | 830            | 32·69 | 179                                 | 126                                 |
| D                                 | Twyford (Mallards Close) . . . . .                                | 5           | 1                | 0                      | 153 | 824            | 32·43 | 172                                 | 139                                 |
| D                                 | Hursley Park . . . . .  | 10          | 1                | 6                      | 250 | 730            | 28·75 | 176                                 | 122                                 |
| D                                 | West Meon (Westwood) . . . . .                                    | 5           | 1                | 7                      | 470 | 976            | 38·41 | 190                                 | 136                                 |
|                                   | Kilmeston Manor . . . . .   | 5           | 4                | 6                      | 323 | 896            | 35·27 | ..                                  | ..                                  |
|                                   | Petersfield (Broadhanger) . . . . .                               | 5           | 1                | 0                      | 730 | 1060           | 41·73 | 192                                 | 145                                 |
| D                                 | Winchester (East Hill*) . . . . .                                 | 5           | 1                | 0                      | 250 | 698            | 27·48 | 172                                 | 116                                 |
| M                                 | Winchester (East Hill*) . . . . .                                 | 5           | 1                | 0                      | 215 | 651            | 25·64 | ..                                  | ..                                  |
| D                                 | Ropley (The Vicarage) . . . . .                                   | 5           | 0                | 10                     | 350 | 796            | 31·32 | 179                                 | 132                                 |
| D                                 | Ovington Rectory . . . . .  | 5           | 1                | 0                      | 221 | 919            | 36·19 | 167                                 | 130                                 |
|                                   | Ovington (Barley Down) . . . . .                                  | 12          | 3                | 6                      | 300 | 812            | 31·97 | 181                                 | ..                                  |
| D                                 | Itchenstone Rectory . . . . .                                     | 5           | 1                | 0                      | 200 | 820            | 32·29 | 172                                 | 132                                 |
| D                                 | Itchen Abbas (Chilland) . . . . .                                 | 5           | 1                | 3                      | 200 | 747            | 29·40 | 151                                 | 126                                 |

\* Formerly called St. Giles' Hill.

## DIVISION II.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.                            | AUTHORITIES.                      | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|--------------------------------------|-----------------------------------|-------------|------------------|------------------------|------------------------|--|--|
|                                      |                                   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |
| HAMPSHIRE—(con.).                    |                                   | in.         | ft. in.          | ft.                    | mm.                    | in.                                    |  |
| 6.—ARUN. 32 sq. mi.                  |                                   |             |                  |                        |                        |  |  |
| M Petersfield (Sunwood).....         | C. J. P. Cave, Esq. ....          | 5           | 0 10             | 479                    | 994                    | 39·12                                  | .. ..                                  |
| M Petersfield (The Miscoombe) ...    | C. J. P. Cave, Esq. ....          | 5           | 1 1              | 262                    | 1037                   | 40·83                                  | .. ..                                  |
| D Petersfield (Buriton House).....   | L. G. Bonham Carter, Esq. ....    | 5           | 2 6              | 293                    | 996                    | 39·22                                  | 143 128                                |
| M Petersfield (Nursted) .....        | C. J. P. Cave, Esq. ....          | 5           | 1 0              | 270                    | 986                    | 38·83                                  | .. ..                                  |
| D Petersfield (Weston) .....         | Capt. P. W. Seward .....          | 5           | 1 0              | 330                    | 1011                   | 39·82                                  | 160 140                                |
| Petersfield (Mount, Ramshill) ..     | F. G. Padwick, Esq. ....          | 8           | 1 0              | 250                    | 1030                   | 40·54                                  | 207 137                                |
| D Liss (Overcombe) .....             | Miss Jebb .....                   | 5           | 1 3              | 500                    | 895                    | 35·24                                  | 190 136                                |
| D Liss (Highfield) .....             | J. S. Gamble, Esq., CIE, FRS ..   | 5           | 0 9              | 325                    | 974                    | 38·34                                  | 215 141                                |
| D Liss (The Lodge) .....             | Ernest Latter, Esq. ....          | 5           | 1 3              | 240                    | 924                    | 36·38                                  | 193 135                                |
| D Liss (Berry Grove House) .....     | Col. A. de B. V. Paget .....      | 5           | 1 6              | 235                    | 864                    | 34·01                                  | 169 136                                |
| d Liss (Kippences) .....             | Rev. W. A. H. Thorold .....       | 5           | 0 9              | 250                    | 927                    | 36·50                                  | 145 129                                |
| Greatham (Manor House) .....         | F. Coryton, Esq. ....             | 5           | 0 7              | 250                    | 847                    | 33·34                                  | 165 ..                                 |
| D Greatham (Le Court) .....          | Sir Heath Harrison, Bart. ....    | 5           | 0 9              | 350                    | 913                    | 35·93                                  | 174 137                                |
| 7.—THAMES—Wey. 92 sq. mi.            |                                   |             |                  |                        |                        |  |  |
| D Liphook (Fowley) .....             | Late E. A. Lee, Esq. ....         | 5           | 1 0              | 295                    | 910                    | 35·83                                  | 175 133                                |
| d Colmer Rectory .....               | Rev. A. C. Hervey .....           | 5           | 1 1              | 560                    | 927                    | 36·49                                  | .. ..                                  |
| East Tisted (Rotherfield Park) ..    | Mr. J. Busby .....                | 5           | 1 0              | 550                    | 1010                   | 39·76                                  | 194 ..                                 |
| D Newton Valence Vicarage .....      | Rev. A. C. MacLachlan .....       | 5           | 1 0              | 586                    | 857                    | 33·73                                  | 189 128                                |
| D Selborne (The Wakes) .....         | Mrs. Bibby .....                  | 5           | 1 0              | 400                    | 899                    | 35·40                                  | 190 135                                |
| D Grayshott .....                    | Mrs. Lyndon .....                 | 5           | 1 0              | 661                    | 875                    | 34·45                                  | 186 131                                |
| Liphook (Bordon Camp) .....          | The Division Officer, R.E. ....   | 8           | 1 0              | 265                    | 794                    | 31·25                                  | .. 119                                 |
| Alton (Shalden Manor) .....          | J. Gathorne Wood, Esq. ....       | 8           | 3 0              | 594                    | 864                    | 34·00                                  | 193 149                                |
| D Alice Holt Forest .....            | Office of Woods .....             | 8           | 1 0              | 264                    | 758                    | 29·86                                  | 182 124                                |
| 8.—THAMES—Loddon. 164 sq. mi.        |                                   |             |                  |                        |                        |  |  |
| D Farnham (Warren Corner) .....      | F. Wilkin, Esq. ....              | 5           | 1 0              | 560                    | 721                    | 28·39                                  | 182 123                                |
| D Upton Grey (Hoddington Ho.) ..     | F. Anderson, Esq. ....            | 8           | 1 0              | 378                    | 858                    | 33·76                                  | 177 138                                |
| D Aldershot (Sewage Works) .....     | Dr. G. W. Routley .....           | 5           | 1 0              | 231                    | 681                    | 26·79                                  | 196 126                                |
| D Greywell .....                     | F. J. Garland, Esq. ....          | 5           | 2 6              | 266                    | 595                    | 23·43                                  | 161 113                                |
| D Basingstoke (Queen Mary's Sch.) .. | The Headmaster .....              | 5           | 1 2              | 89                     | 668                    | 26·31                                  | 176 115                                |
| D Basingstoke (Pumping Station) ..   | J. H. Drew, Esq., C.E. ....       | 5           | 0 6              | 320                    | 722                    | 28·44                                  | 172 131                                |
| D Sherborne St. John Rectory .....   | Rev. D. W. Chute .....            | 5           | 1 3              | 267                    | 695                    | 27·36                                  | 183 131                                |
| D South Farnborough .....            | Meteorological Office .....       | 8           | 1 0              | 234                    | 610                    | 24·01                                  | 171 111                                |
| D Winchfield (Elvetham Park) .....   | Mr. G. B. Mitchison .....         | 8           | 1 0              | 217                    | 684                    | 26·93                                  | 183 131                                |
| D Strathfieldsaye Rectory .....      | Rev. F. Page-Roberts .....        | 5           | 1 0              | 164                    | 659                    | 25·93                                  | 202 132                                |
| D Heckfield (Park Corner) .....      | Miss Martineau .....              | 5           | 1 2              | 257                    | 639                    | 25·16                                  | 180 121                                |
| 9.—THAMES—Kennet. 65 sq. mi.         |                                   |             |                  |                        |                        |  |  |
| Wolverton (Ewhurst Park) .....       | Mr. J. Bartlett .....             | 5           | 1 6              | 400                    | 781                    | 30·76                                  | .. ..                                  |
| BERKSHIRE. (Area, 722 sq. mi.)       |                                   |             |                  |                        |                        |  |  |
| 1.—TEST. 2 sq. mi.                   |                                   |             |                  |                        |                        |  |  |
| 2.—THAMES—Bourne. 15 sq. mi.         |                                   |             |                  |                        |                        |  |  |
| 3.—THAMES—Loddon & c. 162 sq. mi.    |                                   |             |                  |                        |                        |  |  |
| D Wellington College .....           | E. O. Tancock, Esq. ....          | 5           | 1 0              | 283                    | 734                    | 28·88                                  | 184 129                                |
| D Wokingham (Fieldhouse) .....       | Mrs. H. C. Mylne .....            | 5           | 1 0              | 220                    | 661                    | 26·04                                  | 187 131                                |
| D Wokingham (Pinewood) .....         | Medical Superintendent ..         | 8           | 1 0              | 215                    | 622                    | 24·49                                  | 158 121                                |
| d Bracknell (Hillside) .....         | Mrs. Littlewood .....             | 5           | 1 0              | 207                    | 674                    | 26·53                                  | .. 114                                 |
| D Winkfield (Ryemead) .....          | Mrs. Aubrey Elliott .....         | 5           | 0 10             | 220                    | 717                    | 28·24                                  | 180 131                                |
| D Windsor (Royal Gardens) .....      | Mr. A. MacKellar .....            | 5           | 1 0              | 88                     | 641                    | 25·23                                  | 190 121                                |
| D Windsor (Osborne Road) .....       | Miss M. G. Cookson .....          | 8           | 1 0              | 88                     | 663                    | 26·09                                  | 157 120                                |
| D Maidenhead (Hall Place) .....      | Sir G. A. C. East, Bart. ....     | 8           | 1 2              | 275                    | 717                    | 28·24                                  | 171 121                                |
| Remenham Hill (Wedmore) .....        | Lt.-Col. C. D. Burnell, D.S.O. .. | 5           | 1 0              | 300                    | 738                    | 29·04                                  | 177 122                                |
| D Hambleden Lock .....               | Mr. S. J. Bourner .....           | 5           | 2 0              | 120                    | 708                    | 27·89                                  | 181 132                                |
| D Bisham Vicarage .....              | Rev. W. Farrer .....              | 5           | 1 0              | 100                    | 637                    | 25·07                                  | 162 115                                |
| D Marlow (Temple House) .....        | Mrs. Owen Williams .....          | 5           | 1 0              | 106                    | 737                    | 29·03                                  | 198 133                                |
| 4.—THAMES—Kennet & c. 224 sq. mi.    |                                   |             |                  |                        |                        |  |  |
| d Hampstead Marshall (Redhill) ..    | Mrs. Lewis .....                  | 5           | 1 0              | 400                    | 746                    | 29·37                                  | .. 113                                 |
| d Mortimer (Wokefield Park) .....    | A. Palmer, Esq. ....              | 5           | 4 0              | 220                    | 612                    | 21·08                                  | 155 123                                |
| D Brimpton (Stonehouse) .....        | F. Hadden, Esq. ....              | 5           | 0 7              | 350                    | 726                    | 28·58                                  | 165 121                                |

## DIVISION II.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.                          | AUTHORITIES.                | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|------------------------------------|-----------------------------|-------------|------------------|------------------------|-----|----------------|-------|--|--|
|                                    |                             | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |  |  |
| BERKSHIRE—(con.).                  |                             | in.         | ft.              | in.                    | ft. | mm.            | in.   |  |  |
| 4.—THAMES—Kennet & c.—(con.).      |                             |             |                  |                        |     |                |       |  |  |
| d Newbury (Greenham Common)        | H. L. Bowman, Esq., D.Sc.   | 5           | 1                | 0                      | 328 | 808            | 31·82 | 187                                    | 135                                    |
| Newbury (Grammar School)           | H. Liggins, Esq.            | 5           | 0                | 9                      | 279 | 718            | 28·26 | 175                                    | 132                                    |
| d Newbury (Andover Road)           | J. H. Spackman, Esq.        | 5           | 1                | 0                      | 329 | 794            | 31·25 | 203                                    | 134                                    |
| d Ufton Nervet Rectory             | Rev. A. E. Brisco Owen      | 8           | 1                | 0                      | 312 | 718            | 28·26 | 209                                    | 128                                    |
| d Shinfield (University Col. Farm) | Prof. W. G. Duffield        | 5           | 1                | 0                      | 201 | 592            | 23·32 | 161                                    | 121                                    |
| d Bucklebury Place                 | Dr. Carl Langer             | 5           | 1                | 0                      | 409 | 750            | 29·51 | 145                                    | 133                                    |
| d Beenham House                    | Capt. W. Waring.            | 8           | 2                | 3                      | 315 | 782            | 30·78 | 171                                    | 135                                    |
| d Reading (Northcourt Avenue)      | R. Osmond, Esq.             | 5           | 1                | 0                      | 213 | 625            | 24·59 | 171                                    | 118                                    |
| d Reading W. W. (Bath Road)        | L. C. Walker, Esq., C.E.    | 5           | 1                | 8                      | 218 | 641            | 25·24 | 162                                    | 119                                    |
| d Reading (Forbury Gardens)        | J. Bowen, Esq., C.E.        | 5           | 1                | 5                      | 145 | 653            | 25·70 | 176                                    | 131                                    |
| d Reading (University College)     | Prof. W. G. Duffield        | 5           | 1                | 0                      | 153 | 684            | 26·95 | 184                                    | 125                                    |
| Reading (Victoria Square)          | W. Haynes, Esq.             | 5           | 1                | 0                      | 145 | 680            | 26·77 | 175                                    | 128                                    |
| Lambourn (Clarionville)            | F. Gullett, Esq.            | 5           | 1                | 0                      | 500 | 665            | 26·17 | 167                                    | 123                                    |
| 5.—THAMES—Ock & c. 319 sq. mi.     |                             |             |                  |                        |     |                |       |  |  |
| d Reading (Englefield)             | J. H. Benyon, Esq.          | 5           | 1                | 1                      | 175 | 728            | 28·67 | 169                                    | 133                                    |
| d Frilsham House                   | Mr. W. E. Austen            | 5           | 1                | 0                      | 370 | 743            | 29·25 | 161                                    | 128                                    |
| Hampstead Norris                   | John Brown, Esq.            | 5           | 1                | 6                      | 300 | 712            | 28·03 | 182                                    | ..                                     |
| d Farnborough Rectory              | Rev. J. B. H. Whitehurst    | 5           | 1                | 0                      | 713 | 751            | 29·58 | 191                                    | 138                                    |
| d Upton                            | Miss Fry                    | 5           | 1                | 0                      | 240 | 570            | 22·44 | 185                                    | 117                                    |
| Upton (Prospect House)             | C. S. Grant, Esq.           | 5           | 1                | 0                      | 250 | 604            | 23·79 | 177                                    | 121                                    |
| Steventon (Milton Hill)            | R. H. Betteridge, Esq.      | 5           | 1                | 6                      | 300 | 655            | 25·79 | ..                                     | ..                                     |
| d Wallingford (Woodlea)            | G. F. Slade, Esq., M.B.E.   | 5           | 0                | 6                      | 200 | 607            | 23·88 | 159                                    | 118                                    |
| Wallingford Castle                 | Miss Hedges                 | 5           | 1                | 6                      | 175 | 642            | 25·28 | 181                                    | ..                                     |
| d Wallingford (Shillingford Hill)  | Lt.-Col. G. Hart Dyke       | 5           | 1                | 4                      | 218 | 640            | 25·21 | 172                                    | 127                                    |
| d Little Wittenham                 | T. J. Latham, Esq.          | 5           | 2                | 0                      | 189 | 544            | 21·41 | 147                                    | 108                                    |
| d Abbots Wittenham Rectory         | Rev. W. F. B. Ward          | 5           | 1                | 0                      | 190 | 577            | 22·73 | 177                                    | 115                                    |
| d Long Wittenham (Manor Ho.)       | Adm. W. R. Clutterbuck.     | 12          | 1                | 0                      | 170 | 664            | 26·16 | 154                                    | 111                                    |
| d Long Wittenham (Willington)      | H. J. Hewett, Esq.          | 5           | 1                | 0                      | 167 | 695            | 27·35 | 171                                    | 128                                    |
| d Faringdon (Bleak House)          | Miss Turner                 | 5           | 1                | 0                      | 367 | 590            | 23·23 | 177                                    | 130                                    |
| d Abingdon (Twickenham House)      | Mr. G. Saxby                | 5           | 10               | 0                      | 210 | 552            | 21·75 | ..                                     | 111                                    |
| d Abingdon (Sewage Works)          | Raphael V. Hall, Esq., C.E. | 5           | 0                | 6                      | 169 | 572            | 22·53 | 143                                    | 116                                    |
| d Abingdon (Union)                 | Mr. C. Howard               | 5           | 1                | 0                      | 196 | 592            | 23·32 | ..                                     | ..                                     |
| d Abingdon (Fitzharris)            | Mrs. Blakeney               | 8           | 0                | 10                     | 185 | 571            | 22·48 | 139                                    | 105                                    |
| d Abingdon (Donnington)            | R. W. Langford, Esq.        | 5           | 1                | 6                      | 196 | 593            | 23·36 | 158                                    | 123                                    |
| d Abingdon (Northcourt House)      | M. T. Tatham, Esq.          | 5           | 1                | 0                      | 190 | 565            | 22·25 | 169                                    | 117                                    |

## DIVISION III.—SOUTH MIDLAND COUNTIES.

MIDDLESEX. (Area, 232 sq. mi.)

**1.—THAMES—Colne & Brent. 185 sq. mi.**

|                                    |                          |   |   |    |     |     |       |     |     |
|------------------------------------|--------------------------|---|---|----|-----|-----|-------|-----|-----|
| d Weybridge (Shepperton Lock)      | R. A. Swarbrick, Esq.    | 5 | 1 | 0  | 41  | 567 | 22·33 | 158 | 110 |
| d Shepperton (Charlton Court)      | Met. Water Board         | 8 | 1 | 0  | 42  | 593 | 23·35 | 178 | 115 |
| d Hampton                          | Met. Water Board         | 8 | 1 | 0  | 50  | 542 | 21·36 | 167 | 110 |
| d Hampton (The Manor House)        | J. Hughes, Esq.          | 5 | 2 | 3  | 43  | 555 | 21·84 | 144 | 100 |
| d Staines (Belle Vue)              | J. Gundry, Esq.          | 5 | 1 | 0  | 51  | 593 | 23·36 | 177 | 112 |
| d Staines Reservoir                | Met. Water Board         | 5 | 1 | 0  | 50  | 591 | 23·27 | 190 | 121 |
| d Twickenham (Sewage Works)        | F. W. Pearce, Esq., C.E. | 5 | 1 | 7  | 37  | 616 | 24·27 | 165 | 109 |
| d Hounslow (S. Stephen's Vicarage) | Rev. R. Dixon Box        | 5 | 1 | 0  | 67  | 631 | 24·84 | 165 | 110 |
| d Sipson (Hollycroft)              | Mr. W. J. Mitchell       | 5 | 1 | 0  | 94  | 559 | 22·02 | ..  | 120 |
| d Kew Bridge (Waterworks)          | Met. Water Board         | 8 | 1 | 0  | 36  | 660 | 25·99 | 151 | 111 |
| d Hanwell (Oaklands Road)          | R. G. Davies, Esq.       | 5 | 1 | 0  | 81  | 668 | 26·31 | 160 | 116 |
| d Ealing (Webster Gardens)         | H. M. Baker, Esq.        | 5 | 1 | 6  | 97  | 636 | 25·05 | 161 | 115 |
| d Ealing (Longfield Avenue)        | W. R. Hicks, Esq., C.E.  | 5 | 0 | 9  | 114 | 662 | 26·05 | 154 | 126 |
| d Ealing (St. Stephen's Road)      | H. W. Peal, Esq.         | 5 | 0 | 10 | 156 | 676 | 26·62 | 173 | 125 |
| d Ealing (Hanger Hill Reservoir)   | Met. Water Board         | 5 | 1 | 0  | 206 | 698 | 27·49 | 141 | 111 |
| d Perivale (Northern Sewage Farm)  | W. R. Hicks, Esq., C.E.  | 5 | 0 | 5  | 56  | 686 | 26·99 | 178 | ..  |
| d Uxbridge (Frays Lodge)           | J. C. Hibbert, Esq.      | 8 | 1 | 3  | 125 | 706 | 27·79 | 184 | 126 |
| d Willesden Reservoir              | Met. Water Board         | 5 | 2 | 6  | 199 | 589 | 23·18 | ..  | 104 |
| d Willesden Green (Strode Road)    | R. Lampport, Esq.        | 5 | 1 | 0  | 150 | 600 | 23·64 | 171 | 111 |

## DIVISION III.—SOUTH MIDLAND COUNTIES—(con.).

| STATIONS.                           | AUTHORITIES.                 | Rain Gauge. |                  |                        |     | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |     |
|-------------------------------------|------------------------------|-------------|------------------|------------------------|-----|------------------------|--|--|-----|
|                                     |                              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     |                        |  |  |     |
| MIDDLESEX—(con.).                   |                              | in.         | ft.              | in.                    | ft. | mm.                    | in.                                    |  |     |
| 1.—THAMES—Colne & Brent—(con.).     |                              |             |                  |                        |     |                        |  |  |     |
| Willesden (Richmond Avenue)         | W. Godden, Esq.              | 5           | 6                | 0                      | 176 | 613                    | 24·14                                  | 162                                    | 111 |
| d Willesden (Stonebridge Fm.)       | (R) F. Wilkinson, Esq., C.E. | 10          | 5                | 9                      | 100 | 604                    | 23·77                                  | 153                                    | 121 |
| d Highgate (Holly Court)            | E. H. Goad, Esq.             | 5           | 0                | 9                      | ..  | 654                    | 25·75                                  | ..                                     | 111 |
| d Highgate (North Hill)             | L. J. Tatham, Esq.           | 5           | 1                | 0                      | 400 | 613                    | 24·12                                  | 163                                    | 109 |
| d Highgate (North Hill Depot)       | E. J. Lovegrove, Esq., C.E.  | 5           | 5                | 4                      | 309 | 679                    | 26·74                                  | 158                                    | 108 |
| d Harrow (Bessborough Rd. Depot)    | J. P. Bennetts, Esq., C.E.   | 5           | 1                | 0                      | 215 | 658                    | 25·92                                  | 163                                    | 121 |
| Golders Green (Highfield Av.)       | A. E. Payne, Esq.            | 5           | 1                | 0                      | 175 | 578                    | 22·74                                  | ..                                     | ..  |
| d Hendon (Sewage Works)             | (R) A. O. Knight, Esq.       | 6           | 1                | 6                      | 153 | 534                    | 21·03                                  | ..                                     | 104 |
| d Hendon (Central School)           | J. W. Butler, Esq.           | 5           | 1                | 4                      | 200 | 698                    | 27·50                                  | 190                                    | 126 |
| d Wealdstone House                  | Miss H. O. E. Cobb           | 5           | 1                | 0                      | 236 | 620                    | 24·43                                  | 145                                    | 115 |
| d Hatch End (Royston Park)          | W. J. Hill, Esq.             | 5           | 2                | 2                      | 286 | 672                    | 26·44                                  | 199                                    | 129 |
| d Harefield (Harefield House)       | Walter J. B. Byles, Esq.     | 5           | 0                | 8                      | 290 | 774                    | 30·47                                  | 148                                    | 133 |
| d Northwood (Haslemere)             | Miss McBean                  | 5           | 1                | 0                      | 240 | 680                    | 26·78                                  | 151                                    | 123 |
| d Harrow Weald (Hill House)         | A. Crossman, Esq.            | 5           | 3                | 6                      | 284 | 693                    | 27·28                                  | 180                                    | 120 |
| d North Finchley (Rowsley)          | Miss M. Shoults              | 5           | 0                | 8                      | 295 | 661                    | 26·02                                  | 177                                    | 116 |
| d Mill Hill (The Vineries)          | Master Willoughby Salter     | 5           | 0                | 10                     | 350 | 688                    | 27·08                                  | 182                                    | 120 |
| d Mill Hill (Cleveland)             | Mrs. Stewart King            | 5           | 1                | 0                      | 400 | 748                    | 29·46                                  | 204                                    | 123 |
| d Barnet (Dyrham Park)              | Mr. H. Juniper               | 5           | 1                | 0                      | 310 | 653                    | 25·72                                  | ..                                     | ..  |
| d Potters Bar (Mount Grace)         | J. Forbes, Esq.              | 5           | 1                | 3                      | 375 | 640                    | 25·21                                  | 149                                    | 116 |
| d Potters Bar (Little Heath)        | Henry Ellis, Esq.            | 5           | 1                | 0                      | 375 | 657                    | 25·88                                  | 151                                    | 123 |
| 2.—THAMES—Lea. 47 sq. mi.           |                              |             |                  |                        |     |                        |  |  |     |
| d Stroud Green (Oakfield Road)      | E. A. Madge, Esq.            | 5           | 1                | 0                      | 206 | 588                    | 23·15                                  | 154                                    | 114 |
| d Crouch End (Barrington Road)      | E. J. Lovegrove, Esq., C.E.  | 8           | 3                | 10                     | 122 | 678                    | 26·71                                  | 174                                    | 120 |
| d Harringay (Wightman Rd. Depot)    | E. J. Lovegrove, Esq., C.E.  | 8           | 23               | 3                      | 113 | 554                    | 21·81                                  | 162                                    | 112 |
| d Harringay (Wightman Road)         | L. R. Bennett, Esq.          | 5           | 1                | 0                      | 140 | 575                    | 22·65                                  | 159                                    | 108 |
| d Highgate (Avenue Road)            | Miss M. Nicholson            | 5           | 1                | 0                      | 212 | 643                    | 25·32                                  | 155                                    | 109 |
| d Tottenham (Drayton Road)          | Medical Officer of Health    | 5           | 1                | 3                      | 51  | 591                    | 23·28                                  | 143                                    | 118 |
| d Hornsey (High Street)             | Met. Water Board             | 5           | 1                | 0                      | 109 | 658                    | 25·89                                  | 173                                    | 122 |
| d Muswell Hill (Grand Avenue)       | G. Michael Williams, Esq.    | 5           | 1                | 0                      | 317 | 666                    | 26·23                                  | 168                                    | 110 |
| d Muswell Hill (Page's Lane)        | Miss Abethell                | 5           | 0                | 8                      | 310 | 643                    | 25·30                                  | 177                                    | 123 |
| d Muswell Hill (Sewage Farm)        | E. J. Lovegrove, Esq., C.E.  | 8           | 4                | 5                      | 214 | 663                    | 26·10                                  | 171                                    | 119 |
| d Alexandra Pk. (Grove Avenue)      | Ernest A. Lee, Esq.          | 5           | 1                | 0                      | 235 | 668                    | 26·32                                  | 159                                    | 111 |
| d Wood Green (Maryland Road)        | Mr. F. C. Hornsey            | 5           | 1                | 0                      | 110 | 631                    | 24·84                                  | 171                                    | 113 |
| d Wood Green (Town Hall)            | (R) C. H. Croxford, Esq.     | 8           | 5                | 6                      | 126 | 631                    | 24·84                                  | 162                                    | 112 |
| d Finchley (Victoria Park)          | P. T. Harrison, Esq., C.E.   | 5           | 1                | 0                      | 272 | 684                    | 26·95                                  | 167                                    | 129 |
| d Palmers Green (Broomfield Pk.)    | R. Phillips, Esq.            | 8           | 1                | 0                      | 138 | 621                    | 24·45                                  | 146                                    | 112 |
| d Ponders End (Bylock Hall)         | J. H. E. Freir, Esq.         | 5           | 1                | 0                      | 50  | 598                    | 23·56                                  | 166                                    | 114 |
| d Ponders End Pumping Station       | Met. Water Board             | 8           | 1                | 0                      | 45  | 600                    | 23·61                                  | 154                                    | 113 |
| d Enfield (Southbury Road)          | Met. Water Board             | 5           | 1                | 0                      | 223 | 630                    | 24·82                                  | 171                                    | 124 |
| d Enfield (Public Offices)          | Dr. W. P. Warren             | 8           | 43               | 0                      | 148 | 654                    | 25·73                                  | 202                                    | 119 |
| d Enfield (Carisbrooke Culloden Rd) | J. McEwan, Esq.              | 5           | 1                | 0                      | 218 | 670                    | 26·36                                  | 178                                    | 118 |
| d Enfield (Roselands, Turkey St.)   | E. S. Rashleigh, Esq.        | 5           | 0                | 7                      | 80  | 618                    | 24·32                                  | 159                                    | 115 |
| HERTFORDSHIRE. (Area, 635 sq. mi.)  |                              |             |                  |                        |     |                        |  |  |     |
| 1.—THAMES—Thame. 10 sq. mi.         |                              |             |                  |                        |     |                        |  |  |     |
| d Tring (Grove Lodge)               | Miss Boyson                  | 5           | 1                | 0                      | 450 | 666                    | 26·23                                  | 166                                    | 132 |
| d Tring (Pendley Manor)             | Mrs. J. G. Williams          | 5           | 2                | 0                      | 420 | 617                    | 24·29                                  | 169                                    | ..  |
| 2.—THAMES—Colne. 199 sq. mi.        |                              |             |                  |                        |     |                        |  |  |     |
| d Northwood (Gate House)            | O. S. Holt, Esq.             | 8           | 4                | 6                      | 448 | 756                    | 29·76                                  | 193                                    | 130 |
| d Northwood (Woodhouse Eaves)       | Miss S. F. Fox, M.D.         | 5           | 1                | 0                      | 400 | 696                    | 27·40                                  | 191                                    | 127 |
| Bushey Heath (California Lo.)       | Mrs. Cooper                  | ..          | ..               | ..                     | ..  | 629                    | 24·78                                  | ..                                     | ..  |
| d Rickmansworth (Croxley Green)     | S. Ingleby Oddie, Esq.       | 5           | 1                | 0                      | 262 | 613                    | 24·14                                  | ..                                     | ..  |
| d Totteridge (West Lodge)           | W. H. Newman, Esq.           | 5           | 1                | 0                      | 390 | 714                    | 28·11                                  | 167                                    | 118 |
| d Watford (Oxhey Grange)            | J. Doyle Penrose, Esq.       | 5           | 1                | 0                      | 295 | 636                    | 25·02                                  | 150                                    | 117 |
| d Watford (Bushey Hall Road)        | J. Durst, Esq.               | 5           | 1                | 2                      | 230 | 684                    | 26·91                                  | 177                                    | 129 |
| d Bushey (Colne Valley W. W.)       | C. P. Sinclair, Esq.         | 5           | 1                | 2                      | 200 | 600                    | 23·63                                  | 157                                    | 113 |
| d Elstree (Aldenham House)          | Mr. Edwin Beckett            | 10          | 4                | 9                      | 305 | 607                    | 23·88                                  | ..                                     | 117 |
| d Watford (London Orphan Sch.)      | Rev. E. Hartley-Parker       | 5           | 1                | 0                      | 230 | 764                    | 30·07                                  | 147                                    | 121 |
| d Watford (Park Road)               | E. J. Slinn, Esq.            | 5           | 1                | 6                      | 263 | 609                    | 23·96                                  | 169                                    | 121 |
| d Watford (Weetwood)                | Mrs. J. Hopkinson            | 5           | 1                | 0                      | 269 | 670                    | 26·37                                  | 181                                    | 132 |
| d Shenley (Kitwells)                | T. H. Riches, Esq.           | 5           | 1                | 0                      | 420 | 673                    | 26·50                                  | 150                                    | 125 |

## DIVISION III.—SOUTH MIDLAND COUNTIES—(con.).

| STATIONS.                  | AUTHORITIES.  | Rain Gauge. |                  |                        | Depth of Rain. |     | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|----------------------------|---|-------------|------------------|------------------------|----------------|-----|-------------------------------------|-------------------------------------|
|                            |   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |     |                                     |                                     |
|                            |   |             |                  |                        | in.            | ft. |                                     |                                     |
| HERTFORDSHIRE—(con.).      |   | in.         | ft.              | in.                    | ft.            | mm. | in.                                 |                                     |
| 2.—THAMES—Colne—(con.).    |   |             |                  |                        |                |     |                                     |                                     |
| M                          | Shenley (Kitwells).....T. H. Riches, Esq. ....                  | 5           | 1                | 0                      | 420            | 657 | 25·88                               | ..                                  |
|                            | Sarratt (Goldingtons).....P. Clutterbuck, Esq. ....             | 5           | 4                | 0                      | 380            | 708 | 87·87                               | 144                                 |
|                            | Chipperfield (Little Callipers) ..A. W. Rivington, Esq. ....    | 5           | 1                | 0                      | 407            | 622 | 24·47                               | ..                                  |
| D                          | King's Langley (Langley Rise) ..T. Goldring, Esq. ....          | 5           | 1                | 0                      | 360            | 676 | 26·63                               | 155                                 |
|                            | King's Langley (Barnes Lodge) ..J. C. Shorrocks, Esq. ....      | 5           | 1                | 0                      | 475            | 730 | 28·74                               | 179                                 |
| D                          | Hemel Hempstead (Apsley Mills) ..Messrs. J. Dickinson & Co. ..  | 24          | 1                | 4                      | 268            | 666 | 26·24                               | 201                                 |
| D                          | St. Albans (Hill End Asylum) ..G. Goodchild, Esq. ....          | 5           | 1                | 0                      | 295            | 625 | 24·60                               | 137                                 |
| D                          | St. Albans (Holmhurst) ..Late Mrs. Jay Jones. ....              | 5           | 0                | 8                      | 310            | 709 | 27·92                               | 182                                 |
| D                          | St. Albans (County Museum) ..G. E. Bullen, Esq. ....            | 5           | 1                | 0                      | 389            | 672 | 26·45                               | 169                                 |
| D                          | St. Albans (Jennings Road) ..M. L. Nicholas, Esq. ....          | 5           | 1                | 6                      | 380            | 654 | 25·73                               | 188                                 |
| D                          | Gorbamby ..Mr. J. Ison ..                                       | 5           | 1                | 0                      | 423            | 686 | 27·00                               | 176                                 |
| D                          | Berkhamsted (Anglefield) ..E. T. Browne, Esq. ....              | 5           | 1                | 0                      | 450            | 729 | 28·71                               | 190                                 |
| D                          | Berkhamsted Golf Club ..T. S. Wheeler, Esq. ....                | 8           | 1                | 0                      | 550            | 691 | 27·19                               | 177                                 |
|                            | Tring (Cowroast Lock) ..W. Yates, Esq. ....                     | 5           | 3                | 6                      | 394            | 715 | 28·14                               | ..                                  |
| D                          | Childwickbury Gardens ..Mr. T. Nutting ..                       | 8           | 1                | 0                      | 400            | 771 | 30·36                               | 171                                 |
| D                          | Gt. Gaddesden (Golden Pars'nage) ..Elliott Kitchener, Esq. .... | 8           | 1                | 0                      | 536            | 663 | 26·09                               | 180                                 |
| D                          | Harpenden (Rothamsted) ..Lawes Agricultural Trust ..            | 8           | 0                | 9                      | 424            | 654 | 25·74                               | 196                                 |
| 3.—THAMES—Lea. 340 sq. mi. |   |             |                  |                        |                |     |                                     |                                     |
| D                          | New Barnet (Gas Works) ..F. J. Bancroft, Esq., C.E. ....        | 8           | 1                | 0                      | 217            | 757 | 29·79                               | 155                                 |
| D                          | Barnet (Summerhill) ..F. A. Milne, Esq. ....                    | 5           | 1                | 0                      | 400            | 686 | 27·02                               | 177                                 |
| D                          | Barnet (Bedford Avenue) ..Miss Haines ..                        | 5           | 1                | 4                      | 350            | 696 | 27·41                               | 178                                 |
| D                          | Hadley (Hadley Bourne) ..Mrs. Weber ..                          | 5           | 1                | 0                      | 428            | 711 | 27·98                               | 161                                 |
| D                          | Cheshunt (Manor House) ..J. E. Sharpe, Esq. ....                | 5           | 1                | 0                      | 83             | 634 | 24·95                               | 158                                 |
| D                          | Cheshunt (Goff's Oak House) ..W. M. Cunningham, Esq. ....       | 5           | 1                | 0                      | 310            | 604 | 23·80                               | 154                                 |
| D                          | Cheshunt Yard ..Met. Water Board ..                             | 5           | 1                | 0                      | 100            | 574 | 22·59                               | 159                                 |
| D                          | Cheshunt Park ..Mr. W. Standerwick ..                           | 5           | 0                | 9                      | 209            | 544 | 21·42                               | 176                                 |
| D                          | Cheshunt (Darnicle Hill P. Stn.) ..J. E. Sharpe, Esq. ....      | 5           | 1                | 0                      | 250            | 649 | 25·55                               | 167                                 |
| D                          | Northaw (Vernon's House) ..Mrs. James Paterson ..               | 5           | 1                | 0                      | 400            | 624 | 24·56                               | 143                                 |
| D                          | Broxbourne (Stafford House) ..A. F. Newbery, Esq. ....          | 5           | 1                | 0                      | 118            | 592 | 23·31                               | 176                                 |
| D                          | Broxbourne (St. Cross) ..Capt. H. S. F. Jebb ..                 | 5           | 1                | 5                      | 123            | 514 | 20·25                               | 161                                 |
| D                          | Hoddesden (Feilde's Weir) ..Met. Water Board ..                 | 8           | 3                | 8                      | 95             | 588 | 23·15                               | 168                                 |
| D                          | Haileybury (Hailey House) ..P. H. Latham, Esq. ....             | 5           | 1                | 0                      | 260            | 554 | 21·79                               | 158                                 |
| D                          | Haileybury College ..Lt.-Col. C. C. Champion, DSO ..            | 8           | 1                | 0                      | 270            | 581 | 22·87                               | ..                                  |
| D                          | Gilston Park ..Mr. E. Leach ..                                  | 8           | 1                | 0                      | 175            | 578 | 22·75                               | 160                                 |
| D                          | Hatfield (Surveyor's Office) ..A. Ernest Prescott, Esq. ....    | 5           | 1                | 0                      | 270            | 537 | 21·15                               | ..                                  |
| D                          | Hertford (Bayfordbury) ..H. W. Clinton Baker, Esq. ....         | 8           | 1                | 2                      | 250            | 566 | 22·27                               | 166                                 |
| D                          | Stanstead Abbots (Warrax) ..E. H. Barlow, Esq. ....             | 5           | 1                | 2                      | 110            | 589 | 23·20                               | 155                                 |
| D                          | Hertford (Sewage Works) ..Met. Water Board ..                   | 5           | 1                | 0                      | 117            | 556 | 21·90                               | 173                                 |
| D                          | Ware (Red House) ..Met. Water Board ..                          | 5           | 1                | 0                      | 115            | 519 | 20·42                               | 169                                 |
| D                          | Ware (Chadwell Spring) ..Met. Water Board ..                    | 5           | 1                | 0                      | 140            | 551 | 21·68                               | 159                                 |
| D                          | Welwyn (Codicote Lodge) ..Mr. F. A. Akers ..                    | 5           | 1                | 0                      | 340            | 639 | 25·15                               | 171                                 |
| D                          | Much Hadham ..T. Woodham Mott, Esq. ....                        | 5           | 1                | 0                      | 212            | 554 | 21·81                               | 176                                 |
| D                          | Bishop Stortford (Thorley) ..Laurie Frere, Esq. ....            | 5           | 0                | 8                      | 181            | 535 | 21·06                               | 199                                 |
| D                          | Standon ..F. H. Wace, Esq. ....                                 | 5           | 1                | 0                      | 375            | 572 | 22·53                               | 164                                 |
| D                          | Bennington House ..Miss E. A. Parker ..                         | 5           | 1                | 0                      | 407            | 606 | 23·86                               | 190                                 |
| D                          | Little Hadham (Hadham Hall) ..W. Minet, Esq. ....               | 5           | 0                | 10                     | 338            | 553 | 21·76                               | 152                                 |
| D                          | Hitchin (Preston) ..R. de V. Pryor, Esq. ....                   | 8           | 2                | 6                      | 484            | 598 | 23·53                               | 175                                 |
| D                          | Weston Park ..Col. W. M. Pryor, D.S.O. ....                     | 5           | 0                | 10                     | 470            | 584 | 22·99                               | 176                                 |
| D                          | Furneaux Pelham (The Brewery) ..G. Warren Bindloss, Esq. ....   | 5           | 1                | 0                      | 300            | 571 | 22·47                               | 175                                 |
| D                          | Royston (Therfield Rectory) ..Rev. H. R. Humphreys ..           | 5           | 1                | 0                      | 513            | 539 | 21·21                               | 160                                 |
| 4.—OUSE. 86 sq. mi.        |   |             |                  |                        |                |     |                                     |                                     |
| D                          | Offley (School House) ..C. W. Mears, Esq. ....                  | 5           | 1                | 0                      | 526            | 611 | 24·06                               | 156                                 |
| D                          | Offley Vicarage ..Rev. E. P. Gatty ..                           | 5           | 1                | 6                      | 525            | 593 | 23·35                               | 170                                 |
| D                          | Graveley Rectory ..Rev. R. E. C. Walker ..                      | 5           | 0                | 10                     | 325            | 650 | 25·59                               | 168                                 |
| D                          | Hitchin (Newlands) ..F. Ransom, Esq. ....                       | 5           | 1                | 0                      | 271            | 610 | 24·03                               | 185                                 |
| D                          | Hitchin (Chiltern Road) ..A. Latchmore, Esq. ....               | 5           | 1                | 0                      | 297            | 548 | 21·56                               | 167                                 |
| D                          | Hitchin (High Down) ..Miss E. Pollard ..                        | 5           | 1                | 1                      | 421            | 611 | 24·06                               | 241                                 |
| D                          | Hitchin (Roxley House, William) ..Mrs. H. Bendixson ..          | 5           | 1                | 6                      | 375            | 543 | 21·38                               | 156                                 |
| D                          | Letchworth (Sewage Farm) ..A. W. E. Bullmore, Esq., C.E. ....   | 5           | 1                | 0                      | 214            | 485 | 19·10                               | 145                                 |
| D                          | Letchworth (Gernon Road) ..A. W. Brunt, Esq. ....               | 5           | 1                | 0                      | 280            | 498 | 19·59                               | 162                                 |
| D                          | Letchworth (Broadway) ..W. C. Steen, Esq., M.D. ....            | 5           | 1                | 0                      | 310            | 524 | 20·63                               | ..                                  |



## DIVISION III.—SOUTH MIDLAND COUNTIES—(con.).

| STATIONS.                           | AUTHORITIES.             | Rain Gauge. |                  |                        | Depth of Rain. |     | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |     |
|-------------------------------------|--------------------------|-------------|------------------|------------------------|----------------|-----|-------------------------------------|-------------------------------------|-----|
|                                     |                          | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |     |                                     |                                     |     |
| HERTFORDSHIRE—(con.).               |                          | in.         | ft.              | in.                    | ft.            | mm. | in.                                 |                                     |     |
| 4.—OUSE—(con.).                     |                          |             |                  |                        |                |     |                                     |                                     |     |
| d Holwell Rectory                   | Rev. J. F. Llewelyn      | 5           | 0                | 7                      | 200            | 567 | 22·32                               | ..                                  | ..  |
| Baldock                             | Dr. Bertram Suggit       | 5           | 0                | 7                      | 210            | 529 | 20·83                               | 175                                 | ..  |
| d Barley (Dalnyveed)                | W. W. Cook, Esq.         | 5           | 1                | 0                      | 300            | 498 | 19·60                               | 171                                 | 122 |
| d Ashwell                           | Dr. R. E. H. Woodforde   | 5           | 1                | 0                      | 175            | 466 | 18·36                               | ..                                  | ..  |
| d Royston (Earlshill House)         | J. Phillips, Esq.        | 8           | 1                | 3                      | 225            | 512 | 20·15                               | 184                                 | 126 |
| BUCKINGHAMSHIRE. Area, 743 sq. mi.  |                          |             |                  |                        |                |     |                                     |                                     |     |
| 1.—THAMES—Cherwell. 30 sq. mi.      |                          |             |                  |                        |                |     |                                     |                                     |     |
| 2.—THAMES—Thame. 158 sq. mi.        |                          |             |                  |                        |                |     |                                     |                                     |     |
| d Weston Turville (Yaxley Lodge)    | Miss Morris              | 5           | 1                | 3                      | 355            | 556 | 21·90                               | ..                                  | ..  |
| d Weston Turville                   | G. Eland, Esq.           | 5           | 1                | 0                      | 320            | 512 | 20·16                               | 152                                 | 116 |
| Tring (Bulbourne)                   | W. Yates, Esq.           | 5           | 2                | 3                      | 401            | 629 | 24·76                               | 176                                 | 127 |
| Mentmore Gardens                    | Mr. J. MacGregor         | 5           | 1                | 3                      | 400            | 604 | 23·78                               | ..                                  | ..  |
| 3.—THAMES—Wye & c. 129 sq. mi.      |                          |             |                  |                        |                |     |                                     |                                     |     |
| d Eton (Tangier Island)             | E. A. Stickland, Esq.    | 5           | 0                | 6                      | 68             | 678 | 26·68                               | 169                                 | 122 |
| M Slough (Upton)                    | R. Bentley, Esq.         | 8           | 2                | 0                      | 80             | 665 | 26·18                               | ..                                  | ..  |
| d Slough (Upton)                    | R. Bentley, Esq.         | 5           | 2                | 0                      | 78             | 704 | 27·72                               | 215                                 | 122 |
| d Taplow (Hitcham Grange)           | Hon. C. S. Irby          | 5           | 0                | 9                      | 150            | 685 | 26·96                               | 142                                 | 124 |
| d Stoke Poges (Stoke Court)         | H. Allhusen, Esq.        | 8           | 1                | 3                      | 196            | 693 | 27·28                               | ..                                  | 120 |
| d Henley-on-Thames (Greenlands)     | Lord Hambleden           | 5           | 1                | 0                      | 116            | 688 | 27·10                               | 153                                 | 119 |
| d Hedsor                            | Lord Boston              | 8           | 1                | 0                      | 170            | 774 | 30·48                               | 158                                 | 137 |
| d Bourne End (The Bourne)           | A. Morse, Esq.           | 5           | 1                | 0                      | 240            | 655 | 25·77                               | 160                                 | 118 |
| d Marlow (Thames Bank)              | S. H. Wright, Esq.       | 8           | 2                | 0                      | 105            | 751 | 29·56                               | 183                                 | 117 |
| d High Wycombe (Flackwell Hth.)     | E. Dickson Park, Esq.    | 5           | 1                | 10                     | 365            | 667 | 26·25                               | 170                                 | 118 |
| d High Wycombe                      | H. S. Wheeler, Esq.      | 5           | 0                | 11                     | 253            | 743 | 29·26                               | 194                                 | 131 |
| d High Wycombe (R. Gram. Sch)       | Capt. F. H. Robinson     | 8           | 1                | 0                      | 545            | 720 | 28·36                               | 190                                 | 130 |
| d Penn (Rayners)                    | Mr. E. Peett             | 5           | 1                | 10                     | 547            | 752 | 29·62                               | 185                                 | 133 |
| d Hampden House                     | Earl of Buckinghamshire  | 5           | 1                | 0                      | 695            | 697 | 27·44                               | 181                                 | 138 |
| 4.—THAMES—Colne. 133 sq. mi.        |                          |             |                  |                        |                |     |                                     |                                     |     |
| d Slough (Langley)                  | R. H. Major, Esq.        | 8           | 0                | 10                     | 85             | 657 | 25·87                               | 154                                 | 121 |
| d Chalfont St. Giles (Roughw'd Pk)  | Thurston Agelasto, Esq.  | 5           | 1                | 0                      | 450            | 717 | 28·25                               | 160                                 | 134 |
| d Amersham (St. Mary's Sch.) No. 1  | W. Garton, Esq.          | 5           | 1                | 8                      | 340            | 758 | 29·83                               | 175                                 | 132 |
| d Amersham (St. Mary's Sch.) No. 2  | W. Garton, Esq.          | 5           | 1                | 0                      | 340            | 762 | 30·01                               | 177                                 | 131 |
| d Amersham (The Plantation)         | G. Weller, Esq.          | 8           | 1                | 0                      | 464            | 707 | 27·85                               | 174                                 | 128 |
| d Chesham Bois Rectory              | Rev. T. H. Fitzpatrick   | 5           | 0                | 11                     | 530            | 704 | 27·72                               | 173                                 | 132 |
| 5.—OUSE. 293 sq. mi.                |                          |             |                  |                        |                |     |                                     |                                     |     |
| d Oving House                       | H. Yates Thompson, Esq.  | 5           | 1                | 0                      | 515            | 688 | 27·10                               | 188                                 | 140 |
| M Oving House                       | H. Yates Thompson, Esq.  | 5           | 1                | 6                      | 515            | 682 | 26·86                               | ..                                  | ..  |
| d Swanbourne House                  | Col. Lord Cottesloe      | 5           | 1                | 0                      | 411            | 663 | 26·09                               | 163                                 | 142 |
| d Mursley Hall                      | A. W. Beecham, Esq.      | 8           | 1                | 0                      | 490            | 638 | 25·12                               | 192                                 | 126 |
| d Addington (C. of E. School)       | J. H. Webster, Esq.      | 5           | 0                | 7                      | 320            | 584 | 23·00                               | 173                                 | 126 |
| Leighton Buz. (Stockgrove Pk.)      | Mr. J. Clues             | 5           | 1                | 2                      | 500            | 574 | 22·58                               | ..                                  | ..  |
| d Great Horwood                     | W. Weston, Esq.          | 5           | 0                | 9                      | ..             | 645 | 25·38                               | 178                                 | 141 |
| d Stony Stratford (Calverton L.)    | Mrs. Hawkins             | 5           | 1                | 8                      | 230            | 681 | 26·82                               | 155                                 | ..  |
| d Wolverton (St. George's Vic.)     | Rev. Canon W. L. Harnett | 5           | 1                | 0                      | 270            | 616 | 24·25                               | 188                                 | 119 |
| d Wolverton (The School House)      | H. J. Hippsley, Esq.     | 5           | 1                | 0                      | 264            | 597 | 23·50                               | 190                                 | 121 |
| d Wolverton (Council School)        | H. J. Hippsley, Esq.     | 5           | 5                | 0                      | 263            | 583 | 22·96                               | ..                                  | ..  |
| d Newport Pagnell (The Croft)       | F. Littleboy, Esq.       | 5           | 1                | 9                      | 191            | 565 | 22·26                               | 191                                 | 128 |
| OXFORDSHIRE. Area, 756 sq. mi.      |                          |             |                  |                        |                |     |                                     |                                     |     |
| 1.—SEVERN—Upper Avon. 10 sq. mi.    |                          |             |                  |                        |                |     |                                     |                                     |     |
| d Sibford Ferris (Woolman Cottage)  | Joshua Lamb, Esq.        | 5           | 1                | 0                      | 590            | 773 | 30·42                               | 178                                 | 130 |
| 2.—THAMES—Windrush & c. 261 sq. mi. |                          |             |                  |                        |                |     |                                     |                                     |     |
| d Kencot Rectory                    | Rev. H. E. Cooper        | 5           | 1                | 0                      | 290            | 714 | 28·11                               | 201                                 | 136 |
| d Witney (Cokethorpe)               | Major H. G. Feilden      | 5           | 4                | 6                      | 280            | 728 | 28·66                               | 167                                 | 137 |
| d Witney (Church Green)             | E. S. Fry, Esq.          | 5           | 1                | 0                      | 270            | 713 | 28·08                               | 188                                 | 134 |
| d Eynsham (Cassington Vicarage)     | Rev. Cecil G. Paget      | 5           | 1                | 6                      | 220            | 670 | 26·37                               | ..                                  | ..  |
| d Charlbury (Cornbury Park)         | Mr. B. Campbell          | 5           | 1                | 0                      | 435            | 868 | 34·19                               | ..                                  | 120 |

## DIVISION III.—SOUTH MIDLAND COUNTIES—(con.).

| STATIONS.                            | AUTHORITIES.                   | Rain Gauge. |  |     |     | Depth of Rain. |       | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--------------------------------------|--------------------------------|-------------|--|-----|-----|----------------|-------|-------------------------------------|-------------------------------------|
|                                      |                                | Diam.       | Height above<br>Ground      Sea Level. |     |     | 1920           |       |                                     |                                     |
|                                      |                                | in.         | ft.                                    | in. | ft. | mm.            | in.   |                                     |                                     |
| OXFORDSHIRE—(con.).                  |                                |             |  |     |     |                |       |                                     |                                     |
| 2.—THAMES—Windrush & c.—(con.).      |                                |             |  |     |     |                |       |                                     |                                     |
| d Wootton Rectory                    | Rev. F. R. Marriott            | 5           | 1                                      | 0   | 370 | 701            | 27·61 | 166                                 | 134                                 |
| d Lyneham                            | R. de M. Pratt, Esq.           | 5           | 1                                      | 7   | 351 | 830            | 32·68 | 186                                 | 144                                 |
| d Glympton Park                      | Lt.-Col. G. H. Barnett         | 5           | 2                                      | 6   | ..  | 737            | 29·03 | 149                                 | 129                                 |
| d Chadlington (Langston House)       | Lt.-Col. F. W. Schofield, CMG. | 5           | 1                                      | 0   | 420 | 749            | 29·50 | 173                                 | 136                                 |
| d Sarsden Gardens                    | Mr. J. E. Vine                 | 5           | 0                                      | 10  | 538 | 770            | 30·32 | 157                                 | 128                                 |
| d Chipping Norton (Bungalow)         | T. H. Burbidge, Esq.           | 5           | 1                                      | 0   | 700 | 820            | 32·30 | 180                                 | 147                                 |
| d Chipping Norton (Heythrop)         | Mr. G. A. Kay                  | 10          | 4                                      | 6   | 600 | 662            | 26·08 | 161                                 | 137                                 |
| 3.—THAMES—Cherwell. 250 sq. mi.      |                                |             |  |     |     |                |       |                                     |                                     |
| d Nuneham Park Gardens               | Mr. C. E. Munday               | 8           | 5                                      | 0   | 280 | 618            | 24·31 | ..                                  | ..                                  |
| d Oxford (Hincksey Pumping Sta.)     | J. E. Wilkes, Esq., C.E.       | 8           | 1                                      | 0   | 187 | 640            | 25·20 | 166                                 | 119                                 |
| d Oxford (Osney Lock)                | Thames Conservancy             | 5           | 2                                      | 11  | 191 | 644            | 25·37 | 169                                 | 122                                 |
| d Oxford (Magdalen College)          | J. J. Manley, Esq.             | 5           | 1                                      | 0   | 186 | 612            | 24·09 | 184                                 | 121                                 |
| m Oxford (Magdalen College)          | J. J. Manley, Esq.             | 5           | 33                                     | 11  | 194 | 574            | 22·59 | ..                                  | ..                                  |
| d Oxford (Radcliffe Observatory)     | Dr. A. A. Rambaut, F.R.S.      | 8           | 1                                      | 8   | 210 | 647            | 25·46 | 185                                 | 125                                 |
| d Oxford (Radcliffe Observy.) (r)    | Dr. A. A. Rambaut, F.R.S.      | 11          | 2                                      | 4   | 210 | 649            | 25·56 | 186                                 | 119                                 |
| d Oxford (Northmore Road)            | Miss E. M. Tawney              | 5           | 1                                      | 0   | 217 | 595            | 23·43 | 173                                 | 126                                 |
| d Headington (Warneford Asy.)        | Dr. A. W. Neill                | 5           | 1                                      | 0   | 300 | 648            | 25·51 | 160                                 | 130                                 |
| d Headington (Charlton Lea)          | Mr. L. Dawes                   | 5           | 1                                      | 0   | 300 | 663            | 26·10 | 169                                 | 127                                 |
| d Elsfeld Manor House                | Miss M. J. Parsons             | 5           | 1                                      | 0   | 355 | 632            | 24·87 | 183                                 | 130                                 |
| d Islip                              | Col. G. E. Eliot               | 5           | 3                                      | 0   | 200 | 611            | 24·04 | ..                                  | ..                                  |
| Charlton-on-Otmoor School            | E. Cartwright, Esq.            | 6           | 1                                      | 3   | 220 | 821            | 32·34 | ..                                  | ..                                  |
| d Middleton Park                     | The Earl of Jersey             | 5           | 2                                      | 6   | 326 | 732            | 28·84 | 177                                 | 140                                 |
| d Steeple Aston (The Grange)         | Arthur E. Bradshaw, Esq.       | 8           | 1                                      | 0   | 400 | 768            | 30·23 | 212                                 | 144                                 |
| d Steeple Aston (Hill House)         | B. S. Ogle, Esq.               | 5           | 0                                      | 5   | 406 | 746            | 29·38 | 193                                 | 137                                 |
| West Adderbury (St. Amand's)         | Miss M. M. Bradford            | 8           | 1                                      | 0   | 320 | 711            | 28·00 | 157                                 | 130                                 |
| d Adderbury (Cross Hill)             | G. H. Norris, Esq.             | 5           | 1                                      | 1   | 338 | 689            | 27·13 | 179                                 | 129                                 |
| Adderbury (The Rookery)              | C. C. Bradford, Esq.           | 8           | 1                                      | 0   | 323 | 716            | 28·17 | 176                                 | 142                                 |
| d Bodicote House                     | J. F. Starkey, Esq.            | 8           | 1                                      | 0   | 388 | 688            | 27·07 | 182                                 | 136                                 |
| Bodicote                             | A. Ridge, Esq.                 | 5           | 1                                      | 0   | 391 | 727            | 28·61 | 177                                 | 135                                 |
| d Bodicote Vicarage                  | Rev. H. N. Fowler              | 5           | 1                                      | 0   | 390 | 684            | 26·94 | 185                                 | 130                                 |
| Broughton Rectory                    | Rev. B. W. Bradford            | 5           | 0                                      | 6   | 370 | 729            | 28·71 | 181                                 | 134                                 |
| Wroxton                              | Hon. Mrs. Fitz Gerald          | 12          | 2                                      | 6   | 700 | 781            | 30·74 | ..                                  | ..                                  |
| d Shenington School Gardens          | Rev. A. Blythman               | 5           | 1                                      | 3   | 540 | 982            | 38·68 | 195                                 | 162                                 |
| 4.—THAMES—Thame & c. 210 sq. mi.     |                                |             |  |     |     |                |       |                                     |                                     |
| d Caversham (Eastfield)              | C. M. Powell, Esq.             | 5           | 1                                      | 0   | 180 | 671            | 26·41 | 177                                 | 129                                 |
| d Caversham (Kidmore End Sch.)       | T. F. Higgins, Esq.            | 5           | 0                                      | 11  | 330 | 899            | 35·39 | 177                                 | 137                                 |
| d Harpsden (Cray)                    | B. E. Dunbar Kilburn, Esq.     | 5           | 0                                      | 9   | 230 | 778            | 30·61 | 169                                 | 126                                 |
| d Henley-on-Thames (Peppard)         | Rev. Hubert Shears             | 5           | 1                                      | 0   | 336 | 738            | 29·04 | ..                                  | ..                                  |
| d Henley-on-Thames (Hart St.)        | A. Edward Hobbs, Esq.          | 5           | 1                                      | 6   | 110 | 694            | 27·34 | 169                                 | 120                                 |
| d Henley-on-Thames (Hart St.)        | A. Edward Hobbs, Esq.          | 5           | 7                                      | 6   | 116 | 674            | 26·53 | 169                                 | 120                                 |
| d Henley-on-Thames (Greys Lane)      | G. Potter, Esq.                | 5           | 0                                      | 9   | 123 | 720            | 28·33 | 156                                 | 129                                 |
| d Henley-on-Thames (Greys Gr.)       | Mrs. Wolferstan                | 5           | 2                                      | 0   | 350 | 739            | 29·08 | 174                                 | 125                                 |
| d Nettlebed (Joyce Grove) .No. 1     | Mr. A. Johnstone               | 5           | 1                                      | 0   | 590 | 808            | 31·83 | ..                                  | 125                                 |
| d Nettlebed (Joyce Grove) .No. 2     | Mr. A. Johnstone               | 5           | 1                                      | 0   | 590 | 766            | 30·14 | 151                                 | 132                                 |
| d Benson Observatory                 | W. H. Dines, Esq., F.R.S.      | 8           | 1                                      | 0   | 186 | 575            | 22·63 | 170                                 | 111                                 |
| d Dorchester (Bishops Court)         | T. Latham, Esq.                | 5           | 2                                      | 0   | 168 | 622            | 24·48 | 179                                 | 126                                 |
| d Culham School House                | F. Mitchell, Esq.              | 5           | 0                                      | 10  | 180 | 604            | 23·76 | 169                                 | 120                                 |
| d Clifton Hampden (Manor House)      | Lord Aldenham                  | 5           | 1                                      | 0   | 190 | 625            | 24·59 | 161                                 | 123                                 |
| d Watlington (Pyrton Manor)          | Major H. Ducat Hamersley       | 5           | 1                                      | 0   | 325 | 694            | 27·31 | 171                                 | 123                                 |
| d Lewknor (Manor House)              | Miss Spencer                   | 5           | 1                                      | 3   | 360 | 676            | 26·63 | 182                                 | 129                                 |
| d Wheatfield                         | A. J. Spencer, Esq.            | 5           | 0                                      | 8   | 275 | 622            | 24·49 | ..                                  | 104                                 |
| Toot Baldon (Potlands)               | D. Clinkard, Esq.              | 5           | 1                                      | 0   | 288 | 642            | 25·27 | 158                                 | 121                                 |
| d Thame (Tythrop House)              | A. W. Smith, Esq.              | ..          | ..                                     | ..  | 230 | 600            | 23·64 | 144                                 | 122                                 |
| Stanton St. John (Woodperry)         | Mrs. Thomson                   | 6           | 1                                      | 0   | 336 | 700            | 27·58 | 160                                 | ..                                  |
| 5.—OUSE. 25 sq. mi.                  |                                |             |  |     |     |                |       |                                     |                                     |
| NORTHAMPTONSHIRE. Area, 1003 sq. mi. |                                |             |  |     |     |                |       |                                     |                                     |
| 1.—SEVERN—Upper Avon. 60 sq. mi.     |                                |             |  |     |     |                |       |                                     |                                     |
| d Winwick Warren                     | Col. R. H. Ainsworth           | 8           | 1                                      | 5   | 648 | 734            | 28·88 | 200                                 | 142                                 |
| d Naseby Reservoir                   | T. W. Millner, Esq.            | 5           | 1                                      | 6   | 519 | 689            | 27·13 | 208                                 | 140                                 |

## DIVISION III.—SOUTH MIDLAND COUNTIES—(con.).

| STATIONS.                             | AUTHORITIES.                   | Rain Gauge. |                        |     |               | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---------------------------------------|--------------------------------|-------------|------------------------|-----|---------------|------------------------|--|--|
|                                       |                                | Diam.       | Height above<br>Ground |     | Sea<br>Level. |                        |  |  |
|                                       |                                | in.         | ft.                    | in. | ft.           | mm.                    | in.                                    |  |
| NORTHAMPTONSHIRE—(con.).              |                                |             |                        |     |               |                        |  |  |
| <b>2.—THAMES—Gherwell. 77 sq. mi.</b> |                                |             |                        |     |               |                        |  |  |
| d King's Sutton (Manor House) ..      | Major, C. A. Markham .....     | 5           | 1                      | 0   | 338           | 676                    | 26·62                                  | 152 132                                |
| d King's Sutton School .....          | A. H. Tilbury, Esq. ....       | 5           | 1                      | 0   | 380           | 720                    | 28·36                                  | .. ..                                  |
| d Grimsbury (Banbury W.W.) ..         | W. E. Wood, Esq. ....          | 5           | 1                      | 3   | 320           | 608                    | 23·94                                  | 177 127                                |
| <b>3.—OUSE. 148 sq. mi.</b>           |                                |             |                        |     |               |                        |  |  |
| d Brackley House .....                | Major J. Allen .....           | 5           | 1                      | 0   | 425           | 739                    | 29·08                                  | 197 143                                |
| Towcester (Easton Neston) ..          | J. P. Maitland, Esq. ....      | 8           | 1                      | 0   | 325           | 746                    | 29·39                                  | 204 137                                |
| d Hartwell Vicarage .....             | Rev. C. Ryder-Macnally ..      | 5           | 2                      | 6   | 405           | 664                    | 26·15                                  | 197 142                                |
| w Hargrave Hall .....                 | C. K. Murchison, Esq. ....     | 5           | 1                      | 0   | 273           | 538                    | 21·20                                  | .. ..                                  |
| <b>4.—NENE. 622 sq. mi.</b>           |                                |             |                        |     |               |                        |  |  |
| d Salcey Forest .....                 | Office of Woods .....          | 8           | 1                      | 3   | 370           | 601                    | 23·67                                  | 164 125                                |
| d Blisworth (Crieff House) .....      | A. Westley, Esq. ....          | 5           | 1                      | 0   | 330           | 687                    | 27·04                                  | 198 136                                |
| d Blisworth .....                     | T. W. Millner, Esq. ....       | 5           | 1                      | 6   | 300           | 611                    | 24·06                                  | 197 127                                |
| d Castle Ashby .....                  | Major C. A. Markham .....      | 5           | 1                      | 4   | 230           | 621                    | 24·46                                  | 180 130                                |
| d Little Houghton House .....         | Christopher Smyth, Esq. ....   | 5           | 2                      | 0   | 270           | 624                    | 24·55                                  | 171 122                                |
| d Northampton (Dallington Av.)        | Major C. A. Markham .....      | 5           | 1                      | 0   | 265           | 680                    | 26·77                                  | 206 142                                |
| d Northampton (General Hosp.)         | Major C. A. Markham .....      | 5           | 1                      | 1   | 259           | 612                    | 24·10                                  | 168 125                                |
| d Northampton (Mental Hosp.)          | Mr. W. R. Budgen .....         | 8           | 1                      | 2   | 398           | 654                    | 25·73                                  | 169 131                                |
| d Northampton (Stimpson Avnue)        | F. Tomlinson, Esq., C.E. ....  | 8           | 18                     | 0   | 329           | 575                    | 22·65                                  | .. ..                                  |
| d Northampton (Cheyne Walk) ..        | Major C. A. Markham .....      | 5           | 8                      | 6   | 240           | 600                    | 23·62                                  | 191 117                                |
| d Hazelborough Woods .....            | Office of Woods .....          | 8           | 1                      | 0   | 241           | 654                    | 25·73                                  | 206 132                                |
| d Daventry (Tunnel End) .....         | T. W. Millner, Esq. ....       | 5           | 1                      | 6   | 394           | 702                    | 27·65                                  | 204 133                                |
| d Althorp Park .....                  | Mr. C. F. Crump .....          | 5           | 1                      | 3   | 414           | 709                    | 27·92                                  | 170 131                                |
| d Sywell Hall .....                   | T. A. Dickson, Esq. ....       | 5           | 1                      | 0   | 371           | 651                    | 25·62                                  | 171 124                                |
| d Pitsford (Sedgebrook) .....         | Major C. A. Markham .....      | 5           | 1                      | 0   | 311           | 615                    | 24·23                                  | 168 122                                |
| m Pitsford (Sedgebrook) .....         | Major C. A. Markham .....      | 5           | 1                      | 0   | 311           | 612                    | 24·11                                  | .. ..                                  |
| d Wellingborough (Swanspool) ..       | R. S. Henshaw, Esq., C.E. .... | 5           | 1                      | 0   | 169           | 590                    | 23·22                                  | 169 127                                |
| d Wellingborough (Sewage Works)       | R. S. Henshaw, Esq., C.E. .... | 5           | 1                      | 0   | 139           | 553                    | 21·78                                  | 173 127                                |
| d Wellingboro' (Bushfield W.W.)       | R. S. Henshaw, Esq., C.E. .... | 8           | 0                      | 11  | 286           | 581                    | 22·86                                  | 187 125                                |
| d Watford Court .....                 | Major C. A. Markham .....      | 9           | 1                      | 2   | 380           | 776                    | 30·54                                  | 195 147                                |
| d Ashby St. Ledgers .....             | Major P. E. T. Hibbert .....   | 5           | 0                      | 10  | 500           | 746                    | 29·36                                  | 190 136                                |
| d Ravensthorpe Reservoir .....        | F. Tomlinson, Esq., C.E. ....  | 5           | 1                      | 0   | 339           | 705                    | 27·74                                  | 198 140                                |
| Scaldwell .....                       | Capt. R. Soames .....          | 5           | 1                      | 0   | 406           | 624                    | 24·58                                  | .. ..                                  |
| d Lamport Hall Gardens .....          | Mr. H. Tyrrell .....           | 8           | 1                      | 0   | 440           | 665                    | 26·19                                  | 160 132                                |
| d Lamport Hall .....                  | Mr. James Sutherland .....     | 8           | 0                      | 8   | 400           | 724                    | 28·52                                  | 166 139                                |
| d Raunds (Day School) .....           | L. G. H. Lee, Esq. ....        | 8           | 1                      | 0   | 204           | 544                    | 21·43                                  | 181 117                                |
| d Kettering W.W. (Cransley) ..        | T. R. Smith, Esq., C.E. ....   | 8           | 0                      | 6   | 275           | 592                    | 23·29                                  | 166 120                                |
| d Kettering (Sewage Works) ..         | T. R. Smith, Esq., C.E. ....   | 8           | 0                      | 11  | 199           | 602                    | 23·72                                  | 191 124                                |
| d Kettering W.W. (Thorpe Malsor)      | T. R. Smith, Esq., C.E. ....   | 5           | 0                      | 11  | 352           | 619                    | 24·36                                  | 209 125                                |
| d Kettering W.W. (Clover Hill) ..     | T. R. Smith, Esq., C.E. ....   | 5           | 0                      | 7   | 344           | 616                    | 24·26                                  | 173 122                                |
| d Kettering (Warkton) .....           | Mr. R. H. Brett .....          | 5           | 1                      | 3   | 275           | 602                    | 23·70                                  | 148 ..                                 |
| Rothwell (Loddington) .....           | Mr. J. Oliff .....             | 5           | 2                      | 0   | 400           | 634                    | 24·96                                  | 140 ..                                 |
| d Thrapston (Drayton House) ..        | Mr. G. Medcraft .....          | 5           | 1                      | 6   | 220           | 616                    | 24·26                                  | 172 130                                |
| d Desborough .....                    | Mr. F. U. Grudgings .....      | 5           | 4                      | 0   | 400           | 645                    | 25·39                                  | 159 123                                |
| d Rushton Manor .....                 | R. A. Willows, Esq. ....       | 5           | 1                      | 0   | 400           | 606                    | 23·85                                  | .. 114                                 |
| d Rothwell (Shotwell Mill) .....      | W. T. Lynam, Esq. ....         | 5           | 1                      | 6   | 340           | 574                    | 22·60                                  | 161 123                                |
| d Barnwell (Lilford Hall) .....       | Mr. F. W. Gallop .....         | 5           | 1                      | 6   | ..            | 620                    | 24·39                                  | 175 122                                |
| d Oundle (Milton Road) .....          | J. M. Siddons, Esq. ....       | 5           | 3                      | 6   | 131           | 518                    | 20·39                                  | 145 110                                |
| d Oundle School .....                 | F. W. Sanderson, Esq. ....     | 8           | 1                      | 0   | 147           | 572                    | 22·52                                  | 202 113                                |
| d Peterborough (Westbourne Ho.)       | E. H. Colman, Esq. ....        | 8           | 1                      | 0   | 38            | 514                    | 20·24                                  | 181 113                                |
| d Peterborough (Ashfield) .....       | J. A. Percival, Esq. ....      | 5           | 0                      | 7   | 30            | 487                    | 19·18                                  | 174 118                                |
| d Peterborough (Abbeyfields) ..       | Major J. Shipley Ellis .....   | 5           | 0                      | 9   | 49            | 564                    | 22·19                                  | 190 122                                |
| d Peterborough (Milton House) ..      | Major C. A. Markham .....      | 5           | 3                      | 0   | 83            | 667                    | 26·25                                  | 157 131                                |
| d Wittering Rectory .....             | Rev. S. B. Warde .....         | 5           | 1                      | 0   | 180           | 631                    | 24·85                                  | 201 126                                |
| d Eye (Northolm) .....                | S. M. Egar, Esq. ....          | 5           | 1                      | 0   | 17            | 558                    | 21·96                                  | 196 115                                |
| d Eye (Newborough) .....              | R. Williams, Esq. ....         | 5           | 1                      | 0   | 8             | 564                    | 22·22                                  | 178 121                                |
| <b>5.—WELLAND. 96 sq. mi.</b>         |                                |             |                        |     |               |                        |  |  |
| d Marston Trussell Rectory ..(R)      | Rev. J. Knight Law .....       | 10          | 2                      | 9   | 314           | 654                    | 25·73                                  | 192 134                                |
| d Market Harboro' (Dingley Hall)      | Major C. A. Markham .....      | 5           | 1                      | 6   | 400           | 638                    | 25·11                                  | 168 125                                |
| d Carlton Park Gardens .....          | Mr. R. W. Thatcher .....       | 5           | 1                      | 1   | 400           | 531                    | 20·89                                  | .. ..                                  |
| d Ashley .....                        | Major N. H. Matthews .....     | 5           | 1                      | 3   | 240           | 673                    | 26·51                                  | 202 144                                |
| d Rockingham Castle Gardens ..        | Mr. A. E. Higgott .....        | 5           | 4                      | 0   | 410           | 677                    | 26·67                                  | 172 132                                |

## DIVISION III.—SOUTH MIDLAND COUNTIES—(con.).

| STATIONS.                                    | AUTHORITIES.                        | Rain Gauge. |                  |                        |     | Depth of Rain. |         | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|-------------------------------------|-------------|------------------|------------------------|-----|----------------|---------|-------------------------------------|-------------------------------------|
|  |                                     | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |         |                                     |                                     |
| NORTHAMPTONSHIRE—(con.).                     |                                     | in.         | ft.              | in.                    | ft. | mm.            | in.     |                                     |                                     |
| <b>5.—WELLAND—(con.).</b>                    |                                     |             |                  |                        |     |                |         |                                     |                                     |
| d Gretton (Gretton House) . . . . .          | Mr. J. Rogers . . . . .             | 9           | 1                | 0                      | 354 | 673            | 26·50   | 171                                 | 133                                 |
| d Gretton School . . . . .                   | W. Leeson, Esq. . . . .             | 5           | 1                | 0                      | 365 | 592            | 23·31   | 193                                 | 120                                 |
| Colleyweston (Cuckoo Lodge) . . . . .        | W. J. Richards, Esq. . . . .        | 8           | 3                | 0                      | 241 | 559            | 21·99   | 144                                 | 109                                 |
| Wittering (Whitewater) . . . . .             | W. J. Richards, Esq. . . . .        | 8           | 3                | 0                      | 241 | 595            | 23·42   | ..                                  | 101                                 |
| d Market Deeping (Etton) . . . . .           | W. H. A. Court, Esq., C.E. . . . .  | 8           | 1                | 0                      | 25  | 540            | 21·27   | 170                                 | 109                                 |
| HUNTINGDONSHIRE. (Area, 366 sq. mi.)         |                                     |             |                  |                        |     |                |         |                                     |                                     |
| <b>1.—OUSE. 327 sq. mi.</b>                  |                                     |             |                  |                        |     |                |         |                                     |                                     |
| d St. Neots (Waresley Park) . . . . .        | Miss Duncombe . . . . .             | 5           | 0                | 11                     | 190 | 483            | 19·02   | 155                                 | 118                                 |
| d Hemingford Grey (Millview) . . . . .       | G. F. Wilson, Esq. . . . .          | 5           | 1                | 6                      | 20  | 419            | 16·51   | 148                                 | 114                                 |
| d Huntingdon (Hinchingsbrke.) (R) . . . . .  | Mr. W. Prowting . . . . .           | 8           | 6                | 0                      | 74  | 490            | 19·27   | 182                                 | 116                                 |
| d St. Ives (Slepe House) . . . . .           | Dr. W. R. Grove . . . . .           | 5           | 1                | 0                      | 25  | 420            | 16·53   | 144                                 | 105                                 |
| d Catworth . . . . .                         | J. H. Annet, Esq. . . . .           | 5           | 0                | 9                      | 210 | 501            | 19·73   | 168                                 | 127                                 |
| d Whittlesea Mere . . . . .                  | Capt. G. E. Mathews, C.E. . . . .   | 8           | 1                | 6                      | 10  | 456            | 17·96   | ..                                  | 104                                 |
| <b>2.—NENE. 39 sq. mi.</b>                   |                                     |             |                  |                        |     |                |         |                                     |                                     |
| BEDFORDSHIRE. (Area, 467 sq. mi.)            |                                     |             |                  |                        |     |                |         |                                     |                                     |
| <b>1.—THAMES—Colne. 20 sq. mi.</b>           |                                     |             |                  |                        |     |                |         |                                     |                                     |
| d Dunstable (Kensworth Vicarage) . . . . .   | Mrs. Little . . . . .               | 5           | 1                | 3                      | 585 | 667            | 26·25   | ..                                  | 119                                 |
| Luton (Stockwood) . . . . .                  | Mrs. E. R. Crawley . . . . .        | 5           | 3                | 0                      | 539 | 606            | 23·84   | 168                                 | 114                                 |
| <b>2.—THAMES—Lea. 32 sq. mi.</b>             |                                     |             |                  |                        |     |                |         |                                     |                                     |
| d Luton (Pumping Station) . . . . .          | J. W. Tomlinson, Esq., C.E. . . . . | 5           | 1                | 0                      | 343 | 590            | 23·22   | 160                                 | 129                                 |
| d Luton . . . . .                            | E. A. Mander, Esq. . . . .          | 5           | 1                | 0                      | 390 | 608            | 23·93   | 172                                 | 115                                 |
| d Luton (Tennyson Road) . . . . .            | Harold F. Smith, Esq. . . . .       | 5           | 1                | 1                      | 530 | 618            | 24·35   | 176                                 | 122                                 |
| d Luton (The Downs) . . . . .                | G. W. Pryer, Esq. . . . .           | 5           | 1                | 0                      | 479 | 645            | 25·39   | 166                                 | 128                                 |
| <b>3.—OUSE. 408 sq. mi.</b>                  |                                     |             |                  |                        |     |                |         |                                     |                                     |
| d Shillington . . . . .                      | Dr. Kilham Roberts . . . . .        | 8           | 1                | 0                      | 182 | 547            | 21·53   | 151                                 | 117                                 |
| d Shefford (Stondon Manor) . . . . .         | R. Long, Esq. . . . .               | 5           | 1                | 0                      | 241 | 527            | 20·75   | ..                                  | ..                                  |
| d Woburn (Crawley Mill Farm) . . . . .       | J. Crabtree, Esq. . . . .           | 8           | 1                | 0                      | 292 | 573            | 22·54   | 200                                 | 115                                 |
| d Woburn (Fruit Farm, Ridgmont) . . . . .    | E. J. Hobbs, Esq. . . . .           | 5           | 1                | 0                      | 270 | 590            | 23·21   | 172                                 | 114                                 |
| d Stotfold (Three Co. Mental Hos.) . . . . . | Dr. L. O. Fuller . . . . .          | 5           | 1                | 0                      | 220 | 452            | 17·81   | 158                                 | 108                                 |
| d Lidlington (White Lodge) . . . . .         | H. J. Wright, Esq. . . . .          | 5           | 0                | 8                      | 200 | 526            | 20·72   | 152                                 | 109                                 |
| d Shefford (Clifton Bury) . . . . .          | A. Inskip, Esq. . . . .             | 5           | 2                | 1                      | 150 | 504            | 19·84   | ..                                  | ..                                  |
| d Shefford Council School . . . . .          | G. F. Alldritt, Esq. . . . .        | 5           | 1                | 0                      | 134 | 517            | 20·34   | 179                                 | 116                                 |
| d Shefford (Stanford) . . . . .              | H. Inskip, Esq. . . . .             | 5           | 2                | 0                      | 60  | 490            | 19·27   | ..                                  | ..                                  |
| Sandy (The Lodge) . . . . .                  | Mr. R. Pettifer . . . . .           | 5           | 1                | 3                      | 200 | 453            | 17·84   | 144                                 | ..                                  |
| d Sandy (Beeston Grange) . . . . .           | Lt.-Col. Maunsell Bowers . . . . .  | 5           | 1                | 0                      | 80  | 494            | 19·43   | 166                                 | 120                                 |
| d Bedford (The Park) . . . . . (R)           | N. Greenshields, Esq. . . . .       | 8           | 5                | 8                      | 123 | 421            | 16·56   | 168                                 | 111                                 |
| d Bedford (Warwick Avenue) . . . . .         | Late L. A. Fawcett, Esq. . . . .    | 5           | 4                | 6                      | 120 | 492            | 19·37   | 175                                 | 111                                 |
| d Bedford (Castle Road) . . . . .            | Miss M. E. Newbery . . . . .        | 5           | 7                | 0                      | 108 | 512            | 20·15   | 164                                 | 119                                 |
| d Goldington (Castle Mills) . . . . .        | W. H. Rogers, Esq. . . . .          | 5           | 1                | 4                      | 90  | 454            | 17·86 ? | ..                                  | ..                                  |
| d Great Barford House . . . . .              | J. Arnold Whitechurch, Esq. . . . . | 5           | 1                | 0                      | 120 | 506            | 19·93   | 155                                 | 119                                 |
| d Sharnbrook (Castle Close) . . . . .        | L. Stileman-Gibbard, Esq. . . . .   | 5           | 0                | 8                      | 210 | 513            | 20·20   | 176                                 | ..                                  |
| d Sharnbrook (Colworth Gardens) . . . . .    | Mr. J. Hoad . . . . .               | 5           | 2                | 0                      | 250 | 537            | 21·13   | 157                                 | 124                                 |
| <b>4.—NENE. 7 sq. mi.</b>                    |                                     |             |                  |                        |     |                |         |                                     |                                     |
| CAMBRIDGESHIRE. (Area, 859 sq. mi.)          |                                     |             |                  |                        |     |                |         |                                     |                                     |
| <b>1.—STOUR. 17 sq. mi.</b>                  |                                     |             |                  |                        |     |                |         |                                     |                                     |
| <b>2.—OUSE. 740 sq. mi.</b>                  |                                     |             |                  |                        |     |                |         |                                     |                                     |
| d Ashwell (Odsey) . . . . .                  | Sir H. G. Fordham . . . . .         | 5           | 1                | 0                      | 256 | 504            | 19·84   | 167                                 | 111                                 |
| d Abington Pigotts . . . . .                 | Rev. M. de Courcy-Ireland . . . . . | 8           | 0                | 10                     | 86  | 435            | 17·13   | ..                                  | ..                                  |
| d Melbourne Vicarage . . . . .               | Rev. M. de Courcy-Ireland . . . . . | 5           | 1                | 0                      | 78  | 492            | 19·36   | ..                                  | 113                                 |
| d Meldreth (Chiswick Farm) . . . . .         | A. Howard, Esq. . . . .             | 5           | 1                | 1                      | 70  | 465            | 18·29   | 159                                 | ..                                  |
| d Fowlmere (Fruit Farm) . . . . .            | H. F. Smith, Esq. . . . .           | 5           | 1                | 0                      | 61  | 397            | 15·62 ? | 156                                 | ..                                  |
| d Bartlow House Gardens . . . . .            | Mr. F. M. Folkard . . . . .         | 5           | 0                | 9                      | 184 | 527            | 20·75   | 149                                 | 119                                 |
| d Foxton (The Bury) . . . . .                | J. Gifford, Esq. . . . .            | 5           | 1                | 0                      | 60  | 468            | 18·41   | 163                                 | 114                                 |
| d Whittlesford (Scots) . . . . .             | Robert Maynard, Esq. . . . .        | 5           | 0                | 6                      | 90  | 475            | 18·70   | ..                                  | ..                                  |
| d Whittlesford (Sawston Hall) . . . . .      | D. L. Huddleston, Esq. . . . .      | 5           | 1                | 1                      | 86  | 502            | 19·78   | 148                                 | 109                                 |
| d Wimpole Hall . . . . .                     | Mr. W. J. Snell . . . . .           | 5           | 1                | 0                      | 141 | 446            | 17·57   | 147                                 | ..                                  |

## DIVISION III.—SOUTH MIDLAND COUNTIES—(con.).

| STATIONS.                            | AUTHORITIES.                      | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |     |     |
|--------------------------------------|-----------------------------------|-------------|------------------|------------------------|------------------------|--|--|-----|-----|
|                                      |                                   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |     |     |
| CAMBRIDGESHIRE—(con.).               |                                   | in.         | ft.              | in.                    | ft.                    | mm.                                    | in.                                    |     |     |
| 2.—OUSE—(con.).                      |                                   |             |                  |                        |                        |  |  |     |     |
| d Gamlingay (Old Woodbury) . . .     | Hon. C. Hill Trevor . . . . .     | 5           | 0                | 10                     | 200                    | 487                                    | 19·16                                  | 172 | 113 |
| d Balsham Rectory . . . . .          | Rev. H. J. E. Burrell . . . . .   | 5           | 1                | 6                      | 399                    | 498                                    | 19·62                                  | ..  | 100 |
| d Grantchester Mill . . . . .        | J. Nutter, Esq. . . . .           | 5           | 5                | 0                      | 31                     | 460                                    | 18·09                                  | 153 | 107 |
| d Fulbourne (Fleam Dyke) . . . . .   | W. W. Gray, Esq., C.E. . . . .    | 5           | 1                | 0                      | 99                     | 493                                    | 19·41                                  | 175 | 124 |
| d Fulbourne Pumping Station. . .     | W. W. Gray, Esq., C.E. . . . .    | 5           | 1                | 0                      | 37                     | 526                                    | 20·70                                  | 180 | 125 |
| d Fulbourne (Cambs. Ment. Hos.) .    | Dr. M. A. Archdale. . . . .       | 5           | 0                | 6                      | 72                     | 576                                    | 22·67                                  | 154 | 116 |
| d Cambridge W.W. (Cherryhinton)      | W. W. Gray, Esq., C.E. . . . .    | 5           | 5                | 0                      | 35                     | 525                                    | 20·66                                  | 185 | 118 |
| d Cambridge (Mount Pleasant) . .     | W. F. Hicks, Esq. . . . .         | 5           | 1                | 6                      | 45                     | 501                                    | 19·73                                  | 182 | 114 |
| d Cambridge (Hills Road, South)      | Smith Nutter, Esq. . . . .        | 8           | 0                | 10                     | 45                     | 576                                    | 22·69                                  | 182 | 131 |
| d Cambridge (Herschel House) . . .   | C. N. H. Lock, Esq. . . . .       | 5           | 1                | 0                      | 36                     | 457                                    | 17·99                                  | ..  | 101 |
| d Cambridge (Sidney Street) . . .    | Messrs. W. E. Pain & Sons         | 8           | 53               | 0                      | 83                     | 480                                    | 18·91                                  | 188 | 104 |
| d Cambridge (Corporation Store Yd)   | Julian Julian, Esq., C.E. . . . . | 5           | 1                | 0                      | 52                     | 474                                    | 18·67                                  | 159 | 113 |
| d Cambridge (Tenison Avenue) . . .   | W. B. Parsons, Esq. . . . .       | 8           | 1                | 2                      | 40                     | 525                                    | 20·68                                  | 160 | 112 |
| d Cambridge (Pinehurst) . . . . .    | C. F. Foster, Esq. . . . .        | 5           | 0                | 10                     | 36                     | 506                                    | 19·90                                  | 188 | 118 |
| d Cambridge (Botanic Gardens) . .    | F. G. Preston, Esq. . . . .       | 5           | 1                | 1                      | 41                     | 487                                    | 19·16                                  | 159 | 112 |
| d Cambridge (Corporation Ppg.St.)    | Julian Julian, Esq., C.E. . . . . | 5           | 1                | 0                      | 28                     | 488                                    | 19·22                                  | 169 | 119 |
| d Boxworth . . . . .                 | E. H. Thornhill, Esq. . . . .     | 5           | 1                | 0                      | 76                     | 490                                    | 19·29                                  | 183 | 113 |
| d Swaffham Prior Vicarage . . . .    | Rev. L. Fisher . . . . .          | 5           | 1                | 4                      | 44                     | 515                                    | 20·29                                  | 182 | 113 |
| d Burwell . . . . .                  | R. Stephenson, Esq. . . . .       | 5           | 2                | 0                      | 58                     | 501                                    | 19·72                                  | 163 | 117 |
| d Conington (Conington Hall) . . .   | Philip T. Gardner, Esq. . . . .   | 8           | 0                | 5                      | 50                     | 465                                    | 18·30                                  | 154 | ..  |
| d Cottenham (Bernard House) . . .    | Miss Bull . . . . .               | 5           | 1                | 6                      | 20                     | 480                                    | 18·91                                  | 165 | 120 |
| d Fordham . . . . .                  | W. V. Bloom, Esq. . . . .         | 5           | 1                | 0                      | 30                     | 466                                    | 18·35                                  | ..  | ..  |
| d Stretham Engine . . . . .          | Mr. J. Housley . . . . .          | 9           | 4                | 9                      | 13                     | 491                                    | 19·32                                  | 136 | 104 |
| d Stretham (Orchard House) . . . .   | C. Wright, Esq. . . . .           | 8           | 5                | 0                      | 42                     | 434                                    | 17·09                                  | ..  | ..  |
| d Chatteris (Holwood Farm) . . . .   | Mr. J. W. Watson . . . . .        | 5           | 1                | 0                      | 12                     | 452                                    | 17·80                                  | ..  | ..  |
| d Littleport (Highfield House) . . . | H. G. Martin, Esq. . . . .        | 8           | 2                | 7                      | 67                     | 497                                    | 19·56                                  | ..  | 108 |
| d Chatteris (Aylesby House) . . . .  | A. H. Ruston, Esq. . . . .        | 8           | 1                | 0                      | 31                     | 516                                    | 20·32                                  | ..  | 105 |
| d Chatteris (The Priory) . . . . .   | H. F. Fryer, Esq. . . . .         | 5           | 1                | 0                      | 32                     | 458                                    | 18·03                                  | ..  | 107 |
| d March . . . . .                    | Capt. G. E. Mathews, C.E. . . . . | 9           | 2                | 0                      | 10                     | 582                                    | 22·92                                  | 156 | 135 |
| d Upwell (Marmont Priory Lock)       | Capt. G. E. Mathews, C.E. . . . . | 8           | 1                | 1                      | ..                     | 484                                    | 19·06                                  | 197 | 132 |
| d Wisbech (Queen's Road) . . . . .   | H. Dann, Esq. . . . .             | 5           | 7                | 6                      | 10                     | 586                                    | 23·05                                  | 160 | 133 |
| 3.—NENE. 102 sq. mi.                 |                                   |             |                  |                        |                        |  |  |     |     |
| d Stanground Sluice . . . . .        | Capt. G. E. Mathews, C.E. . . . . | 8           | 1                | 6                      | 15                     | 542                                    | 21·36                                  | 173 | 125 |
| d Parson Drove (Clows Cross) . . .   | W. Kingston, Esq. . . . .         | 8           | 3                | 0                      | 13                     | 575                                    | 22·64                                  | 160 | 120 |
| d Wisbech (Bank House) . . . . .     | Hon. Anna J. Peckover . . . . .   | 8           | 0                | 8                      | 6                      | 552                                    | 21·73                                  | 179 | 126 |

## DIVISION IV.—EASTERN COUNTIES.

ESSEX. (Area, 1532 sq. mi.)

| 1.—THAMES—Lea. 132 sq. mi. |                                 |                         |   |   |    |     |     |       |     |     |
|----------------------------|---------------------------------|-------------------------|---|---|----|-----|-----|-------|-----|-----|
| d                          | West Ham (Abbey Mills)          | London County Council   | 8 | 0 | 10 | 15  | 550 | 21·66 | ..  | 106 |
| d                          | Leyton (Town Hall)              | E. H. Essex, Esq., C.E. | 5 | 1 | 0  | 22  | 514 | 20·25 | 145 | 98  |
| d                          | Leytonstone (High Road)         | Miss G. Lister          | 5 | 1 | 8  | 100 | 618 | 24·31 | 144 | 102 |
| d                          | Lea Bridge (Waterworks)         | Met. Water Board.       | 8 | 0 | 6  | 23  | 563 | 22·18 | 155 | 107 |
| d                          | Walthamstow (Ferry Lane)        | Met. Water Board.       | 5 | 0 | 10 | 30  | 539 | 21·23 | 152 | 106 |
| d                          | Woodford (Haggar Lane)          | Met. Water Board.       | 8 | 0 | 8  | 176 | 569 | 22·41 | 147 | 108 |
| d                          | Buckhurst Hill Reservoir        | Met. Water Board.       | 8 | 1 | 7  | 275 | 627 | 24·68 | 164 | 117 |
| d                          | Buckhurst Hill (Ardmore)        | Miss E. F. Howard       | 8 | 1 | 0  | 270 | 712 | 28·03 | 150 | 106 |
| d                          | Chingford (Crescent Road)       | Miss M. L. Mathieson    | 5 | 2 | 9  | 200 | 581 | 22·88 | 161 | 109 |
| d                          | Chingford Mill                  | Met. Water Board.       | 8 | 0 | 6  | 40  | 588 | 23·14 | 155 | 108 |
| d                          | Loughton (High Beech Res.)      | Met. Water Board.       | 8 | 1 | 0  | 376 | 676 | 26·60 | 164 | 118 |
| d                          | Waltham Abbey (Ramney Marsh)    | Met. Water Board        | 8 | 1 | 0  | 60  | 606 | 23·86 | 162 | 114 |
| d                          | Waltham Abbey (Pumping Stn.)    | Met. Water Board.       | 8 | 1 | 3  | 66  | 614 | 24·18 | 153 | 111 |
| d                          | Waltham Abbey (Gunpr. Fact.)    | The Superintendent      | 5 | 2 | 0  | 64  | 545 | 21·44 | ..  | 101 |
| d                          | Hatfield Broad Oak (Barrington) | A. H. Gosling, Esq.     | 5 | 0 | 10 | 300 | 644 | 25·36 | 176 | 117 |
| d                          | Bishop Stortford (Hassobury)    | L. D. Gosling, Esq.     | 5 | 0 | 10 | 290 | 605 | 23·81 | 188 | 131 |
| d                          | Stansted (Ravens)               | Col. R. Egerton         | 5 | 1 | 0  | 290 | 600 | 23·63 | 159 | 123 |
| d                          | Elsenham (Gaunts End)           | H. Cotterell, Esq.      | 5 | 1 | 0  | 363 | 567 | 22·34 | 187 | 124 |

## DIVISION IV.—EASTERN COUNTIES—(con.).

| STATIONS.                          | AUTHORITIES.                | Rain Gauge. |                  |                        |     | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|------------------------------------|-----------------------------|-------------|------------------|------------------------|-----|------------------------|--|--|
|                                    |                             | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     |                        |  |  |
| ESSEX—(con.)                       |                             | in.         | ft.              | in.                    | ft. | mm.                    | in.                                    |  |
| 2.—THAMES—Roding & c. 316 sq. mi.  |                             |             |                  |                        |     |                        |  |  |
| d Tilbury (Park View Obsrvatry)    | S. A. Hill-Willis, Esq.     | 5           | 1                | 0                      | 6   | 548                    | 21·56                                  | ..                                     |
| d Grays (Stanley Road)             | A. C. James, Esq., C.E.     | 5           | 3                | 3                      | 21  | 600                    | 23·64                                  | 153                                    |
| d Grays Sewage Works               | L. D. Holgate, Esq.         | 8           | 2                | 3                      | 9   | 542                    | 21·33                                  | 143                                    |
| d East Ham (Central Park)          | F. J. Kendall, Esq.         | 12          | 1                | 0                      | 15  | 534                    | 21·03                                  | 157                                    |
| d East Ham Well                    | Met. Water Board            | 8           | 0                | 11                     | 17  | 491                    | 19·33                                  | 148                                    |
| d Ilford Sewage Works              | J. Sandford, Esq.           | 5           | 1                | 1                      | 31  | 471                    | 18·56 ?                                | ..                                     |
| d Leigh-on-Sea (Herschell Road)    | Mrs. Elliot                 | 5           | 0                | 10                     | 100 | 486                    | 19·15                                  | ..                                     |
| d Vange Pumping Station            | Southend Water Works Co.    | 5           | 1                | 0                      | 43  | 539                    | 21·23                                  | 158                                    |
| d Pitsea Pumping Station           | Southend Water Works Co.    | 5           | 1                | 0                      | 28  | 486                    | 19·12                                  | ..                                     |
| d Hornchurch                       | W. J. Grant, Esq.           | 8           | 1                | 8                      | 46  | 484                    | 19·04                                  | 148                                    |
| d Wanstead (Red Bridge)            | Met. Water Board            | 5           | 2                | 2                      | 27  | 524                    | 20·65                                  | 139                                    |
| d Manor Park (Albany Road)         | A. J. Wilmshurst, Esq.      | 5           | 2                | 11                     | 40  | 560                    | 22·04                                  | 170                                    |
| d Harold Wood (Longmoor)           | Sir J. G. Broodbank         | 5           | 4                | 0                      | 120 | 554                    | 21·83                                  | 197                                    |
| d Havering Grange                  | G. P. Hope, Esq.            | 5           | 1                | 0                      | 255 | 600                    | 23·62                                  | 236                                    |
| d Havering-atte-Bower (Fernside)   | Benjamin Smith, Esq.        | 5           | 1                | 0                      | 341 | 677                    | 26·67                                  | 234                                    |
| d Epping (The Hemnalls)            | Miss A. Nicholl             | 8           | 0                | 8                      | 345 | 725                    | 28·54                                  | ..                                     |
| d Ongar (Marden Ash)               | W. E. Calver, Esq.          | 5           | 1                | 6                      | 190 | 581                    | 22·88                                  | 145                                    |
| d Ongar (Folyats)                  | J. M. Newall, Esq.          | 5           | 0                | 10                     | 210 | 638                    | 25·11                                  | ..                                     |
| d North Weald (Canes)              | H. W. Hart, Esq.            | 5           | 1                | 11                     | 250 | 559                    | 22·01                                  | 137                                    |
| 3.—CROUCH. 186 sq. mi.             |                             |             |                  |                        |     |                        |  |  |
| d Shoeburyness                     | Meteorological Office       | 8           | 1                | 0                      | 11  | 491                    | 19·31                                  | 142                                    |
| M Shoeburyness                     | Meteorological Office       | 5           | 1                | 0                      | 13  | 488                    | 19·21                                  | ..                                     |
| d Southend (Corporation Obsy.)     | E. J. Elford, Esq.          | 8           | 1                | 0                      | 90  | 484                    | 19·04                                  | 157                                    |
| Southend (Broadway)                | H. J. G. Ralph, Esq.        | 5           | 1                | 0                      | 78  | 544                    | 21·41                                  | 165                                    |
| d Southend (Water Works)           | Southend Water Works Co.    | 8           | 1                | 0                      | 112 | 507                    | 19·95                                  | 142                                    |
| d Leigh Reservoirs                 | Southend Water Works Co.    | 5           | 1                | 0                      | 177 | 475                    | 18·69                                  | ..                                     |
| d Great Wakering                   | Meteorological Office       | 5           | 1                | 0                      | 9   | 482                    | 18·99                                  | 162                                    |
| d Eastwood Pumping Station         | Southend Water Works Co.    | 8           | 1                | 0                      | 50  | 543                    | 21·39                                  | 163                                    |
| d Thundersley Reservoir            | Southend Water Works Co.    | 5           | 1                | 0                      | 277 | 510                    | 20·06                                  | ..                                     |
| d Nevendon Pumping Station         | Southend Water Works Co.    | 5           | 1                | 0                      | 43  | 502                    | 19·77                                  | ..                                     |
| d Billericay (Service Tank)        | Southend Water Works Co.    | 5           | 1                | 0                      | 310 | 582                    | 22·90                                  | 168                                    |
| d Billericay (Ramsden Hall)        | T. W. Bacon, Esq.           | 5           | 0                | 9                      | 260 | 622                    | 24·50                                  | 170                                    |
| d Wickford (Runwell Hall)          | Lt.-Col. H. Kemble          | 5           | 1                | 0                      | 75  | 613                    | 24·15                                  | 155                                    |
| d Southminster (Dudswell)          | Mrs. Owens                  | 5           | 0                | 10                     | 60  | 658                    | 25·90                                  | ..                                     |
| d Southminster (The New Moor)      | E. J. Attenborough, Esq.    | ..          | ..               | ..                     | ..  | 754                    | 29·70                                  | ..                                     |
| d Bradwell-on-Sea (Bradwell H.)    | J. C. Chillingworth, Esq.   | 5           | 1                | 1                      | 27  | 643                    | 25·30                                  | 160                                    |
| 4.—BLACKWATER. 425 sq. mi.         |                             |             |                  |                        |     |                        |  |  |
| Shenfield (Cliveden)               | Mr. F. Copeman              | 5           | 1                | 0                      | 300 | 587                    | 23·11                                  | ..                                     |
| d South Hanningfield (Peardowns)   | W. Hill, Esq.               | 8           | 1                | 10                     | 133 | 577                    | 22·71                                  | ..                                     |
| d Ingatestone (Fryerning)          | A. E. Christy, Esq.         | 5           | 1                | 0                      | 290 | 585                    | 23·04                                  | 155                                    |
| d Maldon (Hazeleigh Rectory)       | Rev. G. H. Raynor           | 5           | 1                | 1                      | 161 | 574                    | 22·58                                  | 156                                    |
| d Danbury Rectory                  | Rev. J. Bridges Plumptre    | 5           | 1                | 0                      | 365 | 595                    | 23·43                                  | 175                                    |
| d Writtle (Melbourne)              | J. A. Rosling, Esq.         | 5           | 0                | 9                      | 140 | 635                    | 24·99                                  | 168                                    |
| d Chelmsford (County Laboratories) | R. M. Wilson, Esq.          | 5           | 1                | 0                      | 140 | 579                    | 22·78                                  | 143                                    |
| d Chelmsford (High Street)         | Miss F. J. Chancellor       | 8           | 1                | 6                      | 98  | 597                    | 23·52                                  | 173                                    |
| d Little Waltham Hall              | Miss M. Harrison            | 8           | 1                | 0                      | 60  | 577                    | 22·71                                  | ..                                     |
| d Great Leighs (Lyons Hall)        | J. H. Tritton, Esq.         | 5           | 3                | 0                      | 130 | 598                    | 23·54                                  | 141                                    |
| Witham (Faulkbourne Hall)          | Miss C. L. Parker           | 5           | 0                | 8                      | 100 | 536                    | 21·12                                  | 177                                    |
| d Hartford End (Leez Priory)       | M. E. Hughes-Hughes, Esq.   | 5           | 1                | 0                      | 170 | 584                    | 23·01                                  | 183                                    |
| d Kelvedon (Lawn House)            | F. Randolph-Symmons, Esq.   | 5           | 1                | 0                      | 96  | 607                    | 23·89                                  | 156                                    |
| d Kelvedon (White Barn)            | W. & H. J. Sheldrake, Esqs. | 5           | 1                | 5                      | 135 | 568                    | 22·35                                  | 161                                    |
| d Kelvedon (Feering Vicarage)      | Rev. A. F. Curtis           | 5           | 1                | 0                      | 100 | 668                    | 26·30                                  | 189                                    |
| d Felsted School                   | J. H. Owen, Esq.            | 5           | 1                | 2                      | 248 | 610                    | 24·00                                  | 148                                    |
| d Little Dunmow Council School     | Miss M. G. Archer           | 5           | 1                | 0                      | 258 | 604                    | 23·76                                  | ..                                     |
| d Great Dunmow                     | Messrs. Hasler & Co., Ltd.  | 5           | 1                | 0                      | 215 | 596                    | 23·48                                  | 199                                    |
| d Little Dunmow (Throws)           | Miss Webb                   | 5           | 1                | 4                      | 283 | 560                    | 22·03                                  | ..                                     |
| d Pattiswick Hall                  | Harris Smith, Esq.          | 5           | 0                | 10                     | 210 | 545                    | 21·47                                  | ..                                     |
| d Great Saling (Woolpits)          | Joseph Smith, Esq.          | 5           | 0                | 9                      | 284 | 564                    | 22·21                                  | 139                                    |
| d Shalford (Littles)               | W. F. Hart, Esq.            | 5           | 1                | 8                      | 260 | 550                    | 21·65                                  | 149                                    |
| d Gt. Bardfield (South Lodge)      | A. W. Brunwin, Esq.         | 5           | 1                | 0                      | 250 | 551                    | 21·68                                  | 168                                    |

## DIVISION IV.—EASTERN COUNTIES—(con.).

| STATIONS.                           | AUTHORITIES.                | Rain Gauge. |                  |                        |     | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|-------------------------------------|-----------------------------|-------------|------------------|------------------------|-----|------------------------|--|--|
|                                     |                             | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     |                        |  |  |
| ESSEX—(con.).                       |                             | in.         | ft.              | in.                    | ft. | mm.                    | in.                                    |  |
| 5.—COLNE & C. 283 sq. mi.           |                             |             |                  |                        |     |                        |  |  |
| Mersey Island (Waldegraves)         | " Essex Weekly News "       | ..          | ..               | ..                     | 55  | 546                    | 21·50                                  | ..                                     |
| d Clacton-on-Sea                    | Mr. A. W. Shadick           | 8           | 1                | 0                      | 55  | 540                    | 21·27                                  | 159                                    |
| Great Clacton (Clay Hall)           | Philip Smith, Esq.          | 5           | 2                | 0                      | 45  | 511                    | 20·11                                  | 155                                    |
| d Tiptree                           | Messrs. Wilkin & Sons, Ltd. | 5           | 0                | 6                      | 170 | 616                    | 24·27                                  | 154                                    |
| d Colchester (Berechurch)           | R. P. Blyth, Esq.           | 5           | 0                | 10                     | 120 | 591                    | 23·28                                  | ..                                     |
| Colchester (King's Ford)            | Hon. Lady Digby             | 5           | 0                | 10                     | 103 | 596                    | 23·48                                  | 175                                    |
| d Colchester (Boro'Surveyor's Off.) | H. Collins, Esq., C.E.      | 8           | 17               | 0                      | 82  | 568                    | 22·36                                  | 134                                    |
| d Lexden (Hill House)               | S. F. Hurnard, Esq.         | 5           | 1                | 0                      | 90  | 579                    | 22·80                                  | 147                                    |
| m Lexden (Hill House)               | S. F. Hurnard, Esq.         | 5           | 1                | 0                      | 90  | 566                    | 22·28                                  | ..                                     |
| Lexden (Home Farm)                  | Mr. W. Bird                 | 5           | 1                | 0                      | 125 | 617                    | 24·30                                  | ..                                     |
| Lexden Rectory                      | Rev. T. S. Raffles          | 5           | 1                | 4                      | 116 | 623                    | 24·53                                  | 143                                    |
| d Great Bromley (Broughton)         | W. Arnold Roberts, Esq.     | 5           | 1                | 0                      | 115 | 680                    | 26·78                                  | 143                                    |
| Earls Colne (Chalkney House)        | H. F. Hills, Esq.           | 5           | 1                | 0                      | 188 | 590                    | 23·25                                  | ..                                     |
| d Manningtree (Bradfield Lodge)     | G. Hempson, Esq.            | 5           | 1                | 0                      | 113 | 513                    | 20·20                                  | ..                                     |
| Halstead (Atwoods)                  | R. E. Vaisey, Esq.          | 5           | 1                | 0                      | 200 | 570                    | 22·43                                  | 159                                    |
| d Halstead (The Brewery)            | Lt. E. T. Adams, R.N.V.R.   | 5           | 1                | 0                      | 140 | 536                    | 21·09                                  | 155                                    |
| Gt. Maplestead (Monk's Lodge)       | T. F. Miller, Esq.          | 5           | 0                | 9                      | 230 | 536                    | 21·09                                  | ..                                     |
| d Great Yeldham (The Oak House)     | G. A. Goodchild, Esq.       | 5           | 2                | 4                      | 200 | 542                    | 21·35                                  | 159                                    |
| d Ridgewell (Ridgewell Hill)        | Miss E. E. W. Gurney        | 5           | 1                | 0                      | 269 | 556                    | 21·89                                  | 181                                    |
| 6.—STOUR. 110 sq. mi.               |                             |             |                  |                        |     |                        |  |  |
| d Sudbury (Bulmer Lodge)            | Miss Burke                  | 5           | 1                | 3                      | 200 | 578                    | 22·76                                  | 163                                    |
| 7.—OUSE. 80 sq. mi.                 |                             |             |                  |                        |     |                        |  |  |
| Arkesden (Wood Hall)                | Charles Beadle, Esq.        | 5           | 0                | 9                      | 380 | 590                    | 23·22                                  | ..                                     |
| Great Chesterford Mills             | Ernest H. King, Esq.        | 5           | 1                | 0                      | 130 | 499                    | 19·65                                  | ..                                     |
| SUFFOLK. (Area, 1489 sq. mi.)       |                             |             |                  |                        |     |                        |  |  |
| 1.—STOUR. 271 sq. mi.               |                             |             |                  |                        |     |                        |  |  |
| d East Bergholt (Ackworth Ho.)      | A. Harwood, Esq.            | 8           | 1                | 6                      | 145 | 579                    | 22·81                                  | 173                                    |
| d Capel St. Mary School             | B. B. Taylor, Esq.          | 5           | 1                | 6                      | 156 | 592                    | 23·31                                  | 155                                    |
| d Great Cornard (The Firs)          | A. B. Legard, Esq.          | 5           | 1                | 0                      | 64  | 593                    | 23·36                                  | 156                                    |
| Great Cornard (The Limes)           | E. Oliver, Esq.             | 5           | 0                | 9                      | 65  | 570                    | 22·42                                  | 152                                    |
| d Sudbury (Friars Street)           | E. Ransom, Esq.             | 5           | 1                | 7                      | 93  | 583                    | 22·97                                  | 209                                    |
| d Hitcham Rectory                   | Rev. R. R. Cobbold          | 5           | 1                | 5                      | 255 | 530                    | 20·85                                  | 192                                    |
| d Hitcham (Loose Hall)              | T. A. Harwood, Esq.         | 5           | 1                | 0                      | 275 | 480                    | 18·90                                  | 170                                    |
| d Hawkedon Rectory                  | Rev. B. P. Oakes            | 5           | 3                | 4                      | 303 | 578                    | 22·77                                  | 183                                    |
| d Cockfield Rectory                 | Rev. Canon Edwin Hill       | 5           | 1                | 0                      | 305 | 566                    | 22·29                                  | 158                                    |
| 2.—ORWELL. 166 sq. mi.              |                             |             |                  |                        |     |                        |  |  |
| d Ipswich (Rookwood, Copdock)       | F. L. Bland, Esq.           | 8           | 1                | 0                      | 164 | 543                    | 21·36                                  | 166                                    |
| Ipswich (Tuddenham Road)            | F. Woolnough, Esq.          | 8           | 1                | 0                      | 110 | 580                    | 22·83                                  | ..                                     |
| d Ipswich (Museum)                  | F. M. Cullum, Esq.          | 8           | 0                | 10                     | 72  | 473                    | 18·63                                  | ..                                     |
| d Ipswich (Dale Hall)               | Percy Turner, Esq.          | 8           | 1                | 0                      | 135 | 542                    | 21·35                                  | 165                                    |
| Elmsett (Laurel Cottage)            | A. E. Ladbrook, Esq.        | 5           | 3                | 0                      | 210 | 579                    | 22·80                                  | ..                                     |
| d Haughley (Haughley House)         | Major S. H. Creagh          | 5           | 1                | 0                      | 188 | 484                    | 19·07                                  | 169                                    |
| 3.—DEBEN & C. 466 sq. mi.           |                             |             |                  |                        |     |                        |  |  |
| d Felixstowe                        | Air Ministry                | 8           | 1                | 2                      | 15  | 501                    | 19·74                                  | 166                                    |
| d Felixstowe (Wireless Tel. Stat.)  | Coastguard Officer          | 8           | 1                | 6                      | 15  | 529                    | 20·82                                  | 163                                    |
| d Bawdsey                           | W. C. Bennett, Esq.         | 8           | 2                | 0                      | 10  | 483                    | 19·01                                  | ..                                     |
| d Woodbridge Abbey                  | Col R. J. Carthew           | 8           | 1                | 2                      | 46  | 552                    | 21·73                                  | 172                                    |
| d Orford (The Gables)               | A. E. Rope, Esq.            | 5           | 0                | 9                      | 30  | 606                    | 23·87                                  | 157                                    |
| d Melton (St. Audrey's Hospital)    | A. F. Philpott, Esq.        | 8           | 1                | 2                      | 74  | 560                    | 22·05                                  | 154                                    |
| Melton (Bromeswell Rectory)         | Rev. F. Shadwell            | 5           | 1                | 5                      | 30  | 559                    | 22·01                                  | 159                                    |
| d Rendlesham Hall                   | Lord Rendlesham             | 5           | 1                | 0                      | 88  | 534                    | 21·04                                  | 152                                    |
| Charsfield (Red House)              | Hugh P. Youngman, Esq.      | 5           | 1                | 9                      | 150 | 531                    | 20·89                                  | ..                                     |
| Helmingham (Bocking Hall)           | W. B. Damant, Esq.          | 5           | 1                | 6                      | 180 | 568                    | 22·37                                  | 152                                    |
| d Snape                             | G. H. Garrett, Esq.         | 5           | 1                | 6                      | 50  | 538                    | 21·16                                  | 161                                    |
| Campsea Ashe (High House)           | Viscount Ullswater, P.C.    | 8           | 2                | 6                      | 60  | 564                    | 22·22                                  | 157                                    |
| Leiston (The Red House)             | J. R. Grimsey, Esq.         | 8           | 2                | 0                      | 65  | 555                    | 21·84                                  | 154                                    |
| d Leiston (Lower Abbey)             | M. K. Rope, Esq.            | 5           | 0                | 7                      | 30  | 510                    | 20·09                                  | ..                                     |
| d Halesworth Rectory                | Rev. H. C. Newbery          | 5           | 1                | 0                      | 50  | 534                    | 21·03                                  | 167                                    |

## DIVISION IV.—EASTERN COUNTIES—(con.).

| STATIONS.   | AUTHORITIES.                         | Rain Gauge. |                  |                        | Depth of Rain. |        | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|--------------------------------------|-------------|------------------|------------------------|----------------|--------|--|--|
|   |                                      | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |        |  |  |
| SUFFOLK—(con.).   |                                      | in.         | ft. in.          | ft.                    | mm.            | in.    |  |  |
| 3.—DEBEN & C.—(con.).   |                                      |             |                  |                        |                |        |  |  |
| d Wangford (Reydon Grove) . . . . .                             | C. P. Runnacles, Esq. . . . .        | 5           | 1 5              | 20                     | 532            | 20·93  | 155                                    | 115                                    |
| d Wangford (Ford House) . . . . .                               | Hon. Agnes Eden . . . . .            | 5           | 0 10             | 25                     | 555            | 21·84  | 144                                    | 111                                    |
| Lowestoft (Kirkley) . . . . .                                   | H. S. Gribble, Esq. . . . .          | 5           | 1 6              | 15                     | 507            | 19·95  | 165                                    | 113                                    |
| 4.—YARE & C. 208 sq. mi.  |                                      |             |                  |                        |                |        |  |  |
| Horham Rectory . . . . .  | Rev. J. E. Soden . . . . .           | 5           | 1 4              | 180                    | 654            | 25·76  | 157                                    | ..                                     |
| d Rumburgh Vicarage . . . . .                                   | Rev. W. Linton Wilson . . . . .      | 5           | 1 0              | 148                    | 484            | 19·05  | 161                                    | 105                                    |
| d Lowestoft (Mill Road) . . . . .                               | Mark Bean, Esq. . . . .              | 8           | 1 1              | 18                     | 532            | 20·95  | 179                                    | 120                                    |
| d Herringfleet (The Gables) . . . . .                           | G. H. Wyllys, Esq. . . . .           | 5           | 0 8              | 55                     | 550            | 21·66  | 178                                    | 125                                    |
| d Lound Rectory . . . . .                                       | Mrs. Howes . . . . .                 | 5           | 1 0              | 63                     | 482            | 18·96  | 164                                    | 109                                    |
| d Lound Pumping Station . . . . .                               | Lowestoft Water & Gas. Co. . . . .   | 8           | 1 0              | 34                     | 523            | 20·59  | 140                                    | 114                                    |
| Fritton Warren . . . . .  | Major-Gen. R. Upcher, D.S.O. . . . . | 5           | 0 6              | 42                     | 576            | 22·66  | 157                                    | ..                                     |
| d Yarmouth (Burgh Hall) . . . . .                               | H. P. Frederick, Esq. . . . .        | 8           | 0 6              | 45                     | 577            | 22·71  | 173                                    | 116                                    |
| 5.—OUSE. 378 sq. mi.  |                                      |             |                  |                        |                |        |  |  |
| Drinkstone . . . . .  | J. E. Townsend, Esq. . . . .         | 5           | 3 0              | 220                    | 556            | 21·89  | 152                                    | ..                                     |
| d Nowton (Breckley Ley) . . . . .                               | R. H. Wilson, Esq. . . . .           | 5           | .. ..            | 226                    | 579            | 22·80  | 170                                    | 130                                    |
| d Little Saxham Rectory . . . . .                               | Rev. H. I. Kilner . . . . .          | 8           | 0 10             | 220                    | 547            | 21·53  | 182                                    | 130                                    |
| d Bury St. Edmunds (Northgate St.) . . . . .                    | Rev. J. S. Pratt . . . . .           | 5           | 1 0              | 100                    | 559            | 22·02  | 167                                    | 124                                    |
| d Mildenhall . . . . .  | H. R. W. Forster, Esq. . . . .       | 5           | 1 3              | 50                     | 480            | 18·90  | 174                                    | 113                                    |
| d Barningham (The Beeches) . . . . .                            | Miss A. K. Lingwood . . . . .        | 8           | 0 9              | 136                    | 521            | 20·52  | ..                                     | ..                                     |
| d Elveden Hall . . . . .  | The Earl of Iveagh, K.P. . . . .     | 5           | 1 0              | 130                    | 543            | 21·39  | 185                                    | 123                                    |
| NORFOLK. (Area, 2044 sq. mi.)                                   |                                      |             |                  |                        |                |        |  |  |
| 1.—YARE. 658 sq. mi.  |                                      |             |                  |                        |                |        |  |  |
| d Brockdish Rectory . . . . .                                   | Rev. Wilson W. White . . . . .       | 8           | 1 3              | 115                    | 516            | 20·33  | 166                                    | 120                                    |
| Diss (The Cedars) . . . . .                                     | Dr. H. M. Speirs . . . . .           | 5           | 1 8              | 108                    | 566            | 22·30  | 146                                    | 113                                    |
| d Pulham St. Mary (Hill House) . . . . .                        | W. G. Rutter, Esq. . . . .           | 5           | 1 0              | 120                    | 614            | 24·16  | 191                                    | 147                                    |
| d Denton Rectory . . . . .                                      | Rev. Canon T. H. Bindley . . . . .   | 5           | 0 10             | 50                     | 538            | 21·16  | 175                                    | 121                                    |
| d Long Stratton (Gt. Moulton Rec.) . . . . .                    | Rev. T. D. Chute . . . . .           | 5           | 1 3              | 150                    | 572            | 22·54  | 157                                    | 128                                    |
| d Beccles (Geldeston) . . . . .                                 | Miss E. Dowson . . . . .             | 5           | 1 0              | 38                     | 487            | 19·19  | 160                                    | 123                                    |
| d Ditchingham . . . . .   | W. G. Rutter, Esq. . . . .           | 5           | 1 0              | ..                     | 507            | 19·97  | 169                                    | 118                                    |
| d Aldeby Vicarage . . . . .                                     | Rev. H. Muir . . . . .               | 5           | 0 10             | 9                      | 469            | 18·48  | 155                                    | 117                                    |
| d Beccles (Raveningham Hall) . . . . .                          | N. H. Bacon, Esq. . . . .            | 8           | 1 3              | 60                     | 522            | 20·56  | 147                                    | 98                                     |
| Spooner Row (Wattlefield Hall) . . . . .                        | E. F. Routh Clarke, Esq. . . . .     | 5           | 1 5              | 165                    | 612            | 24·08  | 173                                    | ..                                     |
| d Wymondham (Morley School) . . . . .                           | T. E. Ormond, Esq. . . . .           | 8           | 1 8              | 100                    | 603            | 23·75  | 177                                    | 130                                    |
| d Wymondham . . . . .   | J. B. Pomeroy, Esq. . . . .          | 8           | 1 3              | 118                    | 693            | 27·30  | 176                                    | 138                                    |
| d Hingham Rectory . . . . .                                     | A. W. Preston, Esq. . . . .          | 5           | 0 11             | 195                    | 602            | 23·68  | 172                                    | 123                                    |
| d Keswick Old Hall . . . . .                                    | E. Knight, Esq. . . . .              | 5           | 1 0              | 90                     | 599            | 23·60  | 183                                    | 132                                    |
| d Thuxton Rectory . . . . .                                     | A. W. Preston, Esq. . . . .          | ..          | 0 7              | 140                    | 608            | 23·95  | 186                                    | 135                                    |
| d Gorleston Coastguard Station. Meteorological Office . . . . . |                                      | 8           | 1 0              | 16                     | 533            | 21·00  | 180                                    | 115                                    |
| d Yarmouth (Northgate Street) . . . . .                         | A. W. Preston, Esq. . . . .          | 5           | 1 0              | 7                      | 544            | 21·42  | 175                                    | 114                                    |
| d Norwich (Christ Church Rd Eaton) . . . . .                    | A. W. Preston, Esq. . . . .          | 5           | 1 0              | 98                     | 610            | 24·00  | 192                                    | 131                                    |
| d Norwich (Carrow House) . . . . .                              | Miss Colman . . . . .                | 5           | 1 3              | 35                     | 562            | 22·13  | 147                                    | 126                                    |
| d Brundall (Blofeld Road) . . . . .                             | A. W. Preston, Esq. . . . .          | 5           | 1 0              | 55                     | 644            | 25·37  | 186                                    | 130                                    |
| d Norwich (Ipswich Road) . . . . .                              | J. H. Willis, Esq. . . . .           | 5           | 1 0              | 110                    | 547            | 21·53  | 179                                    | 122                                    |
| d Norwich (Heigham Cemetery) . . . . .                          | A. W. Preston, Esq. . . . .          | 5           | 3 2              | 37                     | 594            | 23·37  | 176                                    | 132                                    |
| d Thorpe St. Andrew (Thorpehurst) . . . . .                     | Capt. J. H. Mander, O.B.E. . . . .   | 5           | 1 6              | 45                     | 558            | 21·99  | 176                                    | 118                                    |
| d Drayton Rectory . . . . .                                     | A. W. Preston, Esq. . . . .          | 5           | 1 0              | ..                     | 649            | 25·56  | 194                                    | 142                                    |
| Drayton Hall . . . . .  | J. H. Walter, Esq. . . . .           | 5           | 0 8              | ..                     | 636            | 25·06  | ..                                     | ..                                     |
| d Swanton Morley Rectory . . . . .                              | A. W. Preston, Esq. . . . .          | 5           | 0 9              | 105                    | 555            | 21·86? | ..                                     | ..                                     |
| d Bylaugh Park Gardens . . . . .                                | Mr. G. Beeton . . . . .              | 5           | 1 0              | 130                    | 648            | 25·52  | 150                                    | 131                                    |
| d Swanington (Heath House) . . . . .                            | P. Norgate, Esq. . . . .             | 5           | 1 3              | 101                    | 608            | 23·94  | 199                                    | 129                                    |
| d East Bilney Hall . . . . .                                    | A. W. Preston, Esq. . . . .          | 5           | 4 0              | 140                    | 594            | 23·39  | 171                                    | 126                                    |
| d Reepham (Old Brewery House) . . . . .                         | A. W. Preston, Esq. . . . .          | 5           | 1 5              | 150                    | 678            | 26·71  | 216                                    | 152                                    |
| d Cawston Rectory . . . . .                                     | A. W. Preston, Esq. . . . .          | 5           | 1 0              | 120                    | 633            | 24·93  | 163                                    | 131                                    |
| 2.—YARE—Bure & c. 368 sq. mi.                                   |                                      |             |                  |                        |                |        |  |  |
| d Acle . . . . .  | A. W. Preston, Esq. . . . .          | 5           | 0 6              | 51                     | 581            | 22·88  | 206                                    | 116                                    |
| d Sprowston (Oak Lodge) . . . . .                               | A. W. Preston, Esq. . . . .          | 5           | 1 0              | 100                    | 542            | 21·36  | 184                                    | 133                                    |
| d Sprowston Hall . . . . .                                      | Sir Eustace Gurney . . . . .         | 5           | 1 0              | 90                     | 559            | 22·01  | 165                                    | 124                                    |
| d Yarmouth (Ormesby St. Michael) . . . . .                      | Gt. Yarmouth W. W. Co. . . . .       | 8           | 1 0              | 22                     | 549            | 21·61  | 236                                    | 140                                    |
| d Coltishall . . . . .  | A. W. Preston, Esq. . . . .          | 5           | 0 9              | 30                     | 596            | 23·47  | 172                                    | 122                                    |



## DIVISION IV.—EASTERN COUNTIES—(con.).

| STATIONS.                        | AUTHORITIES.                | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|----------------------------------|-----------------------------|-------------|------------------|------------------------|------------------------|--|--|
|                                  |                             | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |
| NORFOLK—(con.).                  |                             | in.         | ft. in.          | ft.                    | mm.                    | in.                                    |  |
| 2.—YARE—Bure & c.—(con.).        |                             |             |                  |                        |                        |  |  |
| d Aylsham (Rippon Hall)          | Major H. S. Marsham         | 5           | 0 8              | 90                     | 614                    | 24·19                                  | 141 126                                |
| d Worstead (Frankfort Manor)     | J. R. W. Pigott, Esq.       | 5           | 5 4              | 50                     | 580                    | 22·84                                  | 140 126                                |
| d Worstead (Dilham)              | A. W. Preston, Esq.         | 5           | 0 8              | ..                     | 601                    | 23·65                                  | 204 133                                |
| d Worstead (The Rookery, Dilham) | H. Morse Taylor, Esq.       | 5           | 25 0             | 50                     | 573                    | 22·57                                  | 156 152                                |
| d Worstead (Lyngate Cottage)     | R. T. Cross, Esq.           | 8           | 1 0              | 55                     | 567                    | 22·34                                  | 143 125                                |
| d Worstead (The Grange)          | Rev. F. W. Walter           | 5           | 1 0              | 40                     | 555                    | 21·83                                  | 156 130                                |
| d Hindolveston (Church Farm)     | R. G. Lee, Esq.             | 5           | 1 0              | ..                     | 591                    | 23·26                                  | 159 127                                |
| d North Walsham (Empson House)   | W. S. Horn, Esq.            | 5           | 1 0              | 102                    | 523                    | 20·58                                  | 163 123                                |
| d North Walsham (Guntton Park)   | A. W. Preston, Esq.         | 8           | 1 6              | ..                     | 540                    | 21·24                                  | 159 119                                |
| d Mundesley (Raxawa House)       | C. S. Morris, Esq.          | 5           | 3 6              | ..                     | 536                    | 21·10                                  | .. ..                                  |
| d Baconsthorpe Rectory           | Rev. H. Milnes Walker       | 5           | 1 6              | 280                    | 486                    | 19·12                                  | 142 111                                |
| d Cromer (Northrepps Hall)       | A. W. Preston, Esq.         | 5           | 1 2              | 225                    | 555                    | 21·85                                  | 189 125                                |
| 3.—STIFFKEYS & C. 288 sq. mi.    |                             |             |                  |                        |                        |  |  |
| d Little Massingham              | Rev. P. H. L. Brereton      | 5           | 1 2              | 278                    | 604                    | 23·76                                  | 212 126                                |
| d Sandringham House Gardens      | Mr. T. H. Cook              | 5           | 0 9              | 121                    | 628                    | 24·72                                  | 226 135                                |
| d Cromer (The Warren)            | F. H. Barclay, Esq.         | 8           | 1 8              | 101                    | 476                    | 18·73                                  | .. 105                                 |
| d Langham Episcopi               | A. W. Preston, Esq.         | 5           | 0 6              | 139                    | 545                    | 21·47                                  | 214 131                                |
| d Blakeney                       | Mr. R. Lee                  | 5           | 1 3              | 29                     | 496                    | 19·52                                  | 171 115                                |
| d Wells (Holkham Hall)           | Earl of Leicester, G.C.V.O. | 12          | 3 0              | 39                     | 507                    | 19·97                                  | .. ..                                  |
| 4.—OUSE & C. 700 sq. mi.         |                             |             |                  |                        |                        |  |  |
| d Garboldisham                   | T. P. Godfrey, Esq.         | 5           | 1 0              | 100                    | 550                    | 21·65                                  | 170 125                                |
| d Thetford (Ford Street Gdns.)   | Mr. A. Pipe                 | 5           | 1 0              | 44                     | 540                    | 21·27                                  | 147 118                                |
| d Thetford (Waterworks)          | E. S. Greenwood, Esq.       | 8           | 1 0              | 165                    | 586                    | 23·09                                  | 179 131                                |
| d Hargham                        | Sir H. R. Beevor, Bart.     | 8           | 0 6              | 120                    | 633                    | 24·93                                  | 146 ..                                 |
| d Watton                         | A. A. Gompertz, Esq.        | 5           | 1 0              | 166                    | 683                    | 26·88                                  | 180 141                                |
| d Stoke Ferry (Wereham)          | A. W. Preston, Esq.         | 5           | 2 3              | 66                     | 608                    | 23·93                                  | 215 137                                |
| d Downham (Dial House)           | T. H. Wenn, Esq.            | 5           | 1 6              | ..                     | 528                    | 20·80                                  | 168 133                                |
| d Outwell (Wellbreck Sluice)     | Capt. G. E. Mathews         | 9           | 2 6              | 16                     | 466                    | 18·34                                  | 145 113                                |
| d Emneth                         | F. M. Bland, Esq.           | 5           | 1 0              | 6                      | 509                    | 20·05                                  | 170 127                                |
| d Swaffham                       | W. H. Plowright, Esq.       | 5           | 5 0              | 250                    | 568                    | 22·36                                  | 164 123                                |
| d Swaffham (The Paddocks)        | H. Lee Warner, Esq.         | 5           | 0 8              | 245                    | 613                    | 24·12                                  | 175 128                                |
| d Swaffham (Homewood)            | Messrs. Vynne & Everett     | 5           | 2 7              | 210                    | 658                    | 25·89                                  | .. ..                                  |
| d Sporle                         | T. S. Matthews, Esq.        | 5           | 4 0              | 230                    | 604                    | 23·77                                  | 192 130                                |
| d Great Dunham (The Rectory)     | Rev. E. C. S. Upcher        | ..          | ..               | 250                    | 588                    | 23·16                                  | 182 ..                                 |
| d Wiggshall (St. Germans Sluice) | Capt. G. E. Mathews         | 8           | 1 6              | ..                     | 589                    | 23·18                                  | 176 139                                |
| d East Winch (Holland House)     | J. C. Cottam, Esq.          | 5           | 1 3              | 55                     | 568                    | 22·38                                  | .. ..                                  |
| d King's Lynn (Manure Works)     | J. Brown, Esq.              | 5           | 3 10             | 10                     | 646                    | 25·45                                  | 151 114                                |
| d King's Lynn (Gaywood Road)     | S. S. Burlingham, Esq.      | 5           | 6 6              | 26                     | 538                    | 21·17                                  | 165 114                                |
| d Tittleshall                    | Capt. H. J. Buxton          | 5           | 2 0              | 264                    | 587                    | 23·10                                  | 163 124                                |
| 5.—NENE. 30 sq. mi.              |                             |             |                  |                        |                        |  |  |

## DIVISION V.—SOUTH-WESTERN COUNTIES.

WILTSHIRE. (Area, 1375 sq. mi.)

**1.—LOWER AVON. 386 sq. mi.**

|   |                                     |    |     |     |     |       |         |
|---|-------------------------------------|----|-----|-----|-----|-------|---------|
| d Edington Vicarage . . . . .             | Rev. E. C. Alexander . . . . .      | 5  | 0 8 | 334 | 815 | 32·09 | 187 145 |
| d Erlestoke Vicarage . . . . .            | Rev. H. S. Travers . . . . .        | 5  | 0 6 | 320 | 785 | 30·89 | 166 137 |
| d Market Lavington (Old House) . . . . .  | Miss A. Pleydell Bouverie . . . . . | 5  | 0 9 | 290 | 765 | 30·11 | 195 115 |
| d Trowbridge W.W. (Biss Bottom) . . . . . | W. W. Gray, Esq., C.E. . . . .      | 5  | 1 0 | 311 | 868 | 34·18 | 171 153 |
| d Trowbridge (Rood Ashton) . . . . .      | Mr. W. Strugnell . . . . .          | 8  | 1 6 | 250 | 943 | 37·14 | 208 154 |
| d Bradford (Woodleigh) . . . . .          | A. Scrutton, Esq. . . . .           | 5  | 2 4 | 223 | 834 | 32·82 | 206 150 |
| d Bradford (Winsley Manor) . . . . .      | E. W. Knatchbull, Esq. . . . .      | 5  | 0 6 | 400 | 748 | 29·44 | 194 131 |
| d Bradford (Manvers House) . . . . .      | Dr. C. E. S. Flemming . . . . .     | 5  | 1 6 | 130 | 769 | 30·28 | 184 142 |
| d Seend (Cleeve House) . . . . .          | (R) W. Heward Bell, Esq. . . . .    | .. | 1 0 | 160 | 744 | 29·28 | 193 139 |
| d Seend (Manor Cottage) . . . . .         | Rev. E. Seymour Awdry . . . . .     | 5  | 1 0 | 305 | 649 | 25·55 | 193 133 |
| d Seend (Ferrum Towers) . . . . .         | H. W. Langley Haigh, Esq. . . . .   | 8  | 1 3 | 250 | 808 | 31·80 | 207 146 |
| d Holt (The Retreat) . . . . .            | A. V. H. Beaven, Esq. . . . .       | 5  | 2 6 | 145 | 734 | 28·88 | 181 144 |
| d Devizes (Wilts Co. Asylum) . . . . .    | Dr. S. J. Cole . . . . .            | 8  | 2 3 | 385 | 738 | 29·07 | 172 129 |

## DIVISION V.—SOUTH-WESTERN COUNTIES—(con.).

| STATIONS.                               | AUTHORITIES.                | Rain Gauge.  |               |                                   |      | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|-----------------------------|--------------|---------------|-----------------------------------|------|------------------------|--|--|
|   |                             | Diam.<br>in. | Height<br>ft. | above<br>Sea<br>Level.<br>in. ft. |      |                        |  |  |
| WILTSHIRE—(con.).                       |                             |              |               |                                   |      |                        |  |  |
| 1.—LOWER AVON—(con.).                   |                             |              |               |                                   |      |                        |  |  |
| d Devizes (Highclere).....              | H. W. Green, Esq. ....      | 5            | 1             | 6 480                             | 806  | 31·74                  | 196                                    | 142                                    |
| d Devizes (Southbroom Vicarage).....    | Rev. H. C. B. Lethbridge .  | 5            | 0             | 11 425                            | 793  | 31·23                  | 187                                    | 137                                    |
| d Calne (High Street) .....             | E. W. Brown, Esq. ....      | 4            | 1             | 0 242                             | 787  | 30·99                  | 157                                    | 125                                    |
| Calne (Compton Bassett Gdns.).....      | J. Howard Jones, Esq. .     | 5            | 2             | 0 500                             | 838  | 33·01                  | 202                                    | 145                                    |
| d Chippenham (Rowden Hill) .....        | Miss A. M. Collen .....     | 5            | 1             | 4 223                             | 812  | 31·98                  | 179                                    | 154                                    |
| Chippenham (Kington Langley).....       | Charles Garnett, Esq. ....  | 8            | 1             | 0 270                             | 954  | 37·58                  | ..                                     | ..                                     |
| d Wroughton (Basset Down Ho.).....      | Mrs. Story Maskelyne .      | 5            | 1             | 0 500                             | 821  | 32·34                  | 186                                    | 136                                    |
| Pinkney Park Gardens .....              | Mr. G. H. Shoebridge .      | 5            | 0             | 6 350                             | 905  | 35·62                  | 204                                    | ..                                     |
| d Malmesbury (Cowbridge Ho.).....       | C. E. de Bertodano, Esq. .  | 5            | 1             | 0 236                             | 841  | 33·10                  | 194                                    | 147                                    |
| d Malmesbury (Charlton Cottage).....    | The Countess of Suffolk .   | 6            | 0             | 9 400                             | 793  | 31·22                  | 190                                    | 156                                    |
| 2.—STOUR. 33 sq. mi.                    |                             |              |               |                                   |      |                        |  |  |
| d Mere (Charnage) .....                 | A. R. White, Esq., O.B.E..  | 5            | 1             | 0 426                             | 819  | 32·23                  | 208                                    | 162                                    |
| d Stourhead .....                       | Sir H. H. A. Hoare, Bart..  | 5            | 1             | 0 583                             | 1046 | 41·20                  | 177                                    | 157                                    |
| d Kilmington Rectory .....              | Rev. H. G. Fox-Strangways   | 5            | 1             | 6 710                             | 1127 | 44·36                  | 260                                    | 174                                    |
| 3.—EAST AVON. 554 sq. mi.               |                             |              |               |                                   |      |                        |  |  |
| d Longford Castle .....                 | The Earl of Radnor .....    | 5            | 1             | 2 141                             | 831  | 32·70                  | 189                                    | 131                                    |
| d Tisbury (The Academy) .....           | J. Bristol, Esq. ....       | 5            | 0             | 9 380                             | 1093 | 43·03                  | 165                                    | 128                                    |
| d Fonthill House Gardens .....          | Hugh Morrison, Esq., M.P.   | 5            | 1             | 0 400                             | 982  | 38·67                  | 188                                    | 151                                    |
| d Salisbury (Sewage Works) ....         | W. J. Goodwin, Esq. C.E..   | 5            | 2             | 2 153                             | 774  | 30·48                  | 163                                    | 128                                    |
| d Salisbury (Fowlers Hill) .....        | Mrs. T. Awdry .....         | 5            | 1             | 0 225                             | 762  | 30·00                  | 151                                    | 130                                    |
| d Salisbury (Brown Street) .....        | Mrs. T. H. Baker .....      | 5            | 1             | 0 155                             | 836  | 32·91                  | 234                                    | 139                                    |
| d Salisbury (Atherton House) ...        | Wilfrid Fletcher, Esq. .... | 5            | 0             | 11 250                            | 807  | 31·78                  | 215                                    | 137                                    |
| d Salisbury (Wilton House).....         | The Earl of Pembroke, GCVO  | 8            | 1             | 0 180                             | 919  | 36·18 ?                | 177                                    | 134                                    |
| d Stratford-sub-Castle (Manor Ho.)..... | Miss F. Carpenter .....     | 5            | 0             | 9 165                             | 707  | 27·82                  | 182                                    | 128                                    |
| Woodford (Nunthorpe) .....              | Mrs. Chetwynd-Stapylton..   | 5            | 0             | 10 200                            | 805  | 31·68                  | 204                                    | 142                                    |
| d Porton .....                          | Superintendent of Expts...  | 5            | 1             | 0 340                             | 766  | 30·17                  | 184                                    | 128                                    |
| d Wylve Rectory .....                   | Rev. E. Montagu Parken .    | 5            | 1             | 8 246                             | 735  | 28·95                  | 151                                    | 129                                    |
| d Maiden Bradley .....                  | The Duke of Somerset ..     | 5            | 1             | 6 626                             | 1080 | 42·53                  | 195                                    | 165                                    |
| Sutton Veny (Greenhill) .....           | Basil R. Hoare, Esq. ....   | 5            | 1             | 0 390                             | 895  | 35·25                  | 159                                    | 140                                    |
| d Warminster (Rye Hill) .....           | A. E. Jefferys, Esq. ....   | 8            | 2             | 0 466                             | 933  | 36·74                  | 193                                    | 147                                    |
| d Heytesbury .....                      | Dr. Hammond T. Hinton..     | 5            | 1             | 7 300                             | 821  | 32·31                  | 176                                    | 142                                    |
| d Salisbury Plain (Chitterne Ho.).....  | Admiral Charles Napier...   | 11           | 1             | 0 339                             | 723  | 28·46                  | ..                                     | ..                                     |
| d Salisbury Plain (Shrewton) .....      | F. J. Wardale, Esq. ....    | 5            | 0             | 9 322                             | 789  | 31·08                  | 216                                    | 150                                    |
| d Chirton Old Manor Farm .....          | Mr. T. Selge .....          | 5            | 3             | 0 374                             | 746  | 29·36                  | 182                                    | 154                                    |
| d Bishops Cannings .....                | Mrs. H. H. Mogg .....       | 5            | 1             | 0 446                             | 858  | 33·76                  | 187                                    | 155                                    |
| 4.—TEST. 77 sq. mi.                     |                             |              |               |                                   |      |                        |  |  |
| Landford (Northlands) .....             | Mrs. Wigram .....           | 5            | 1             | 10 167                            | 750  | 29·52                  | 184                                    | 126                                    |
| d Ludgershall (Conholt Park) . (R)      | E. A. Wigan, Esq. ....      | 8            | 1             | 0 800                             | 883  | 34·76                  | 155                                    | 135                                    |
| 5.—THAMES—Kennet. 169 sq. mi.           |                             |              |               |                                   |      |                        |  |  |
| d Marlborough College .....             | F. R. Luff, Esq. ....       | 5            | 1             | 6 430                             | 803  | 31·63                  | 204                                    | 143                                    |
| d Marlborough (Mildenhall) .....        | Rev. Gordon Soames .....    | 5            | 1             | 0 456                             | 755  | 29·71                  | 166                                    | 136                                    |
| d Aldbourne (Upham House) .....         | Mrs. Currie .....           | 5            | 1             | 6 875                             | 778  | 30·62                  | 155                                    | 131                                    |
| 9.—THAMES—Cole & c. 156 sq. mi.         |                             |              |               |                                   |      |                        |  |  |
| d Wroughton (Burderop Park) .....       | A. Ashford, Esq. ....       | 5            | 0             | 9 570                             | 762  | 30·02                  | 162                                    | 138                                    |
| Wanborough Vicarage .....               | Rev. C. F. Burgess .....    | 5            | 1             | 0 450                             | 729  | 28·71                  | 180                                    | 128                                    |
| d New Swindon .....                     | H. J. Southwell, Esq. ....  | 8            | 0             | 11 378                            | 742  | 29·22                  | ..                                     | 124                                    |
| d Highworth (Hannington Hall).....      | Mrs. A. D. Hussey-Freke..   | 5            | 1             | 0 375                             | 709  | 27·90                  | 173                                    | 137                                    |
| DORSETSHIRE. (Area, 988 sq. mi.)        |                             |              |               |                                   |      |                        |  |  |
| 1.—PARRETT. 61 sq. mi.                  |                             |              |               |                                   |      |                        |  |  |
| d Evershot (Melbury House) .....        | Mr. R. Rintoul .....        | 5            | 1             | 6 500                             | 977  | 38·48                  | 167                                    | 134                                    |
| d Chedington Court .....                | Sir Henry Peto, Bart. ....  | 9            | 1             | 0 605                             | 1000 | 39·37                  | 172                                    | 138                                    |
| d Leigh .....                           | Rev. T. L. Jenkins .....    | 5            | 0             | 10 ..                             | 956  | 37·63                  | 193                                    | 148                                    |
| d Sherborne Castle .....                | Mr. T. Turton .....         | 5            | 1             | 0 195                             | 826  | 32·50                  | 211                                    | 136                                    |
| Sherborne (Castleton) .....             | Reading T. Grantham, Esq.   | 5            | 1             | 6 200                             | 786  | 30·94                  | ..                                     | ..                                     |
| Nether Compton Rectory .....            | Rev. Canon E. W. Goodden    | 5            | 0             | 8 160                             | 714  | 28·13                  | ..                                     | ..                                     |
| 2.—AXE. 25 sq. mi.                      |                             |              |               |                                   |      |                        |  |  |
| d Broadwindsor (Blackdown Ho.) .....    | C. E. M. Pinney, Esq. ....  | 5            | 0             | 9 515                             | 1072 | 42·26                  | 179                                    | 155                                    |
| Forde Abbey .....                       | Freeman Roper, Esq. ....    | 5            | 0             | 11 226                            | 1017 | 40·05                  | ..                                     | ..                                     |

## DIVISION V.—SOUTH-WESTERN COUNTIES—(con.).

| STATIONS.                            | AUTHORITIES.                  | Rain Gauge. |                  |                        | Depth of Rain. |      | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |     |
|--------------------------------------|-------------------------------|-------------|------------------|------------------------|----------------|------|-------------------------------------|-------------------------------------|-----|
|                                      |                               | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |      |                                     |                                     |     |
| DORSETSHIRE—(con.).                  |                               | in.         | ft.              | in.                    | ft.            | mm.  | in.                                 |                                     |     |
| 3.—FROME & C. 502 sq. mi.            |                               |             |                  |                        |                |      |                                     |                                     |     |
| d Portland Bill (New Lighthouse)     | Meteorological Office         | 8           | 1                | 0                      | 19             | 624  | 24·59                               | 173                                 | 126 |
| d Portland (H. M. Naval Depot)       | W. Young, Esq., C.E.          | 8           | 1                | 6                      | 25             | 798  | 31·42                               | 177                                 | 147 |
| d Swanage (Royal Victoria Hotel)     | Miss Vincent                  | 5           | 1                | 6                      | 50             | 769  | 30·26                               | ..                                  | ..  |
| d Weymouth (Westham)                 | G. Nicolson, Esq.             | 5           | 1                | 0                      | 20             | 753  | 29·65                               | 197                                 | 130 |
| d Weymouth (Springfield)             | Major J. H. C. Devenish       | 5           | 1                | 3                      | 90             | 746  | 29·37                               | 179                                 | 131 |
| d Chickerell (Montevideo)            | Mrs. N. M. Richardson         | 5           | 1                | 0                      | 100            | 750  | 29·51                               | 188                                 | 134 |
| d Tyneham House                      | Mrs. W. H. Bond               | 8           | 1                | 0                      | 255            | 852  | 33·53                               | 174                                 | 139 |
| d Corfe Castle (Kingston Vicarage)   | Rev. R. A. Bond               | 5           | 1                | 3                      | 452            | 821  | 32·34                               | 187                                 | 137 |
| d Corfe Castle (Bucknowie Ho.)       | C. Waterston, Esq.            | 5           | 1                | 6                      | 170            | 758  | 29·85                               | 169                                 | 121 |
| d Creech Grange                      | J. W. G. Bond, Esq.           | 5           | 1                | 0                      | 241            | 938  | 36·92                               | 149                                 | 138 |
| d Abbotsbury (New Barn)              | J. C. P. White, Esq.          | 5           | 1                | 6                      | 111            | 767  | 30·18                               | 194                                 | 134 |
| d Upwey (Friar Waddon)               | T. H. Tyson, Esq., C.E.       | 5           | 1                | 0                      | 215            | 930  | 36·62                               | 185                                 | 143 |
| d Upwey (Higher Well)                | T. H. Tyson, Esq., C.E.       | 8           | 1                | 0                      | 290            | 886  | 34·88                               | 185                                 | 144 |
| d Wareham (East Holme)               | G. D. Bond, Esq.              | 5           | 1                | 0                      | 23             | 879  | 34·59                               | 171                                 | 137 |
| d Wareham (South Street)             | S. W. Bennett, Esq.           | 5           | 2                | 6                      | 18             | 838  | 32·99                               | 165                                 | 132 |
| d Wareham (Binnegar Hall)            | Lt.-Col. P. Farrer            | 5           | 1                | 0                      | 65             | 855  | 33·67                               | 188                                 | ..  |
| d Wareham (Trigon)                   | Mrs. L. Sturdy                | 8           | 1                | 4                      | 60             | 794  | 31·26                               | ..                                  | ..  |
| d Dorchester (Kingscote)             | E. A. Ffooks, Esq.            | 5           | 1                | 0                      | 226            | 996  | 39·20                               | 178                                 | 143 |
| d Dorchester Water Works             | H. D. Strange, Esq.           | 8           | 1                | 0                      | 315            | 997  | 39·24                               | 193                                 | 145 |
| d Dorchester (Wollaston House)       | Capt. J. E. Acland            | 5           | 1                | 0                      | 200            | 996  | 39·22                               | 198                                 | 141 |
| d Holton Heath                       | Air Ministry                  | 8           | 1                | 0                      | 64             | 747  | 29·39                               | 176                                 | 124 |
| d Parkstone (Firgrove)               | E. N. M. Wadman, Esq.         | 5           | 1                | 0                      | 180            | 707  | 27·85                               | 192                                 | 133 |
| d Parkstone (Bournemouth Road)       | W. H. Symes, Esq.             | 5           | 1                | 3                      | 160            | 784  | 30·88                               | 184                                 | 135 |
| d Branksome (Bourne Valley)          | P. G. G. Moon, Esq.           | 8           | 1                | 3                      | 84             | 763  | 30·03                               | ..                                  | 131 |
| d Branksome (Alderney Res.)          | P. G. G. Moon, Esq.           | 8           | 1                | 3                      | 213            | 718  | 28·25                               | 168                                 | 148 |
| d Broadstone House                   | Mrs. Schuster                 | 5           | 0                | 6                      | 140            | 784  | 30·85                               | ..                                  | ..  |
| d Lyme Regis (Horn Bridge)           | E. T. Stoward, Esq.           | 5           | 1                | 0                      | 100            | 885  | 34·85                               | 181                                 | ..  |
| d Lyme Regis (Boat Close)            | Henry Ellis, Esq.             | 5           | 1                | 6                      | 495            | 900  | 35·45                               | 190                                 | 146 |
| d Lyme Regis (Rotherfield)           | Rev. E. J. Sing               | 5           | 0                | 8                      | 195            | 915  | 36·04                               | 209                                 | ..  |
| d Lyme Regis (Evington)              | J. E. Hewitt, Esq.            | 5           | 0                | 9                      | 300            | 879  | 34·59                               | 176                                 | 143 |
| d Lyme Regis (Highcliff)             | Miss G. Lister                | 5           | 1                | 3                      | 330            | 802  | 31·59                               | 177                                 | 145 |
| d Charmouth (Hammond's Mead)         | A. Barrow, Esq.               | 5           | 1                | 0                      | 50             | 785  | 30·92                               | ..                                  | ..  |
| d Bridport (Coneygar)                | H. Gordon, Esq., C.E.         | 5           | 1                | 0                      | 110            | 802  | 31·57                               | ..                                  | ..  |
| d Bradford Peverell House            | Mrs. Middleton                | 6           | 1                | 2                      | 381            | 1001 | 39·40                               | 166                                 | 140 |
| d Moreton (Oaker's Wood)             | Miss Fetherstonhaugh          | 5           | 1                | 0                      | 160            | 837  | 32·97                               | 162                                 | 132 |
| d Tolpuddle                          | Rev. Harold R. Long           | 5           | 0                | 6                      | 100            | 841  | 33·11                               | 187                                 | 139 |
| d Pydelton Vicarage                  | Rev. A. R. Helps              | 5           | 2                | 8                      | 195            | 989  | 38·95                               | 180                                 | 150 |
| d Bere Regis (Manor House)           | Mr. W. Bedford                | 8           | 1                | 0                      | 115            | 753  | 29·64                               | 174                                 | 129 |
| d Bere Regis (Barrow Hill)           | Mr. A. E. Lucas               | 5           | 1                | 0                      | 120            | 808  | 31·80                               | 179                                 | 135 |
| d Bere Regis (Bloxworth House)       | F. G. A. Lane, Esq.           | 5           | 1                | 6                      | 118            | 849  | 33·41                               | 173                                 | 139 |
| d Wynford House                      | Col. Lord Wynford, D.S.O.     | 5           | 1                | 0                      | 410            | 1153 | 45·39                               | 203                                 | 156 |
| d Cattistock Lodge                   | H. H. Palaret, Esq.           | 5           | 1                | 0                      | 350            | 1124 | 44·24                               | 209                                 | 161 |
| d Beaminster (Hamilton Lodge)        | F. Trotman, Esq.              | 5           | 1                | 0                      | 210            | 1024 | 40·32                               | 199                                 | 144 |
| 4.—STOUR. 388 sq. mi.                |                               |             |                  |                        |                |      |                                     |                                     |     |
| d Kinson (Eglington)                 | W. C. Keevil, Esq.            | 5           | 0                | 6                      | 45             | 821  | 32·34                               | 208                                 | 138 |
| d Wimborne (Corfe Mullen W. W.)      | G. V. Sparrow, Esq., C.E.     | 5           | 1                | 0                      | 81             | 826  | 32·51                               | 173                                 | 133 |
| d Wimborne (Corfe Mullen, For. H.)   | E. Philip Belben, Esq.        | 8           | 2                | 0                      | 300            | 788  | 31·04                               | 197                                 | 136 |
| d Winterbourne Whitchurch Vic.       | Rev. H. H. Tilney Bassett     | 8           | 0                | 6                      | 241            | 920  | 36·22                               | 164                                 | 148 |
| d Sturminster Marshall (Bailie Ho.)  | Rev. J. Cross                 | 5           | 1                | 0                      | 85             | 775  | 30·52                               | 170                                 | 126 |
| d Wimborne (Westfield)               | Countess of Moray             | 5           | 0                | 8                      | ..             | 580  | 22·82?                              | ..                                  | ..  |
| d Wimborne (Codford House)           | G. H. Batterbury, Esq., M.D.  | 5           | 0                | 9                      | 69             | 799  | 31·46                               | 211                                 | 131 |
| d Blandford (Bryanstone Gardens)     | Mr. J. Jaques                 | 5           | 1                | 0                      | 155            | 1042 | 41·03                               | 181                                 | 165 |
| d Turnworth                          | Col. W. Parry Okeden          | 5           | 1                | 0                      | 473            | 1050 | 41·34                               | 204                                 | 158 |
| d Horton Vicarage                    | Rev. R. de Bary               | 5           | 1                | 0                      | 133            | 786  | 30·95                               | 153                                 | 128 |
| d Holwell (Westrow House)            | W. Warry, Esq.                | 5           | 1                | 0                      | 252            | 824  | 32·44                               | 177                                 | 137 |
| d Wimborne St. Giles (St. Giles Ho.) | The Earl of Shaftesbury, K.P. | 5           | 1                | 6                      | 165            | 894  | 35·18                               | 193                                 | 138 |
| d Gussage St. Michael Manor          | Miss Ellen Good               | 5           | 1                | 4                      | 201            | 828  | 32·60                               | 182                                 | 147 |
| d Iwerne Courtney Rectory            | Rev. R. H. Gundry             | 5           | 1                | 2                      | 200            | 860  | 33·85                               | 179                                 | 140 |
| d Iwerne Minster House Gardens       | J. H. Ismay, Esq.             | 5           | 1                | 0                      | 244            | 845  | 33·28                               | 195                                 | 136 |
| d Fontmell Magna (Glebe Cottage)     | Dr. J. Appleyard              | 8           | 1                | 8                      | 300            | 783  | 30·83                               | 170                                 | 137 |
| d Handley (W. Woodyates Man.)        | F. B. Eastwood, Esq.          | 5           | 1                | 0                      | 368            | 841  | 33·11                               | ..                                  | ..  |
| d Shaftesbury (Abbey House)          | A. Macdonell, Esq.            | 5           | 1                | 0                      | 722            | 806  | 31·76                               | 179                                 | 146 |
| d Bourton                            | Rev. H. A. Boys               | 5           | 1                | 2                      | 353            | 930  | 36·63                               | 196                                 | 163 |

## DIVISION V.—SOUTH-WESTERN COUNTIES—(con.).

| STATIONS.   | AUTHORITIES. | Rain Gauge. |                  |                        |      | Depth of Rain. |     | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|--------------|-------------|------------------|------------------------|------|----------------|-----|--|--|
|   |              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |     |  |  |
| DORSETSHIRE—(con.).   |              | in.         | ft.              | in.                    | ft.  | mm.            | in. |  |  |
| 5—EAST AVON. 12 sq. mi.   |              |             |                  |                        |      |                |     |  |  |
| SOUTH DEVON. (Area, 1707 sq. mi.)                               |              |             |                  |                        |      |                |     |  |  |
| 1.—PARRETT. 7 sq. mi.   |              |             |                  |                        |      |                |     |  |  |
| D Culmstock (Nicholashayne) ... Rev. H. F. Ramsay               | 5            | 1           | 0                | 477                    | 908  | 35·74          | 214 | 154                                    |  |
| 2.—TAMAR & C. 395 sq. mi.                                       |              |             |                  |                        |      |                |     |  |  |
| D Plymouth (Boveysand Lodge) ... Rev. J. F. Case                | 5            | 1           | 6                | 75                     | 912  | 35·90          | 171 | 142                                    |  |
| D Plymouth (The Hoe) ... J. Paton, Esq., C.E.                   | 8            | 1           | 0                | 117                    | 896  | 35·27          | 189 | 144                                    |  |
| D Plymouth (Drake's Reservoir) ... F. Howarth, Esq., C.E.       | 5            | 1           | 0                | 149                    | 1022 | 40·24          | 185 | 143                                    |  |
| D Plymouth (Hartley Reservoir) ... F. Howarth, Esq., C.E.       | 5            | 1           | 0                | 321                    | 1102 | 43·40          | 187 | 141                                    |  |
| D Plymouth (Freedom Park) ... J. Paton, Esq., C.E.              | 8            | 1           | 0                | 208                    | 1089 | 42·86          | 187 | 158                                    |  |
| D Devonport (Rowdens Res.) ... F. Howarth, Esq., C.E.           | 5            | 1           | 0                | 201                    | 929  | 36·59          | 193 | 141                                    |  |
| D Bickley (Roborough Reservoir) ... F. Howarth, Esq., C.E.      | 5            | 1           | 0                | 548                    | 1369 | 53·88          | 226 | 178                                    |  |
| Lee Moor Clay Works ... R. Martin, Esq.                         | 8            | 1           | 0                | 900                    | 2101 | 82·71          | 203 | 186                                    |  |
| D Bere Alston (Mount Tamar) ... D. W. Macpherson, Esq.          | 5            | 0           | 6                | 350                    | 1238 | 48·74          | 205 | 166                                    |  |
| D Bere Alston (Rumleigh) ... Sir A. W. Croft, K.C.I.E.          | 5            | 1           | 6                | 125                    | 1209 | 47·60          | 225 | 154                                    |  |
| D Sheepstor Vicarage ... Rev. H. H. Breton                      | 8            | 1           | 0                | 711                    | 2016 | 79·37          | 242 | 205                                    |  |
| M Sheepstor ... F. Howarth, Esq., C.E.                          | 5            | 1           | 0                | 1024                   | 1707 | 67·20          |     |  |  |
| D Sheepstor (Red Stone) ... F. Howarth, Esq., C.E.              | 5            | 1           | 0                | 763                    | 1680 | 66·15          | 230 | 181                                    |  |
| D Sheepstor (Burrator) ... F. Howarth, Esq., C.E.               | 5            | 1           | 0                | 755                    | 1866 | 73·45          | 230 | 195                                    |  |
| D Sheepstor (Head Weir) ... F. Howarth, Esq., C.E.              | 5            | 1           | 0                | 720                    | 1733 | 68·22          | 229 | 184                                    |  |
| D Dousland Reservoir ... F. Howarth, Esq., C.E.                 | 5            | 1           | 0                | 721                    | 1464 | 57·64          | 229 | 178                                    |  |
| D Dartmoor (Deancombe Farm) ... F. Howarth, Esq., C.E.          | 5            | 1           | 0                | 830                    | 1754 | 69·05          | 222 | 186                                    |  |
| D Dartmoor (Lowery) ... F. Howarth, Esq., C.E.                  | 5            | 1           | 0                | 899                    | 1786 | 70·31          | 224 | 186                                    |  |
| D Dartmoor (Leather Tor Farm) ... F. Howarth, Esq., C.E.        | 5            | 1           | 0                | 910                    | 1713 | 67·44          | 237 | 184                                    |  |
| M Dartmoor (Siwards Cross) ... F. Howarth, Esq., C.E.           | 5            | 1           | 0                | 1200                   | 1661 | 65·38          |     |  |  |
| M Dartmoor (Cramber Tor) ... F. Howarth, Esq., C.E.             | 5            | 1           | 0                | 1435                   | 1516 | 59·70          |     |  |  |
| Whitchurch (Langstone) ... Col. H. F. Coleridge                 | 5            | 1           | 0                | 700                    | 1460 | 57·46          | 205 |  |  |
| D Whitchurch (Ashbrook) ... Rev. H. B. Grylls                   | 5            | 1           | 0                | 400                    | 1405 | 55·32          | 230 | 176                                    |  |
| D Tavistock ... W. J. Monk, Esq.                                | 5            | 1           | 0                | 457                    | 1420 | 55·90          | 230 | 181                                    |  |
| M Dartmoor (Leeden Tor) ... F. Howarth, Esq., C.E.              | 5            | 1           | 0                | 1270                   | 1525 | 60·05          |     |  |  |
| M Dartmoor (N. Hessary Tor) No. 1 ... F. Howarth, Esq., C.E.    | 5            | 1           | 0                | 1625                   | 1572 | 61·90          |     |  |  |
| M Dartmoor (N. Hessary Tor) No. 2 ... F. Howarth, Esq., C.E.    | 5            | 1           | 0                | 1502                   | 1620 | 63·80          |     |  |  |
| D Lifton (Kelly House) ... Rev. Maitland Kelly                  | 8            | 2           | 6                | 462                    | 1332 | 52·45          | 212 | 178                                    |  |
| D Launceston (Polapit Tamar) ... R. C. Coode, Esq.              | 5            | 1           | 0                | 315                    | 1123 | 44·23          | 223 | 167                                    |  |
| 3.—ERM & C. 217 sq. mi.   |              |             |                  |                        |      |                |     |  |  |
| D Salcombe (Sandhills) ... Late W. H. Pike, Esq.                | 5            | 1           | 0                | 118                    | 995  | 39·17          | 192 | 159                                    |  |
| D Salcombe ... Rev. E. P. Thorpe                                | 5            | 1           | 0                | 38                     | 900  | 35·42          | 171 | 147                                    |  |
| South Huish ... W. Balkwill, Esq.                               | 5            | 5           | 6                | 68                     | 1058 | 41·64          |     |  |  |
| D Kingsbridge (Bank House) ... W. H. Skinner, Esq.              | 5            | 5           | 0                | 65                     | 1136 | 44·72          | 189 | 153                                    |  |
| D Kingsbridge (Bank House) ... W. H. Skinner, Esq.              | 5            | 40          | 0                | 100                    | 900  | 35·42          | 158 | 130                                    |  |
| D East Allington (Fallapit Gdns.) ... W. R. Tucker, Esq.        | 5            | 1           | 0                | 327                    | 1275 | 50·19          | 169 | 155                                    |  |
| Ermington (Strode) ... Capt. H. Gore Hawker                     | 5            | 1           | 0                | 75                     | 1184 | 46·62          | 187 |  |  |
| D Ivybridge (Filliam House) ... H. Alger, Esq.                  | 5            | 1           | 0                | 162                    | 1228 | 48·33          | 207 | 165                                    |  |
| D South Brent (Blackadon Aslm.) ... H. Victor Prigg, Esq., C.E. | 5            | 1           | 0                | 608                    | 1348 | 53·08          | 229 | 171                                    |  |
| D South Brent (Glazebrook) ... Vere Cholmondeley, Esq.          | 5            | 1           | 0                | 450                    | 1712 | 67·42          |     | 163                                    |  |
| D South Brent (Great Aish) ... Miss Kingwell                    | 5            | 1           | 0                | 500                    | 1691 | 66·59          | 217 | 172                                    |  |
| D South Brent (Badworthy) ... T. W. Latham, Esq.                | 5            | 1           | 6                | 550                    | 1872 | 73·72          |     |  |  |
| 4.—DART. 197 sq. mi.  |              |             |                  |                        |      |                |     |  |  |
| Churston Ferrers (Greenway) ... Mr. J. Crapp                    | 5            | 0           | 10               |                        | 1131 | 44·52          | 164 | 153                                    |  |
| D Ashprington (Myrtle Cottage) ... G. H. Beecheno, Esq.         | 5            | 1           | 0                | 250                    | 1090 | 42·90          | 171 | 149                                    |  |
| Waddeton Court ... Sir A. L. Goodson                            | 5            | 1           | 0                | 175                    | 1127 | 44·38          | 190 |  |  |
| D Paignton (Queen's Park) ... C. Bellinger, Esq.                | 8            | 1           | 0                | 11                     | 895  | 35·24          | 179 | 142                                    |  |
| D Paignton (Torquay Road) ... H. Le B. Gunner, Esq.             | 5            | 1           | 0                | 10                     | 901  | 35·49          | 187 | 141                                    |  |
| D Paignton (Preston) ... G. M. Rosling, Esq.                    | 8            | 1           | 2                | 130                    | 936  | 36·83          | 173 | 142                                    |  |
| D Totnes (Berry Pomeroy) ... C. Barran, Esq.                    | 5            | 1           | 6                | 185                    | 1114 | 43·84          | 175 | 147                                    |  |
| D Totnes (Staverton) ... J. A. Devenish, Esq.                   | 5            | 0           | 11               | 50                     | 1194 | 47·02          | 169 | 141                                    |  |
| D Totnes (Broadhempston) ... Charles Mole, Esq.                 | 5            | 1           | 0                | 135                    | 1001 | 39·41          | 189 | 136                                    |  |
| D Ipplepen Vicarage ... Rev. R. D. Cooke                        | 5            | 1           | 0                | 273                    | 1039 | 40·92          | 182 | 143                                    |  |
| D Holne (Church Park Cottage) ... L. W. Frost, Esq.             | 5            | 1           | 6                | 620                    | 1777 | 69·96          | 203 | 162                                    |  |
| D Ashburton (Dolbear) ... Mrs. W. W. Battiscombe                | 5            | 1           | 0                | 300                    | 1302 | 51·25          | 171 | 141                                    |  |
| D Ashburton (Druid House) ... J. S. Amery, Esq.                 | 5            | 1           | 0                | 584                    | 1416 | 55·77          | 193 | 168                                    |  |
| D Ashburton (Leusdon Vicarage) ... Late Rev. A. Woollcombe      | 5            | 1           | 0                | 900                    | 1578 | 62·12          | 178 | 160                                    |  |

## DIVISION V.—SOUTH-WESTERN COUNTIES—(con.).

| STATIONS.   | AUTHORITIES. | Rain Gauge. |                  |                        |      | Depth of Rain. |     | Days.<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|--------------|-------------|------------------|------------------------|------|----------------|-----|---|--|
|   |              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |     |   |  |
| SOUTH DEVON—(con.).   |              | in.         | ft.              | in.                    | ft.  | mm.            | in. |   |  |
| 4.—DART—(con.).   |              |             |                  |                        |      |                |     |   |  |
| d Ashburton (Leusdon School) .. J. Bancroft, Esq. ....          | 5            | 1           | 6                | 900                    | 1530 | 60·23          | ..  | ..                                      |  |
| d Princetown (Huccaby House) .. Major H. H. Joll, D.S.O. ....   | 5            | 1           | 0                | 900                    | 1391 | 54·78          | 173 | 159                                     |  |
| d Princetown (H.M. Prison) .... H. W. Shrimpton, Esq. ....      | 5            | 1           | 0                | 1335                   | 2359 | 92·87          | 229 | 203                                     |  |
| Two Bridges (Moor Lodge).... T. C. Bridges, Esq. ....           | 5            | 0           | 9                | 1170                   | 2130 | 83·84          | 231 | ..                                      |  |
| w Dartmoor (Cowsic Valley) .... F. Howarth, Esq., C.E. ....     | 8            | 1           | 6                | 1352                   | 1807 | 71·15          | ..  | ..                                      |  |
| m Dartmoor (Black Dunghill) No.5 F. Howarth, Esq., C.E. ....    | 8            | 1           | 0                | 1590                   | 1384 | 54·50          | ..  | ..                                      |  |
| m Dartmoor (Beardown Tor) No.3 F. Howarth, Esq., C.E. ....      | 8            | 1           | 0                | 1550                   | 1295 | 51·00          | ..  | ..                                      |  |
| m Dartmoor (White Tor) .. No.1 F. Howarth, Esq., C.E. ....      | 8            | 1           | 0                | 1640                   | 1234 | 48·60          | ..  | ..                                      |  |
| m Dartmoor (Devil's Tor) No.2 F. Howarth, Esq., C.E. ....       | 8            | 1           | 0                | 1785                   | 1404 | 55·27          | ..  | ..                                      |  |
| m Dartmoor (Cowsic Head) .. No.4 F. Howarth, Esq., C.E. ....    | 8            | 1           | 0                | 1580                   | 1782 | 70·15          | ..  | ..                                      |  |
| 5.—TEIGN. 209 sq. mi.   |              |             |                  |                        |      |                |     |   |  |
| d Torquay (Cary Green) ..... P. C. Steventon, Esq. ....         | 5            | 1           | 0                | 12                     | 853  | 33·58          | 188 | 134                                     |  |
| d Torquay (Abbey Road) ..... Henry Brown, Esq. ....             | 5            | 1           | 0                | 125                    | 901  | 35·47          | 187 | 147                                     |  |
| Torquay (Merton Lodge) ..... Miss Brown .....                   | 5            | 1           | 0                | 250                    | 765  | 30·12          | 193 | 139                                     |  |
| d Newton Abbot (The Chestnuts) .. E. D. Wylie, Esq. ....        | 5            | 0           | 6                | 100                    | 930  | 36·61          | 203 | 153                                     |  |
| Teignmouth (Woodlands) .... W. Harris, Esq. ....                | 8            | 1           | 2                | 98                     | 761  | 29·97          | ..  | ..                                      |  |
| d Teignmouth (Den Gardens) .... G. Rossiter, Esq. ....          | 5            | 1           | 0                | 20                     | 806  | 31·75          | 187 | 136                                     |  |
| d Teignmouth (Hazledown Res.) .. G. Rossiter, Esq. ....         | 8            | 2           | 0                | 425                    | 812  | 31·95          | 178 | 138                                     |  |
| d Teignmouth (Shaldon Res.) .... G. Rossiter, Esq. ....         | 5            | 1           | 0                | 213                    | 935  | 36·82          | 176 | 138                                     |  |
| d Teignmouth (The Shrubbery) .. E. A. Norton, Esq. ....         | 8            | 1           | 0                | 275                    | 830  | 32·69          | 176 | 141                                     |  |
| Teignmouth ..... W. G. W. Lake, Esq. ....                       | 5            | 1           | 0                | 320                    | 763  | 30·04          | 195 | 130                                     |  |
| d Ilsington School House ..... W. J. J. H. Burnett, Esq. ....   | 5            | 1           | 0                | 650                    | 1222 | 48·13          | 204 | 153                                     |  |
| d Chudleigh Knighton Vicarage .. Rev. A. H. Skipper. ....       | 5            | 1           | 0                | 110                    | 904  | 35·61          | 189 | 135                                     |  |
| d Lustleigh (Rockmead) ..... Rev. W. A. Jones .....             | 5            | 1           | 0                | 300                    | 1262 | 49·68          | 189 | 151                                     |  |
| d Manaton School ..... D. W. Horner, Esq. ....                  | 5            | 4           | 6                | 900                    | 1220 | 48·01          | 217 | 157                                     |  |
| d Moretonhampstead (Bullaton) .. S. C. Chapman, Esq., C.E. .... | 8            | 1           | 0                | 928                    | 1012 | 39·83          | 207 | 143                                     |  |
| d Moretonhampstead (Mardon) .. S. C. Chapman, Esq., C.E. ....   | 8            | 1           | 0                | 835                    | 1036 | 40·80          | 213 | 154                                     |  |
| North Bovey (Manor House) .... Mr. J. G. Laurence .....         | 5            | 1           | 0                | 700                    | 1444 | 56·86          | 205 | ..                                      |  |
| d Christow (Kennick) ..... S. C. Chapman, Esq., C.E. ....       | 8            | 1           | 0                | 836                    | 1098 | 43·23          | 213 | 151                                     |  |
| d Christow (Smithacott) ..... S. C. Chapman, Esq., C.E. ....    | 5            | 1           | 0                | 861                    | 1201 | 47·30          | 208 | 151                                     |  |
| m Moretonhampstead (Blckngstne) S. C. Chapman, Esq., C.E. ....  | 8            | 1           | 0                | 1158                   | 1036 | 40·79          | ..  | ..                                      |  |
| d Christow (Laployd) ..... S. C. Chapman, Esq., C.E. ....       | 5            | 1           | 6                | 1041                   | 1310 | 51·59          | 205 | 156                                     |  |
| d Moretonhampstead Rectory .... Rev. S. D. Dewey. ....          | 5            | 1           | 5                | 601                    | 1116 | 43·95          | 202 | 154                                     |  |
| d Moretonhampstead (Tower Pk.) D. W. Horner, Esq. ....          | 5            | 1           | 6                | 642                    | 1071 | 42·17          | 223 | 159                                     |  |
| Chagford (Thornworthy) ..... H. B. Varwell, Esq. ....           | 5            | 1           | 0                | 1150                   | 1782 | 70·17          | 214 | ..                                      |  |
| Chagford (Dartmoor Sanatorium) R. D. Elton, Esq. ....           | 5            | 1           | 0                | 760                    | 1346 | 53·01          | ..  | 151                                     |  |
| 6.—EXE. 445 sq. mi.   |              |             |                  |                        |      |                |     |   |  |
| Exmouth (Douglas Avenue) .... Mrs. Gillum .....                 | 5            | 0           | 10               | 80                     | 677  | 26·64          | 181 | 125                                     |  |
| Exmouth (Dagmar Road) .... H. C. C. Thurgood, Esq. ....         | 5            | 2           | 2                | 60                     | 667  | 26·27          | 152 | ..                                      |  |
| d Exmouth (Nidderdale) ..... Mrs. Herbert Stewart .....         | 5            | 1           | 0                | 51                     | 740  | 29·15          | 178 | 128                                     |  |
| d Exmouth (Manor Grounds) .... S. Hutton, Esq., C.E. ....       | 5            | 1           | 0                | 13                     | 600  | 23·97          | 180 | 130                                     |  |
| Exmouth (Filters, Salterton Rd.) S. Hutton, Esq., C.E. ....     | 5            | 8           | 6                | 195                    | 787  | 30·98          | 189 | 138                                     |  |
| Exmouth (Filters, Capel Lane) .. S. Hutton, Esq., C.E. ....     | 5            | 8           | 0                | 240                    | 749  | 29·50          | 182 | 133                                     |  |
| d Kenton ..... E. J. Pitt, Esq. ....                            | 5            | 1           | 0                | 85                     | 842  | 33·14          | 174 | 133                                     |  |
| d Lympstone (Newlands) ..... A. G. Mullins, Esq. ....           | 5            | 0           | 7                | 250                    | 643  | 25·30          | ..  | ..                                      |  |
| d Aylesbeare (Rosamondford) .... A. T. Loram, Esq. ....         | 5            | 0           | 4                | 220                    | 768  | 30·23          | 161 | 123                                     |  |
| d Exeter (Devon & Exeter Inst.) J. E. Coombes, Esq. ....        | 5            | 13          | 7                | 155                    | 748  | 29·44          | 182 | 132                                     |  |
| d Exeter (Elmfield House) ..... W. B. Heberden, Esq., C.B. .... | 5            | 1           | 0                | 100                    | 743  | 29·25          | 178 | 129                                     |  |
| d Exeter (Hele's School) ..... W. Littler, Esq. ....            | 8            | 7           | 0                | 160                    | 723  | 28·45          | 198 | 126                                     |  |
| Whimble (Ousley) ..... A. A. Sanders, Esq. ....                 | 5            | 1           | 0                | 200                    | 811  | 31·91          | ..  | ..                                      |  |
| d Broad Clyst (Brockhill) ..... Mrs. Bayne. ....                | 5            | 1           | 0                | 80                     | 748  | 29·46          | 195 | 133                                     |  |
| d Crediton (Hookway) ..... A. F. Parbury, Esq. ....             | 5            | 1           | 0                | 151                    | 819  | 32·24          | 187 | 144                                     |  |
| d Silverton (Killerton) ..... Mr. J. Wilson. ....               | 5            | 1           | 0                | 161                    | 779  | 30·68          | ..  | 128                                     |  |
| d Crediton (Okefield) ..... Seymour F. Pope, Esq., OBE ..       | 5            | 0           | 9                | 325                    | 769  | 30·28          | 215 | 141                                     |  |
| d Copplestone (Copplestone House) Miss Pope .....               | 5            | 0           | 11               | 315                    | 881  | 34·70          | 237 | 160                                     |  |
| d Bradninch (Dunmore House) .. Miss H. R. Hepburn .....         | 5            | 1           | 0                | 300                    | 887  | 34·91          | 197 | 157                                     |  |
| d Culmpton ..... Murray T. Foster, Esq. ....                    | 5            | 1           | 0                | 202                    | 944  | 37·16          | 215 | 161                                     |  |
| d Tiverton (St. Peter Street) .... Miss Gill .....              | 5            | 6           | 0                | 270                    | 957  | 37·69          | 216 | 161                                     |  |
| d Tiverton (Hartnolls) .... Maj.-Gen. F. A. Bowles, C.B. ....   | 5            | 1           | 4                | 226                    | 1010 | 39·78          | 209 | 170                                     |  |
| d Hemyock (Windlehurst) ..... Miss M. E. Tedder .....           | 5            | 1           | 0                | 750                    | 992  | 39·07          | 214 | 163                                     |  |
| Bampton (Oakford Rectory) .. Rev. F. G. Buller .....            | 5            | 1           | 0                | 840                    | 1084 | 42·67          | ..  | 156                                     |  |

## DIVISION V.—SOUTH-WESTERN COUNTIES—(con.).

| STATIONS.                          | AUTHORITIES.                  | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |     |     |
|------------------------------------|-------------------------------|-------------|------------------|------------------------|------------------------|--|--|-----|-----|
|                                    |                               | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |     |     |
| SOUTH DEVON—(con.).                |                               | in.         | ft.              | in.                    | ft.                    | mm.                                    | in.                                    |     |     |
| 7.—AXE & C. 237 sq. mi.            |                               |             |                  |                        |                        |  |  |     |     |
| D Budleigh Salterton (Lindenwd)    | Lt.-Col. J. H. Hamersley ..   | 5           | 1                | 0                      | 130                    | 757                                    | 29·80                                  | 168 | 136 |
| D Budleigh Salterton (Squabmr)     | S. Hutton, Esq., C.E. ....    | 5           | 1                | 0                      | 267                    | 796                                    | 31·35                                  | ..  | ..  |
| D East Budleigh (Bicton Gardns)    | Mr. E. H. High .....          | 5           | 1                | 0                      | 90                     | 794                                    | 31·25                                  | 185 | 138 |
| D East Budleigh (Bicton Com.)      | S. Hutton, Esq., C.E. ....    | 5           | 1                | 0                      | 300                    | 826                                    | 32·51                                  | ..  | ..  |
| D Sidmouth (Sidmount)              | Miss C. M. Radford .....      | 5           | 1                | 0                      | 149                    | 771                                    | 30·34                                  | 194 | 141 |
| D Sidmouth (Sidmount)              | Miss C. M. Radford .....      | 5           | 1                | 0                      | 186                    | 793                                    | 31·23                                  | 193 | 138 |
| D Sidmouth (Winslade Cottage)      | Miss A. F. Collins .....      | 5           | 1                | 0                      | 145                    | 831                                    | 32·71                                  | ..  | ..  |
| D Sidmouth (Salcombe Regis)        | J. W. B. Unwin, Esq. ....     | 5           | 0                | 7                      | 340                    | 812                                    | 31·95                                  | ..  | ..  |
| D Seaton (The Copse)               | H. J. Roberts, Esq. ....      | 5           | 1                | 0                      | 200                    | 838                                    | 33·00                                  | 201 | 142 |
| D Lyme Regis (Rousdon)             | Late Mr. C. Grover .....      | 5           | 1                | 0                      | 516                    | 831                                    | 32·72                                  | 173 | 148 |
| D Lyme Regis (Pinhay)              | Mr. G. Austin .....           | 5           | 1                | 11                     | 465                    | 866                                    | 34·11                                  | 184 | 143 |
| D Lyme Regis (Ware)                | A. J. Woodroffe, Esq., O.B.E. | 5           | 0                | 10                     | 318                    | 870                                    | 34·25                                  | 197 | 146 |
| D Ottery St. Mary (West Hill)      | B. Stansbury, Esq. ....       | 5           | 1                | 6                      | 340                    | 900                                    | 35·44                                  | 204 | 144 |
| D Kilmington (Haddon Corner)       | A. Hitchcock, Esq. ....       | 5           | 1                | 0                      | 400                    | 981                                    | 38·63                                  | 206 | 155 |
| M Kilmington (Haddon Corner)       | A. Hitchcock, Esq. ....       | 5           | 1                | 0                      | 400                    | 974                                    | 38·33                                  | ..  | ..  |
| M Kilmington (Summerleaze)         | A. Hitchcock, Esq. ....       | 5           | 1                | 0                      | 82                     | 927                                    | 36·51                                  | ..  | ..  |
| Axminster (Lea Combe House)        | Major A. H. F. Luttrell ..    | 5           | 2                | 0                      | 170                    | 1034                                   | 40·70                                  | 177 | 147 |
| D Hawkchurch (Tempest's Ho.)       | Col. G. L. Eliot .....        | 5           | 1                | 6                      | 700                    | 953                                    | 37·53                                  | 193 | 153 |
| D Axminster (Coaxdon Hall)         | Dr. Cecil Woodhouse .....     | 5           | 1                | 0                      | 165                    | 918                                    | 36·16                                  | 178 | 140 |
| D Membury (Green Down)             | James Lee, Esq. ....          | 5           | 1                | 0                      | 400                    | 1026                                   | 40·38                                  | 175 | 146 |
| NORTH DEVON. (Area, 898 sq. mi.)   |                               |             |                  |                        |                        |  |  |     |     |
| 1.—NORTH COAST STREAMS. 77 sq. mi. |                               |             |                  |                        |                        |  |  |     |     |
| D Woolacombe (Hotel Grounds)       | Miss Chichester .....         | 5           | 1                | 0                      | 60                     | 956                                    | 37·63                                  | 213 | 168 |
| D Morthoe (Twitchen House)         | Col. R. Longstaff, D.S.O. ..  | 8           | 1                | 0                      | 430                    | 1148                                   | 45·20                                  | 229 | 180 |
| D Ilfracombe (Reservoir)           | O. M. Prouse, Esq., C.E. .... | 5           | 1                | 0                      | 395                    | 1343                                   | 52·89                                  | 221 | 196 |
| D Ilfracombe (Bickleighscombe)     | Mrs. Slade King .....         | 5           | 1                | 0                      | 300                    | 1326                                   | 52·19                                  | 224 | 189 |
| D Ilfracombe (Langleigh)           | H. B. Holland, Esq. ....      | 5           | 0                | 11                     | 127                    | 1272                                   | 50·07                                  | 213 | 182 |
| D Ilfracombe (Meteorological Stn.) | O. M. Prouse, Esq., C.E. .... | 5           | 1                | 0                      | 25                     | 1107                                   | 43·60                                  | 213 | 163 |
| D Martinhoe Rectory                | Rev. R. W. Oldham .....       | 5           | 2                | 3                      | 808                    | 1326                                   | 52·21                                  | 223 | 181 |
| D Lynton (Lee Abbey)               | Mr. J. Delbridge .....        | 5           | 0                | 6                      | 320                    | 1032                                   | 40·64                                  | ..  | ..  |
| D Lynmouth (Gwynallt)              | A. L. Ford, Esq. ....         | 8           | 0                | 8                      | 284                    | 1292                                   | 50·87                                  | 220 | 176 |
| 2.—TAW. 442 sq. mi.                |                               |             |                  |                        |                        |  |  |     |     |
| D Chumleigh (Leigh House)          | Mr. W. Gillies .....          | 5           | 1                | 0                      | 350                    | 910                                    | 35·84                                  | 211 | 167 |
| D Witheridge                       | H. J. Mansfield, Esq. ....    | 5           | 1                | 2                      | 600                    | 1133                                   | 44·61                                  | 191 | 178 |
| D Rackenford Manor                 | Major R. C. Coldwell .....    | 5           | 1                | 0                      | 780                    | 1233                                   | 48·56                                  | 187 | 163 |
| D Warkleigh Rectory                | Rev. J. H. Thompson .....     | 5           | 1                | 0                      | 439                    | 1015                                   | 39·96                                  | 220 | 163 |
| D South Molton                     | F. Day, Esq. ....             | 5           | 1                | 0                      | 430                    | 1147                                   | 45·16                                  | 231 | 189 |
| D Filleigh (Castle Hill Gardens)   | The Countess Fortescue ..     | 12          | 4                | 0                      | 317                    | 1191                                   | 46·88                                  | 239 | 197 |
| D Molland                          | S. J. Case, Esq. ....         | 5           | 1                | 9                      | 674                    | 1430                                   | 56·31                                  | 249 | 209 |
| D East Anstey (Rhyll Manor)        | Mrs. Hancock .....            | 5           | 1                | 0                      | 850                    | 1175                                   | 46·26                                  | 203 | 182 |
| D Tawstock Court                   | (R) Basil E. Peto, Esq. ....  | 8           | 1                | 9                      | 150                    | 1232                                   | 48·50                                  | ..  | ..  |
| D Barnstaple (N. Dev. Athenæum)    | F. W. Chanter, Esq. ....      | 8           | 1                | 0                      | 25                     | 1013                                   | 39·89                                  | 250 | 177 |
| D Barnstaple (Fort Hill)           | Rev. F. Sterry .....          | 5           | 2                | 3                      | 300                    | 1044                                   | 41·11                                  | 246 | ..  |
| D Goodleigh (Willesleigh House)    | Lt.-Col. Montague H. Hall     | 5           | 1                | 0                      | 375                    | 1080                                   | 42·54                                  | 212 | ..  |
| D Braunton                         | F. W. Chanter, Esq. ....      | ..          | ..               | ..                     | 95                     | 984                                    | 38·72                                  | 210 | ..  |
| D Arlington Court                  | Miss Chichester .....         | 5           | 1                | 0                      | 613                    | 1536                                   | 60·49                                  | 224 | 202 |
| D Challacombe                      | O. M. Prouse, Esq., C.E. .... | 5           | 1                | 0                      | 815                    | 1750                                   | 68·88                                  | 224 | 203 |
| 3.—TORRIDGE. 342 sq. mi.           |                               |             |                  |                        |                        |  |  |     |     |
| D Okehampton (Uplands)             | F. P. Burd, Esq. ....         | 5           | 1                | 0                      | 700                    | 1497                                   | 58·92                                  | 227 | 183 |
| D Dolton (Hilliers)                | A. Smythies, Esq. ....        | 5           | 1                | 3                      | 380                    | 947                                    | 37·28                                  | 167 | ..  |
| D Torrington (Enfield)             | G. M. Doe, Esq. ....          | 5           | 1                | 0                      | 336                    | 1136                                   | 44·71                                  | 211 | 174 |
| D Parkham (Melbury Moor)           | F. Harding, Esq. ....         | 5           | 1                | 0                      | 633                    | 1547                                   | 60·91                                  | 233 | 197 |
| D Parkham (Melbury Reservoir)      | F. Harding, Esq. ....         | 5           | 1                | 0                      | 517                    | 1662                                   | 65·44                                  | 232 | 193 |
| D Buckland Brewer                  | Miss B. G. Rogers .....       | 5           | 0                | 11                     | 469                    | 1328                                   | 52·28                                  | 222 | 180 |
| D Littleham (Orleigh Court)        | W. H. Rogers, Esq. ....       | 5           | 1                | 0                      | 260                    | 1322                                   | 52·03                                  | 229 | 174 |
| D Landcross (South Close)          | C. R. J. Hibbert, Esq. ....   | 5           | 1                | 0                      | 100                    | 1006                                   | 39·59                                  | 212 | 156 |
| D Bideford (Webbery)               | Mrs. C. E. Boyd .....         | 5           | 1                | 10                     | 355                    | 981                                    | 38·61                                  | 208 | 159 |
| D Bideford Rectory                 | Rev. Preb. Newton Leeke ..    | 5           | 1                | 2                      | 150                    | 1107                                   | 43·59                                  | 211 | 162 |
| D Bideford (Slade Park)            | J. C. T. Heriz-Smith, Esq. .. | 5           | 1                | 6                      | 198                    | 1028                                   | 40·49                                  | 199 | 156 |
| D Bideford (Horwood House)         | Rev. J. Dene .....            | 5           | 1                | 0                      | 288                    | 916                                    | 36·05                                  | 223 | 157 |
| D Northam (Fairlea)                | Col. F. W. Bennet .....       | 5           | 2                | 6                      | 190                    | 949                                    | 37·35                                  | 203 | 152 |

## DIVISION V.—SOUTH-WESTERN COUNTIES—(con.).

| STATIONS.  | AUTHORITIES.                       | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|------------------------------------|-------------|------------------|------------------------|-----|----------------|-------|-------------------------------------|-------------------------------------|
|  |                                    | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |                                     |                                     |
| NORTH DEVON—(con.).  |                                    | in.         | ft.              | in.                    | ft. | mm.            | in.   |                                     |                                     |
| <b>3.—TORRIDGE—(con.).</b>   |                                    |             |                  |                        |     |                |       |                                     |                                     |
| d Westward Ho! (Bellevue) . . . . .                                  | A. Boyd, Esq. . . . .              | 8           | 1                | 0                      | 200 | 948            | 37·34 | 245                                 | 163                                 |
| Westward Ho! (Royal Golf Clb) . . . . .                              | Major A. Newton-King . . . . .     | 5           | 1                | 6                      | 10  | 864            | 34·00 | 186                                 | ..                                  |
| Instow . . . . .   | Col. F. W. Evatt . . . . .         | 5           | 1                | 0                      | 105 | 999            | 39·34 | 186                                 | 155                                 |
| <b>4.—WEST COAST STREAMS. 32 sq. mi.</b>                             |                                    |             |                  |                        |     |                |       |                                     |                                     |
| d Hartland Abbey . . . . .   | Mr. G. Sleep . . . . .             | 5           | 1                | 6                      | 222 | 1121           | 44·13 | 194                                 | 171                                 |
| d Clovelly Court . . . . .   | Mr. H. Tuke . . . . .              | 5           | 1                | 0                      | 360 | 1354           | 53·30 | 206                                 | 177                                 |
| <b>5.—EXE. 5 sq. mi.</b>   |                                    |             |                  |                        |     |                |       |                                     |                                     |
| CORNWALL. (Area, 1357 sq. mi.)                                       |                                    |             |                  |                        |     |                |       |                                     |                                     |
| <b>1.—CAMEL &amp; N.W. COAST STREAMS. 458 sq. mi.</b>                |                                    |             |                  |                        |     |                |       |                                     |                                     |
| Phillack Rectory . . . . .   | Rev. Canon A. P. Hockin . . . . .  | 5           | 1                | 0                      | 70  | 820            | 32·27 | 186                                 | ..                                  |
| d Redruth (Trewirgie) . . . . .                                      | A. P. Jenkin, Esq. . . . .         | 5           | 1                | 0                      | 399 | 1290           | 50·81 | 213                                 | 165                                 |
| Redruth (Green Lane Nurseries) F. Sanders, Esq. . . . .              |                                    | 5           | 0                | 6                      | ..  | 1234           | 48·58 | ..                                  | ..                                  |
| St. Agnes . . . . .  | W. C. Whitworth, Esq. . . . .      | 5           | 5                | 0                      | 318 | 880            | 34·65 | 214                                 | 143                                 |
| d Newquay (Tresillian House) . . . . .                               | Lt.-Col. E. Gully-Bennet . . . . . | 5           | 2                | 0                      | 290 | 1126           | 44·35 | 203                                 | 174                                 |
| Newquay, (Reservoir) . . . . .                                       | Dr. C. C. Vigurs . . . . .         | 5           | 1                | 0                      | 210 | 914            | 35·97 | ..                                  | ..                                  |
| d Newquay (Mount Wise) No. 1. Dr. C. C. Vigurs . . . . .             |                                    | 5           | 1                | 0                      | 190 | 947            | 37·28 | 203                                 | 150                                 |
| Newquay (Mount Wise) No. 2. Dr. C. C. Vigurs . . . . .               |                                    | 5           | 1                | 0                      | 190 | 941            | 37·05 | ..                                  | ..                                  |
| d St. Wenn Vicarage . . . . .  | Rev. B. H. Davies . . . . .        | 8           | 1                | 0                      | 447 | 1598           | 62·93 | ..                                  | 165                                 |
| d Bodmin (Polgwin) . . . . .   | H. D. Foster, Esq. . . . .         | 5           | 1                | 0                      | 400 | 1324           | 52·13 | ..                                  | 147                                 |
| d Bodmin (Castle Hill House) . . . . .                               | W. G. Wales, Esq., C.E. . . . .    | 5           | 1                | 0                      | 484 | 1368           | 53·85 | 225                                 | 166                                 |
| Helland (Tredethy) . . . . .   | Mrs. Hext . . . . .                | 5           | 1                | 6                      | ..  | 1275           | 50·20 | 216                                 | 177                                 |
| d Wadebridge (Bryn) . . . . .  | Rev. G. Thorne Phillips . . . . .  | 5           | 1                | 0                      | 60  | 1094           | 43·08 | 209                                 | 167                                 |
| St. Kew (Skisdon) . . . . .  | Mrs. Braddon . . . . .             | 5           | 1                | 0                      | 100 | 1184           | 46·61 | 208                                 | ..                                  |
| St. Minver (Treberthick) . . . . .                                   | Cornwall Rainfall Assoc. . . . .   | 9           | ..               | ..                     | 140 | 898            | 35·35 | ..                                  | ..                                  |
| d Camelford (Stannon Clay Wks.) English China Clays, Ltd., . . . . . |                                    | 8           | 1                | 5                      | 800 | 1642           | 64·65 | 224                                 | 184                                 |
| d Bude . . . . .   | Karl Durston, Esq. . . . .         | 5           | 1                | 0                      | 50  | 946            | 37·24 | 204                                 | 156                                 |
| d Bude (Bramble Hill) . . . . .                                      | J. E. Barclay Bevan, Esq. . . . .  | 5           | 0                | 8                      | 100 | 1100           | 43·32 | 240                                 | 176                                 |
| d Morwenstow Vicarage . . . . .                                      | Rev. H. Lynne Jones . . . . .      | 5           | 0                | 10                     | 331 | 1147           | 45·14 | 257                                 | 182                                 |
| d Morwenstow (Torracombe Man.) W. W. Martyn, Esq. . . . .            |                                    | 5           | 1                | 0                      | 450 | 1176           | 46·32 | 217                                 | 175                                 |
| <b>2.—FOWEY &amp; S.E. COAST STREAMS. 620 sq. mi.</b>                |                                    |             |                  |                        |     |                |       |                                     |                                     |
| m The Lizard . . . . .   | A. P. Jenkin, Esq. . . . .         | 5           | 1                | 0                      | 244 | 878            | 34·56 | ..                                  | ..                                  |
| d Cadgwith (Coastguard Houses) Miss H. F. Shepherd . . . . .         |                                    | 5           | 1                | 0                      | 180 | 936            | 36·83 | 199                                 | 151                                 |
| d Porthcurno . . . . .   | J. G. Marsden, Esq. . . . .        | 5           | 1                | 0                      | 150 | 897            | 35·33 | 214                                 | 151                                 |
| St. Keverne (Lanarth) . . . . .                                      | P. D. Williams, Esq. . . . .       | 5           | 1                | 10                     | 290 | 1190           | 46·85 | 236                                 | ..                                  |
| d St. Keverne (Rosnick Cottage) G. W. Jevons, Esq. . . . .           |                                    | 5           | 1                | 0                      | 250 | 1189           | 46·80 | 232                                 | 166                                 |
| Bosahan . . . . .  | Cornwall Rainfall Assoc. . . . .   | ..          | ..               | ..                     | 240 | 840            | 33·06 | 163                                 | ..                                  |
| Helston (Tenderah) . . . . .   | J. Walker Tyacke, Esq. . . . .     | 5           | 1                | 2                      | 220 | 1158           | 45·59 | 217                                 | ..                                  |
| Penzance (Trewidden) . . . . .                                       | Mr. J. H. Murley . . . . .         | 5           | 0                | 5                      | ..  | 1213           | 47·75 | 186                                 | 164                                 |
| Penzance (Lower Larrigan) . . . . .                                  | E. T. Gregory, Esq. . . . .        | 5           | 0                | 9                      | 70  | 1025           | 40·37 | 198                                 | 189                                 |
| d Penzance (Morrab Garden) . . . . .                                 | C. H. Benn, Esq. . . . .           | 5           | 1                | 0                      | 55  | 1040           | 40·92 | 211                                 | 159                                 |
| d Penzance (Hea Moor) . . . . .                                      | F. Tupper, Esq. . . . .            | 5           | 1                | 0                      | 280 | 1141           | 44·92 | 181                                 | 162                                 |
| Penzance (Tregwainton House) T. Robins Bolitho, Esq. . . . .         |                                    | 10          | 1                | 0                      | 400 | 1227           | 48·30 | 200                                 | ..                                  |
| d Penzance (County School) . . . . .                                 | Lance Webb, Esq. . . . .           | 5           | 0                | 6                      | 155 | 997            | 39·25 | 206                                 | 158                                 |
| Marazion . . . . .   | T. Field Michell, Esq. . . . .     | 5           | 2                | 0                      | 30  | 990            | 38·99 | 169                                 | 149                                 |
| Mawnan . . . . .   | Cornwall Rainfall Assoc. . . . .   | ..          | ..               | ..                     | 160 | 1139           | 44·83 | 205                                 | ..                                  |
| d Falmouth (The Crossways) . . . . .                                 | Comm. A. Rogers, R.N.R. . . . .    | 5           | 1                | 6                      | 80  | 1179           | 46·40 | 216                                 | 154                                 |
| d Falmouth (New Observatory) . . . . .                               | Meteorological Office . . . . .    | 5           | 1                | 0                      | 168 | 1200           | 47·26 | 211                                 | 161                                 |
| d Penryn (Ashfield) . . . . .  | J. G. Stephens, Esq. . . . .       | 5           | 1                | 0                      | 95  | 1116           | 43·93 | 199                                 | 152                                 |
| d Gwennap (Trevince) . . . . .                                       | E. B. Beauchamp, Esq. . . . .      | 8           | 1                | 0                      | 240 | 1316           | 51·81 | 212                                 | 166                                 |
| Truro (Killiow) . . . . .  | Miss Daubuz . . . . .              | 5           | 1                | 0                      | 230 | 1161           | 45·71 | 208                                 | 154                                 |
| d Truro (Tregolls) . . . . .   | Miss C. L. Rashleigh . . . . .     | 5           | 1                | 0                      | 65  | 1105           | 43·50 | 203                                 | 161                                 |
| Truro (Penair) . . . . .   | H. H. Williams, Esq. . . . .       | 5           | 1                | 0                      | 250 | 1067           | 42·01 | ..                                  | ..                                  |
| d Truro W.W. (Lower Tregurrow) W. J. Lean, Esq. . . . .              |                                    | 5           | 1                | 0                      | 71  | 1201           | 47·27 | 191                                 | 167                                 |
| d Fowey . . . . .  | C. I. Wellington, Esq. . . . .     | 5           | 1                | 0                      | 52  | 840            | 33·09 | 167                                 | 148                                 |
| d St. Austell (Trevarna) . . . . .                                   | W. M. Coode, Esq. . . . .          | 5           | 1                | 0                      | 300 | 1254           | 49·37 | 214                                 | 164                                 |
| d Looe (Morval) . . . . .  | Capt. A. H. Tremayne, R.N. . . . . | 5           | 1                | 0                      | 150 | 1330           | 52·37 | 197                                 | 166                                 |
| Looe (Bray) . . . . .  | Mrs. G. Sneyd . . . . .            | 5           | 1                | 0                      | 450 | 1175           | 46·26 | 246                                 | ..                                  |
| d Lostwithiel (Lanwithan) . . . . .                                  | Miss Foster . . . . .              | 5           | 1                | 0                      | 80  | 1265           | 49·79 | 205                                 | 162                                 |
| Menheniot (Coldrenick) . . . . .                                     | Rev. F. E. Treiawny . . . . .      | 5           | 1                | 0                      | 301 | 1336           | 52·58 | ..                                  | ..                                  |
| d Liskeard (St. Pinnock Rectory) Rev. S. H. Farwell Roe . . . . .    |                                    | 5           | 0                | 5                      | 400 | 1676           | 66·00 | 245                                 | 178                                 |
| d Liskeard (Trevillis) . . . . .                                     | Col. L. C. Foster . . . . .        | 5           | 1                | 0                      | 320 | 1287           | 50·66 | 206                                 | 160                                 |
| d Bolventor Vicarage . . . . .                                       | Rev. J. W. Timson . . . . .        | 5           | 2                | 0                      | 845 | 1941           | 76·40 | 225                                 | 205                                 |

## DIVISION V.—SOUTH-WESTERN COUNTIES—(con.).

| STATIONS.                             | AUTHORITIES.                  | Rain Gauge. |                  |                        |     | Depth of Rain.  | Days with<br>·04 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |     |
|---------------------------------------|-------------------------------|-------------|------------------|------------------------|-----|-----------------|-------------------------------------|-------------------------------------|-----|
|                                       |                               | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     |                 |                                     |                                     |     |
|                                       |                               | in.         | ft.              | in.                    | ft. | 1920<br>mm. in. |                                     |                                     |     |
| CORNWALL—(con.).                      |                               |             |                  |                        |     |                 |                                     |                                     |     |
| 3.—TAMAR & C. 279 sq. mi.             |                               |             |                  |                        |     |                 |                                     |                                     |     |
| D Devonport (Empacombe)               | J. Sandercock, Esq.           | 5           | 1                | 0                      | 20  | 996             | 39·23                               | 195                                 | 142 |
| Devonport (Cremyll)                   | S. B. Wilcox, Esq.            | 5           | 10               | 0                      | 25  | 903             | 35·55                               | 202                                 | ..  |
| Saltash (Pentillie Castle)            | Cornwall Rainfall Assoc.      | 5           | 2                | 4                      | 150 | 1285            | 50·59                               | 197                                 | ..  |
| St. Mellion Rectory                   | Rev. F. T. Wintle             | 5           | 1                | 0                      | 401 | 1202            | 47·33                               | 206                                 | 152 |
| D Callington (Pencrebar)              | Miss Horndon                  | 5           | 1                | 9                      | 450 | 1317            | 51·86                               | 218                                 | 167 |
| D Albaston                            | N. R. Rosekilly, Esq.         | 5           | 4                | 0                      | 600 | 1164            | 45·84                               | 186                                 | 156 |
| D Launceston (Landue)                 | Miss S. E. Tregoning          | 5           | 0                | 11                     | 225 | 1137            | 44·77                               | 216                                 | 154 |
| D Launceston (Hexworthy)              | R. B. Rogers, Esq.            | 5           | 1                | 0                      | 270 | 1195            | 47·04                               | 214                                 | 167 |
| D Altarnon Sanctuary                  | Rev. A. H. Thorold            | 5           | 1                | 0                      | 620 | 1565            | 61·63                               | 208                                 | 178 |
| D Launceston (Old Tree House)         | Mrs. Saunders                 | 8           | 1                | 6                      | 600 | 1199            | 47·22                               | 221                                 | 175 |
| Egloskerry (Tregeare)                 | E. G. B. Lethbridge, Esq.     | 5           | 1                | 0                      | 613 | 1227            | 48·32                               | ..                                  | ..  |
| North Tamerton (Davies)               | Mrs. Bray                     | 5           | 4                | 0                      | 390 | 977             | 38·45                               | 206                                 | 178 |
| 4.—INSULAR—Isles of Scilly. 6 sq. mi. |                               |             |                  |                        |     |                 |                                     |                                     |     |
| D St. Mary's                          | Meteorological Office         | 8           | 1                | 0                      | 131 | 772             | 30·38                               | 214                                 | 149 |
| Tresco Abbey                          | Maj. A. A. Dorrien Smith      | 8           | 3                | 0                      | 40  | 835             | 32·87                               | 222                                 | 149 |
| SOMERSETSHIRE. (Area, 1630 sq. mi.)   |                               |             |                  |                        |     |                 |                                     |                                     |     |
| 1.—LOWER AVON. 300 sq. mi.            |                               |             |                  |                        |     |                 |                                     |                                     |     |
| D Wanstrow (The Manor Cottage)        | P. E. B. Warburton, Esq.      | 5           | 1                | 0                      | 465 | 1087            | 42·78                               | 176                                 | 151 |
| Shepton Mallet (Pondsmead)            | R. A. Hobhouse, Esq.          | 8           | 1                | 0                      | 710 | 1220            | 48·04                               | 202                                 | 180 |
| D Frome W.W. (Egford)                 | L. Slaughter, Esq.            | 8           | 2                | 0                      | 270 | 966             | 38·02                               | 228                                 | 147 |
| D Frome (Orchardcroft)                | H. G. Chislett, Esq.          | 5           | 1                | 0                      | 265 | 851             | 33·49                               | 178                                 | 143 |
| D Frome (Selwood School)              | Miss A. K. Coombs             | 5           | 1                | 7                      | 320 | 856             | 33·68                               | 189                                 | 136 |
| D Mells (Selwood)                     | Miss E. G. Horner             | 5           | 1                | 0                      | 344 | 943             | 37·11                               | 194                                 | 141 |
| D Binegar (Gurneyslade)               | Rev. G. B. Hicks              | 5           | 1                | 0                      | 588 | 1191            | 46·89                               | 196                                 | 165 |
| D Stratton-on-Fosse (Downside Ab)     | Rev. G. B. Hicks              | 8           | 1                | 0                      | 600 | 1121            | 44·12                               | 205                                 | 158 |
| D Beckington                          | E. M. Nelson, Esq.            | 8           | 1                | 3                      | 270 | 836             | 32·90                               | 192                                 | 147 |
| D Chewton Mendip (The Priory)         | The Earl Waldegrave           | 5           | 1                | 0                      | 550 | 1192            | 46·94                               | 217                                 | 171 |
| D Midsomer Norton (Island Ho.)        | Dr. G. S. Pollard             | 5           | 1                | 6                      | 300 | 984             | 38·74                               | 190                                 | 163 |
| D Midsomer Norton (Dymboro)           | Dr. A. Bulleid                | 5           | 1                | 0                      | 357 | 982             | 38·65                               | 183                                 | 148 |
| D Radstock                            | G. H. Gibson, Esq.            | 8           | 8                | 0                      | 330 | 901             | 35·47                               | ..                                  | 127 |
| D E. Harptree (Sherborne Res.)        | J. A. McPherson, Esq., C.E.   | 5           | 1                | 0                      | 338 | 1148            | 45·18                               | 191                                 | 159 |
| Harptree Hill                         | J. A. McPherson, Esq., C.E.   | 8           | 1                | 0                      | 784 | 1210            | 47·63                               | ..                                  | ..  |
| D Temple Cloud                        | Dr. Theodore Martin           | 5           | 1                | 0                      | 340 | 905             | 35·62                               | 191                                 | 146 |
| D Clutton (Council School)            | W. J. Pullen, Esq.            | 5           | 1                | 6                      | 320 | 979             | 38·54                               | 222                                 | 141 |
| D Pensford (Sutton Court)             | Lord Strachie                 | 8           | 1                | 0                      | 280 | 998             | 39·27                               | 185                                 | 150 |
| D Monkton Combe (Crossways)           | M. J. Lipscomb, Esq.          | 5           | 1                | 0                      | 180 | 861             | 33·90                               | 150                                 | 142 |
| D Pensford (Houndstrete House)        | H. Leyborne Popham, Esq.      | 5           | 0                | 9                      | 400 | 948             | 37·34                               | 196                                 | 159 |
| Chew Magna                            | J. A. McPherson, Esq., C.E.   | 5           | 1                | 4                      | 180 | 994             | 39·14                               | 184                                 | 158 |
| D Pensford (Publow School Ho.)        | A. Hayes, Esq.                | 5           | 1                | 0                      | 230 | 941             | 37·03                               | 202                                 | 146 |
| Bath (Royal Institution)              | E. C. Davey, Esq.             | 6           | 8                | 0                      | 74  | 796             | 31·36                               | ..                                  | ..  |
| D Bath (Henrietta Park)               | Bath Corporation              | 5           | 1                | 0                      | 67  | 803             | 31·61                               | 184                                 | 136 |
| D Bath (Statutory Hospital)           | Bath Corporation              | 5           | 1                | 0                      | 520 | 801             | 31·52                               | 158                                 | 143 |
| D Bath (Lansdown Place)               | Sir Percy K. Stothert, K.B.E. | 5           | 1                | 2                      | 410 | 861             | 33·88                               | 196                                 | 148 |
| D Bath (Charlcombe)                   | J. Dent Young, Esq., C.E.     | 8           | 2                | 0                      | 325 | 855             | 33·65                               | 196                                 | 152 |
| Saltford House                        | Col. W. V. Rolleston          | 8           | 0                | 8                      | 100 | 862             | 33·94                               | 184                                 | ..  |
| D Batheaston Reservoir                | J. Dent Young, Esq., C.E.     | 6           | 2                | 0                      | 248 | 886             | 34·89                               | 210                                 | 148 |
| Barrow Gurney Reservoir               | J. A. McPherson, Esq., C.E.   | 5           | 1                | 6                      | 300 | 912             | 35·89                               | 198                                 | 155 |
| D Long Ashton (Estate Office)         | H. B. Napier, Esq.            | 8           | 1                | 0                      | 134 | 1126            | 44·32                               | 190                                 | 142 |
| D Failand House                       | Miss Agnes Fry                | 5           | 1                | 0                      | 385 | 1036            | 40·79                               | 225                                 | 160 |
| D Portishead (West Hill)              | Rev. Arthur Lewis             | 5           | 1                | 0                      | 250 | 865             | 34·07                               | 197                                 | 144 |
| 2.—YEO, AXE & BRUE. 405 sq. mi.       |                               |             |                  |                        |     |                 |                                     |                                     |     |
| D Castle Cary (Alford House)          | Admiral P. F. Tillard         | 5           | 1                | 0                      | 98  | 744             | 29·30                               | 189                                 | 151 |
| D Somerton (Butleigh Court)           | R. Neville Grenville, Esq.    | 8           | 1                | 2                      | 95  | 768             | 30·24                               | 191                                 | 150 |
| D Bruton (Pitcombe Vicarage)          | Rev. F. P. Syngé              | 5           | 2                | 4                      | 295 | 842             | 33·17                               | 224                                 | 153 |
| D Bruton (Redlynch Park)              | W. F. Pepper, Esq.            | 5           | 0                | 7                      | 390 | 837             | 32·94                               | 190                                 | 146 |
| D Ditcheat Rectory                    | Rev. H. H. Tripp              | 5           | 1                | 0                      | 200 | 782             | 30·80                               | 185                                 | 150 |
| D Street (Overleigh House)            | J. B. Clark, Esq.             | 5           | 0                | 8                      | 100 | 675             | 26·58                               | 184                                 | 137 |
| D Street (Hind Hayes)                 | Joseph Clark, Esq.            | 5           | 1                | 5                      | 78  | 684             | 26·93                               | 180                                 | 135 |
| D Street (Millfield)                  | W. S. Clark, Esq.             | 8           | 1                | 0                      | 100 | 696             | 27·38                               | 173                                 | 141 |
| D Glastonbury (Wyrall)                | J. Morland, Esq.              | 5           | 0                | 8                      | 120 | 689             | 27·13                               | 184                                 | 143 |



## DIVISION V.—SOUTH-WESTERN COUNTIES—(con.).

| STATIONS.   | AUTHORITIES. | Rain Gauge. |                  |                     | Depth of Rain. |       | Days<br>with<br>·01 in.<br>or more. | Days<br>with<br>·04 in.<br>or more. |
|---|--------------|-------------|------------------|---------------------|----------------|-------|-------------------------------------|-------------------------------------|
|   |              | Diam.       | Height<br>Ground | above<br>Sea Level. | 1920           |       |                                     |                                     |
| SOMERSETSHIRE—(con.).   |              | in          | ft. in.          | ft.                 | mm.            | in.   |                                     |                                     |
| 2.—YEO, AXE & BRUE—(con.).  |              |             |                  |                     |                |       |                                     |                                     |
| d Glastonbury (St. Michael's) . . . Ven. Archdeacon W. Farrer           | 5            | 1           | 0                | 220                 | 708            | 27·86 | 189                                 | 142                                 |
| Edington . . . . . Major A. C. F. Luttrell . . .                        | 5            | 2           | 0                | 90                  | 783            | 30·84 | 168                                 | 140                                 |
| d Shepton Mallet (Pilton) . . . . . Miss Allen . . . . .                | 5            | 1           | 3                | 354                 | 936            | 36·84 | 237                                 | 163                                 |
| d Shepton Mallet (Charlton) . . . . . C. E. Burnell, Esq. . . . .       | 5            | 1           | 0                | 481                 | 1014           | 39·90 | 204                                 | 163                                 |
| d Shepton Mallet (Field House) . . . F. H. Berryman, Esq. . . . .       | 5            | 1           | 0                | 500                 | 1062           | 41·80 | 215                                 | 171                                 |
| d Shepton Mallet (Sewage Farm) . . . Mr. C. Marshman . . . . .          | 5            | 0           | 8                | 310                 | 953            | 39·09 | 209                                 | 174                                 |
| d Wells (Somerset & Bath Asym.) . . J. E. P. Shera, Esq., M.D. . . .    | 5            | 1           | 0                | 300                 | 956            | 37·64 | 205                                 | 162                                 |
| d Wells (Wookey Hole Paper Mills) . W. S. Hodgkinson & Co., Ltd. .      | 5            | 1           | 4                | 180                 | 928            | 36·55 |                                     |                                     |
| d Burnham (Chalbury) . . . . . H. A. Smith Spark, Esq. . . . .          | 5            | 1           | 0                | 20                  | 721            | 28·40 | 189                                 | 153                                 |
| Burnham . . . . . W. H. Chowins, Esq., C.E. . . . .                     | 8            | 0           | 9                | 24                  | 730            | 28·74 | 170                                 | 147                                 |
| Burnham (Berrow Road) . . . . . Rev. C. E. B. Fripp . . . . .           | 5            | 1           | 0                | 0                   | 695            | 27·36 | 176                                 | 149                                 |
| d Burnham (Brent Knoll) . . . . . Miss FitzGerald . . . . .             | 5            | 1           | 0                | 26                  | 749            | 29·50 | 190                                 | 147                                 |
| d Compton Bishop (Webbington F.) . H. A. Tiarks, Esq. . . . .           | 8            | 1           | 6                | 40                  | 722            | 28·41 | 173                                 | 136                                 |
| Compton Martin . . . . . J. A. McPherson, Esq., C.E. . . . .            | 8            | 1           | 0                | 276                 | 1163           | 45·79 |                                     |                                     |
| Ubley (Rookery Farm) . . . . . J. A. McPherson, Esq., C.E. . . . .      | 8            | 1           | 0                | 525                 | 1244           | 48·97 |                                     |                                     |
| Blagdon (Nordrach-on-Mendip) . . . W. R. Thurnam, Esq., M.D. . . .      | 5            | 0           | 5                | 862                 | 1279           | 50·37 | 212                                 |                                     |
| d Winscombe (Barton) . . . . . A. E. Stephens, Esq. . . . .             | 8            | 1           | 6                | 124                 | 835            | 32·89 | 177                                 | 144                                 |
| Winscombe (Kamiah) . . . . . Dr. Caroline Sturge . . . . .              | 5            | 1           | 0                | 216                 | 917            | 36·11 | 174                                 |                                     |
| d Winscombe (The Down) . . . . . J. Grubb, Esq. . . . .                 | 5            | 1           | 0                | 295                 | 983            | 38·71 | 209                                 | 147                                 |
| d Banwell (Eversley) . . . . . Dr. Kenneth Anderson . . . . .           | 5            | 1           | 6                | 50                  | 871            | 34·28 | 201                                 | 162                                 |
| Blagdon Hill . . . . . J. A. McPherson, Esq., C.E. . . . .              | 8            | 1           | 0                | 550                 | 1089           | 42·88 |                                     |                                     |
| Blagdon (Pumping Station) . . . . . J. A. McPherson, Esq., C.E. . . . . | 8            | 0           | 8                | 112                 | 974            | 38·36 | 197                                 | 151                                 |
| Blagdon (Coombe Lodge) . . . . . J. A. McPherson, Esq., C.E. . . . .    | 8            | 1           | 0                | 388                 | 1075           | 42·32 |                                     |                                     |
| Ubley (Pixey Hole) . . . . . J. A. McPherson, Esq., C.E. . . . .        | 8            | 1           | 0                | 300                 | 960            | 37·78 |                                     |                                     |
| Nempnett (West Town) . . . . . J. A. McPherson, Esq., C.E. . . . .      | 8            | 1           | 0                | 263                 | 1013           | 39·87 |                                     |                                     |
| Burrington (Burrington Link) . . . J. A. McPherson, Esq., C.E. . . .    | 8            | 1           | 0                | 335                 | 1037           | 40·84 |                                     |                                     |
| d Burrington (Langford) . . . . . Miss M. B. Smith . . . . .            | 5            | 1           | 8                | 40                  | 987            | 38·86 | 199                                 | 155                                 |
| d Weston-spr-Mare (Clarence Pk.) . . W. H. Allen, Esq. . . . .          | 5            | 1           | 2                | 29                  | 881            | 34·69 | 186                                 | 152                                 |
| Butcombe (Cholwell) . . . . . J. A. McPherson, Esq., C.E. . . . .       | 8            | 1           | 0                | 370                 | 1036           | 40·79 |                                     |                                     |
| d Wrington (The Cottage) . . . . . H. C. Bristowe, Esq., M.D. . . . .   | 5            | 6           | 0                | 100                 | 855            | 33·66 | 182                                 | 147                                 |
| d Wrington (The Rectory) . . . . . Rev. G. M. Ashdown . . . . .         | 5            | 5           | 0                | 69                  | 918            | 36·15 | 194                                 | 154                                 |
| d Wrington (West Hay) . . . . . Miss M. C. Meade-King . . . . .         | 5            | 1           | 8                | 98                  | 914            | 35·98 | 192                                 | 158                                 |
| Yatton (Chelvey) . . . . . J. A. McPherson, Esq., C.E. . . . .          | 8            | 0           | 8                | 60                  | 828            | 32·60 | 172                                 | 146                                 |
| d Flax Bourton (Backwell Hill Ho) . W. Garnett, Esq. . . . .            | 8            | 1           | 10               | 520                 | 1144           | 45·03 | 197                                 | 159                                 |
| Flax Bourton (West Town) . . . . . Theodore Robinson, Esq. . . . .      | 5            | 4           | 0                | 80                  | 976            | 38·42 |                                     |                                     |
| d Flax Bourton (The Grange) . . . C. Onslow Master, Esq. . . . .        | 5            | 1           | 0                | 120                 | 906            | 35·69 | 164                                 | 147                                 |
| d Clevedon W. W. (Old Street) . . . J. Harger Pye, Esq. . . . .         | 5            | 1           | 10               | 28                  | 858            | 33·80 |                                     |                                     |
| d Clevedon W. W. (Tickenhm Rd) . J. Harger Pye, Esq. . . . .            | 5            | 1           | 6                | 70                  | 821            | 32·34 | 188                                 | 143                                 |
| d Clevedon (Bowling Green) . . . . Major A.B. Trestrail M.B.E. . . .    | 5            | 0           | 11               | 126                 | 931            | 36·64 | 168                                 | 140                                 |
| d Clevedon (Mt. Heber Cottage) . . G. M. S. Farmer, Esq. . . . .        | 5            | 1           | 0                | 144                 | 872            | 34·33 | 189                                 | 145                                 |
| Wraxall (Boys' School) . . . . . Ebenezer Brown, Esq. . . . .           | 5            | 1           | 0                | 80                  | 907            | 35·71 | 202                                 | 191                                 |
| Wraxall Rectory . . . . . Mrs. Vaughan . . . . .                        | 8            | 3           | 0                | 100                 | 908            | 35·73 | 184                                 |                                     |
| 3.—PARRETT. 568 sq. mi.   |              |             |                  |                     |                |       |                                     |                                     |
| d Crewkerne (The Reservoir) . . . . E. H. Munford, Esq. . . . .         | 8            | 1           | 0                | 426                 | 907            | 35·72 | 186                                 | 140                                 |
| d Crewkerne (Bincombe House) . . . Miss Sparks . . . . .                | 5            | 1           | 3                | 293                 | 937            | 36·90 | 189                                 | 146                                 |
| d Crewkerne (Merefield House) . . . J. Tompsett, Esq. . . . .           | 8            | 1           | 1                | 231                 | 952            | 37·47 | 185                                 | 139                                 |
| d Crewkerne (Mark's Barn) . . . . . Miss V. Blake . . . . .             | 8            | 0           | 9                | 260                 | 840            | 33·06 | 196                                 | 139                                 |
| Chard (Chaffcombe House) . . . . . Mrs. Hartley . . . . .               | 5            | 0           | 11               | 400                 | 725            | 28·56 |                                     |                                     |
| d Combe St. Nicholas . . . . . Rev. H. A. Boys . . . . .                |              |             |                  |                     | 973            | 38·30 | 235                                 | 162                                 |
| Coker Court Gardens . . . . . Mr. T. H. Gilham . . . . .                | 8            | 1           | 6                | 250                 | 870            | 34·26 | 159                                 | 137                                 |
| d West Coker . . . . . G. F. Deedes, Esq. . . . .                       | 5            | 1           | 6                | 265                 | 764            | 30·10 | 186                                 | 135                                 |
| d Ilminster (Laurel Bank) . . . . . W. Beckwith, Esq. . . . .           | 5            | 1           | 0                | 180                 | 793            | 31·22 | 187                                 | 135                                 |
| d Ilminster (Whitelackington Ho.) . S. Creed, Esq. . . . .              | 5            | 3           | 0                | 200                 | 825            | 32·48 | 189                                 | 131                                 |
| d Ilminster (Dillington Park) (R) . Mr. W. Goldthorpe . . . . .         | 8            | 3           | 6                | 161                 | 822            | 32·38 | 162                                 | 137                                 |
| d Yeovil (Gas Works) . . . . . G. Fenwick, Esq. . . . .                 | 5            | 22          | 0                | 122                 | 714            | 28·12 | 159                                 | 137                                 |
| Yeovil (Pen Mill Sewage Wrks) . . . Dr. C. W. Gee . . . . .             | 5            | 1           | 0                | 102                 | 747            | 29·41 | 215                                 | 139                                 |
| d Wellington (Old Way House) . . . T. Fox, Esq. . . . .                 | 5            | 1           | 1                | 300                 | 922            | 36·32 | 219                                 | 160                                 |
| d Stoke-under-Ham . . . . . Miss Gillett . . . . .                      | 8            | 1           | 0                | 80                  | 758            | 29·84 | 157                                 | 132                                 |
| d Tintinhull (Manor House) . . . . Rev. Dr. S. J. M. Price . . . . .    | 5            | 0           | 10               | 145                 | 566            | 22·28 | 159                                 | 142                                 |
| d Angersleigh (Blagdon Res.) . . . H. T. Coles, Esq. . . . .            | 8            | 1           | 6                | 590                 | 888            | 34·97 |                                     | 129                                 |
| d Angersleigh (Leigh Hill Res.) . . H. T. Coles, Esq. . . . .           | 8            | 1           | 6                | 525                 | 883            | 34·75 |                                     | 129                                 |
| d Angersleigh (Leigh Court) . . . . A. Eastwood, Esq. . . . .           | 8            | 1           | 0                | 360                 | 894            | 35·21 | 202                                 | 145                                 |
| d Taunton (The Park) . . . . . Dr. John Allen . . . . .                 | 5            | 1           | 0                | 50                  | 795            | 27·74 | 203                                 | 140                                 |

## DIVISION V.—SOUTH-WESTERN COUNTIES—(con.).

| STATIONS.                             | AUTHORITIES.                  | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---------------------------------------|-------------------------------|-------------|------------------|------------------------|------------------------|--|--|
|                                       |                               | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |
| SOMERSETSHIRE—(con.).                 |                               | in.         | ft. in.          | ft.                    | mm. in.                |  |  |
| 3.—PARRETT—(con.).                    |                               |             |                  |                        |                        |  |  |
| D Wiveliscombe (Culverhead) ...       | T. R. Marsh, Esq., C.M.G.     | 5           | 1 0              | 450                    | 1150 45·27             | 181                                    | 160                                    |
| D Langport (The Grange) .....         | Rev. H. A. Boys               | 5           | 1 0              | 50                     | 652 25·66              | 213                                    | 142                                    |
| D Langport (Huish Episcopi) ...       | Miss A. M. Kelway             | 8           | 1 1              | 30                     | 693 27·29              | 193                                    | 150                                    |
| d Queen Camel School .....            | T. L. Perry, Esq.             | 5           | 0 10             | 100                    | 752 29·59              | ..                                     | ..                                     |
| d N. Cheriton (Maperton House) ..     | Mr. W. Smith                  | 5           | 1 3              | 390                    | 904 35·61              | ..                                     | ..                                     |
| D North Cadbury Rectory .....         | Rev. H. A. Boys               | 5           | 1 4              | 256                    | 789 31·07              | 192                                    | 145                                    |
| Cothelstone House .....               | C. E. J. Esdaile, Esq.        | 5           | 1 0              | 430                    | 912 35·90              | 211                                    | ..                                     |
| D Bagborough Rectory .....            | C. Hubert Lance, Esq.         | 5           | 0 7              | 470                    | 883 34·78              | 212                                    | 167                                    |
| D Enmore (Smocombe) .....             | Col. H. Andrews Speed         | 5           | 1 2              | 340                    | 880 34·63              | 212                                    | 166                                    |
| D Bridgwater (Blake Gardens) ..       | F. Parr, Esq., C.E.           | 5           | 3 1              | 27                     | 696 27·42              | 170                                    | 138                                    |
| D Bridgwater (Ashford) .....          | F. Parr, Esq., C.E.           | 5           | 1 1              | 102                    | 805 31·70              | 182                                    | 143                                    |
| D Cannington (Brymore) .....          | H. H. P. Bouverie, Esq.       | 5           | 2 0              | 65                     | 702 27·64              | 175                                    | 135                                    |
| Fiddington (Keenthorne) .....         | T. W. Cuffe, Esq.             | 6           | 1 0              | 220                    | 842 33·13              | ..                                     | ..                                     |
| 4.—NORTH COAST STREAMS. 158 sq. mi.   |                               |             |                  |                        |                        |  |  |
| Williton (Aller Farm) .....           | R. G. Hosegood, Esq.          | 5           | 2 6              | 175                    | 889 35·00              | 164                                    | ..                                     |
| D Bicknoller (Ford) .....             | John Tracey, Esq.             | 5           | 1 3              | 150                    | 878 34·57              | 208                                    | 154                                    |
| M Quantock H. (Hodderscombe) ..       | Lord St. Audries              | 5           | 1 0              | 900                    | 927 36·50              | ..                                     | ..                                     |
| D Bicknoller (Weacombe House) ..      | Lord St. Audries              | 5           | 1 0              | 320                    | 834 32·82              | 185                                    | 154                                    |
| M Quantock H. (Erridge Combe) ..      | Lord St. Audries              | 5           | 1 0              | 800                    | 971 38·23              | ..                                     | ..                                     |
| D Bicknoller (Willett) .....          | H. C. Venning, Esq.           | 5           | 1 0              | 450                    | 968 38·12              | 172                                    | 150                                    |
| D Williton (The White House) ..       | S. L. Rogers, Esq.            | 5           | 0 9              | 98                     | 851 33·51              | 183                                    | 142                                    |
| Quantockshead (St. Audries) ..        | Mr. F. S. Hayne               | 8           | 1 0              | 260                    | 785 30·90              | ..                                     | ..                                     |
| D Quantockshead (St. Audries) ..      | Mr. F. S. Hayne               | 5           | 1 0              | 260                    | 815 32·07              | 178                                    | 143                                    |
| D Carhampton Vicarage .....           | Rev. A. G. Locke              | 5           | 1 3              | 65                     | 878 34·55              | 202                                    | 155                                    |
| D Kilve .....                         | Late A. E. C. Woodhouse, Esq. | 5           | 1 0              | 50                     | 806 31·72              | 178                                    | 145                                    |
| D Dunster (The Schools) .....         | E. G. Cantle, Esq.            | 5           | 1 0              | 60                     | 913 35·93              | 192                                    | 145                                    |
| D Minehead (The Poplars) .....        | T. Hosegood, Esq.             | 5           | 1 6              | 100                    | 898 35·34              | 193                                    | 148                                    |
| D Minehead (Northfield Road) ..       | W. Y. Tamlyn, Esq.            | 5           | 1 0              | 95                     | 832 32·75              | 182                                    | 145                                    |
| Porlock (Lynch Md, Allerford) ..      | J. Dyke Acland, Esq.          | 5           | 1 0              | 100                    | 943 37·11              | 212                                    | 158                                    |
| 5.—EXE. 122 sq. mi.                   |                               |             |                  |                        |                        |  |  |
| D Dulverton (Exebridge Fishery) ..    | T. F. Tracy, Esq.             | 5           | 1 0              | 410                    | 1231 48·45             | 216                                    | 181                                    |
| D Brushford Rectory .....             | Rev. B. J. du Boe             | 5           | 1 0              | 450                    | 1232 48·52             | 214                                    | 185                                    |
| D Brushford Nurseries .....           | Mr. G. Ruff                   | 5           | 1 2              | 400                    | 1198 47·17             | 232                                    | 187                                    |
| D Hawkridge (Liscombe) .....          | Mr. E. W. Darby               | 5           | 3 6              | 980                    | 1646 64·82             | 272                                    | 196                                    |
| D Winsford School .....               | W. Dicker, Esq.               | 5           | 1 2              | 685                    | 1496 58·91             | 217                                    | 194                                    |
| D Cutcombe (Wheddon Cross) ..         | H. H. P. Bouverie, Esq.       | 5           | 1 2              | 945                    | 1398 55·03             | 225                                    | 178                                    |
| Exford (North Ley) .....              | F. G. Heal, Esq.              | 5           | 5 0              | 1000                   | 1691 66·59             | ..                                     | ..                                     |
| Simonsbath .....                      | G. Molland, Esq.              | 6           | 0 7              | 1080                   | 1906 75·04             | 222                                    | 199                                    |
| 6.—AXE. 42 sq. mi.                    |                               |             |                  |                        |                        |  |  |
| Tatworth Vicarage .....               | Rev. H. Stuart King           | 5           | 1 3              | 345                    | 1078 42·46             | 166                                    | ..                                     |
| D Chard (Combe Head House) .....      | Mrs. Robinson                 | 5           | 1 1              | 600                    | 1006 39·61             | 197                                    | 153                                    |
| D Cricket St. Thomas (Cricket Ho.) .. | Mr. G. F. Richardson          | 5           | 1 0              | 444                    | 984 38·76              | 170                                    | 141                                    |
| D Chard (High Street Council Sch.) .. | F. Barnard, Esq.              | 5           | 1 2              | 425                    | 1062 41·80             | 202                                    | 156                                    |
| D Buckland St. Mary .....             | H. B. Debenham, Esq.          | 5           | 0 9              | 750                    | 1011 39·82             | 208                                    | 153                                    |
| 7.—STOUR. 35 sq. mi.                  |                               |             |                  |                        |                        |  |  |
| D Temple Combe Rectory .....          | Rev. J. C. Fox                | 5           | 0 6              | 215                    | 933 36·72              | 194                                    | 152                                    |
| D Temple Combe (Cheriton Ho.) ..      | Rev. H. A. Boys               | 5           | .. ..            | ..                     | 911 35·88              | 178                                    | 155                                    |
| D Wincanton (Roundhill Grange) ..     | Maj.-Gen. C. H. P. Ducat      | 5           | 1 11             | 375                    | 862 33·95              | 213                                    | 152                                    |

## DIVISION VI.—WEST MIDLAND COUNTIES..

GLOUCESTERSHIRE. (Area, 1243 sq. mi.).

**1.—WYE. 50 sq. mi.**

|  |                     |   |     |     |            |     |     |
|--|---------------------|---|-----|-----|------------|-----|-----|
| D Chepstow (Castleford) . . . . .          | Mrs. W. R. Lysaght  | 5 | 0 8 | 146 | 1062 41·80 | 188 | 153 |
| D Chepstow (Pen Moel) . . . . .            | W. R. Price, Esq.   | 5 | 1 0 | 240 | 1137 44·77 | 208 | 159 |
| D Forest of Dean (Mailscot Ldge) . . . . . | Office of Woods     | 8 | 1 0 | 630 | 965 37·98  | 173 | 140 |
| D Forest of Dean (Ruardean H.Lo) . . . . . | Office of Woods     | 8 | 1 0 | 932 | 950 37·40  | 183 | 143 |
| D Lydbrook (Viaduct House) . . . . .       | G. S. Damsell, Esq. | 5 | 1 0 | 95  | 946 37·25  | 213 | 140 |

## DIVISION VI.—WEST MIDLAND COUNTIES—(con.).

| STATIONS.   | AUTHORITIES.                  | Rain Gauge. |                  |                        |     | Depth of Rain. |         | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|-------------------------------|-------------|------------------|------------------------|-----|----------------|---------|--|--|
|   |                               | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |         |  |  |
| GLOUCESTERSHIRE—(con.).   |                               | in.         | ft.              | in.                    | ft. | mm.            | in.     |  |  |
| <b>2.—SEVERN—Right Bank Tributaries. 176 sq. mi.</b>                  |                               |             |                  |                        |     |                |         |  |  |
| D Chepstow (Sedbury Park) . . . . .                                   | Sir P.S.Marling,Bt.,V.C.,C.B. | 8           | 1                | 0                      | 136 | 1057           | 41·60   | 171                                    | 156                                    |
| D Forest of Dean (Whitemead Pk) Office of Woods . . . . .             |                               | 8           | 1                | 0                      | 200 | 972            | 38·28   | 176                                    | 142                                    |
| D Forest of Dean (Blakeney H.Lo.)Office of Woods . . . . .            |                               | 8           | 1                | 0                      | 500 | 756            | 29·75 ? | 173                                    | 129                                    |
| D Forest of Dean (Worcester Lo.) Office of Woods . . . . .            |                               | 8           | 0                | 11                     | 712 | 961            | 37·85   | 150                                    | 125                                    |
| D Forest of Dean (Edgehills Lo.) Office of Woods . . . . .            |                               | 8           | 1                | 0                      | 914 | 876            | 34·47   | 181                                    | 143                                    |
| D Cinderford (Belle Vue Road) . . . . .                               | Dr. J. N. Beadles             | 5           | 1                | 1                      | 780 | 994            | 39·15   | 196                                    | 141                                    |
| D Westbury-on-Severn (Chaxhill) .Late Mrs. Grant . . . . .            |                               | 5           | 3                | 0                      | 122 | 769            | 30·29   | 157                                    | 132                                    |
| D Newent (Clifford Manor) . . . . .                                   | F. F. Grafton, Esq.           | 5           | 1                | 5                      | 312 | 803            | 31·63   | 152                                    | 136                                    |
| D Oxenhall (Dymock Woods) . . . . .                                   | Office of Woods               | 8           | 1                | 0                      | 232 | 805            | 31·69   | 155                                    | 126                                    |
| D Bromsberrow Heath Pump.Stat.Capt. W. Osborne Thorp. . . . .         |                               | 5           | 1                | 0                      | 181 | 708            | 27·86   | ..                                     | ..                                     |
| D Tewkesbury (Forthampton Ct.) Mr. B. Webster . . . . .               |                               | 5           | 1                | 0                      | 48  | 715            | 28·14   | 192                                    | 141                                    |
| D Tewkesbury (Upper Lode) . . . . .                                   | E. J. Bradley, Esq.           | 5           | 1                | 0                      | 41  | 659            | 25·96   | 176                                    | 126                                    |
| <b>3.—SEVERN—Left Bank Tributaries. 372 sq. mi.</b>                   |                               |             |                  |                        |     |                |         |  |  |
| D Wickwar . . . . .   | F. G. Ansell, Esq.            | 5           | 1                | 0                      | 260 | 818            | 32·21   | 163                                    | 138                                    |
| D Thornbury (Thornbury House) .H. V. Gillett, Esq. . . . .            |                               | 5           | 2                | 1                      | 110 | 952            | 37·48   | ..                                     | 134                                    |
| D Tortworth Court . . . . .   | The Earl of Ducie             | 8           | 1                | 0                      | 264 | 904            | 35·61   | 178                                    | 142                                    |
| D Tortworth School . . . . .  | E. A. Smith, Esq.             | 5           | 2                | 0                      | 264 | 903            | 35·54   | 177                                    | ..                                     |
| D Avening House . . . . .   | Lady Eleanor Byng             | 8           | 1                | 3                      | 350 | 824            | 32·44   | 182                                    | 139                                    |
| D Berkeley (Sharpness Docks) . . . F. G. Marling, Esq. . . . .        |                               | 5           | 3                | 6                      | 50  | 909            | 35·79   | 177                                    | 134                                    |
| D Minchinhampton (Rowan Cott) E. Metcalfe Day, Esq. . . . .           |                               | 5           | 1                | 0                      | 630 | 760            | 29·90   | ..                                     | ..                                     |
| D Minchinhampton (Camp Field) .Piers F. Legh, Esq. . . . .            |                               | 5           | 1                | 6                      | 650 | 904            | 35·60   | 183                                    | 140                                    |
| D Stroud (Stanley Park) . . . . .                                     | Sir P.S.Marling,Bt.,V.C.,C.B. | 8           | 1                | 0                      | 365 | 979            | 38·53   | 183                                    | 153                                    |
| D Stroud (Field Place) . . . . .                                      | A. W. Stanton, Esq.           | 5           | 1                | 0                      | 226 | 754            | 29·68   | ..                                     | ..                                     |
| D Stonehouse (Wycliffe College) .W. A. Sibly, Esq. . . . .            |                               | 5           | 1                | 0                      | 120 | 817            | 32·17   | 176                                    | 132                                    |
| D Stonehouse (Parklands) No. 1 (R)W. Grey Robinson, Esq. . . . .      |                               | 8           | 2                | 6                      | 103 | 731            | 28·80   | 190                                    | 129                                    |
| D Stonehouse (Parklands) No. 2 . .W. Grey Robinson, Esq. . . . .      |                               | 5           | 2                | 6                      | 103 | 736            | 28·96   | 183                                    | 130                                    |
| D Stroud (Berrimans) . . . . .  | E. Armitage, Esq.             | 5           | 1                | 0                      | 750 | 896            | 35·26   | ..                                     | ..                                     |
| D Whitminster (The Junction) . . .F. A. Jones, Esq., C.E. . . . .     |                               | 5           | 1                | 0                      | 33  | 852            | 33·55   | 206                                    | 132                                    |
| D Haresfield Court . . . . .  | R. I. Tidswell, Esq.          | 5           | 1                | 0                      | 100 | 829            | 32·65   | 214                                    | ..                                     |
| D Harescombe Grange . . . . .   | Stamford Hutton, Esq.         | 5           | 1                | 0                      | 557 | 776            | 30·56   | 194                                    | 138                                    |
| D Quedgeley House . . . . .   | Col. T. F. Curtis Hayward     | 5           | 1                | 0                      | 65  | 779            | 30·68   | 178                                    | 135                                    |
| D Witcombe Reservoir . . . . .  | E. W. A. Carter, Esq.         | 8           | 3                | 0                      | 297 | 787            | 31·00   | 166                                    | 144                                    |
| D Gloucester (The Park) . . . . .                                     | G. Embrey, Esq.               | 8           | 1                | 3                      | 56  | 705            | 27·77   | 220                                    | 132                                    |
| D Gloucester (Denmark Road) . . .Harley Butt, Esq. . . . .            |                               | 5           | 1                | 5                      | 79  | 662            | 26·06   | 200                                    | 125                                    |
| D Gloucester (Barnwood Vicarage)Rev. F. H. Fowler . . . . .           |                               | 5           | 1                | 0                      | 80  | 771            | 30·35   | 201                                    | 136                                    |
| D Gloucester (Llanthony Lock) . . .E. J. Bradley, Esq. . . . .        |                               | 5           | 1                | 2                      | 39  | 630            | 24·81   | 150                                    | 121                                    |
| D Gloucester (Maise more Lock) . . .E. J. Bradley, Esq. . . . .       |                               | 5           | 1                | 1                      | 39  | 628            | 24·71   | 183                                    | 129                                    |
| D Radgeworth Court . . . . .  | A. J. Stephens, Esq.          | 5           | 1                | 0                      | 180 | 695            | 27·36   | ..                                     | ..                                     |
| D Churchdown (Barrow Hill) . . . .Mrs. J. H. Jones . . . . .          |                               | 5           | 1                | 0                      | 225 | 721            | 28·40   | 186                                    | 137                                    |
| D Dowdeswell Reservoir . . . . .                                      | J. S. Pickering, Esq., C.E.   | 5           | 1                | 3                      | 357 | 809            | 31·86   | 162                                    | 131                                    |
| D Cheltenham (Thirlestane Hill)(R) J. Player, Esq. . . . .            |                               | 8           | 2                | 3                      | 240 | 741            | 29·18   | 180                                    | 133                                    |
| D Charlton Kings (The Grange) . . .Miss E. M. Heberden . . . . .      |                               | 5           | 0                | 9                      | 300 | 830            | 32·66   | 199                                    | 142                                    |
| D Cheltenham (Hewletts Res.) . . .J. S. Pickering, Esq., C.E. . . . . |                               | 8           | 1                | 6                      | 419 | 753            | 29·66   | 193                                    | 143                                    |
| D Cheltenham (Sandford Mead) . . .J. S. Pickering, Esq., C.E. . . . . |                               | 5           | 2                | 6                      | 210 | 754            | 29·68   | 178                                    | 140                                    |
| D Cheltenham (Kemerton Lodge) . . .Rev. Percy Burd . . . . .          |                               | 5           | 1                | 0                      | 211 | 777            | 30·58   | 196                                    | ..                                     |
| D Cheltenham (Old Bath Road) . . .F. A. Jones, Esq., C.E. . . . .     |                               | 5           | 1                | 0                      | 290 | 789            | 31·08   | 182                                    | 138                                    |
| D Cheltenham (Suffolk Square) . . .Rev.Preb.H.T.Williamson . . . . .  |                               | 5           | 1                | 0                      | 227 | 717            | 28·23   | ..                                     | ..                                     |
| D Cheltenham (High Street) . . . .A. C. Saxby, Esq. . . . .           |                               | 5           | 1                | 0                      | 214 | 689            | 27·12   | 161                                    | 126                                    |
| D Cheltenham (Oxford Lawn) . . . .Miss Grace Jones . . . . .          |                               | 5           | 1                | 4                      | 230 | 714            | 28·11   | 188                                    | 121                                    |
| D Cheltenham (Swindon) . . . . .                                      | J. C. M. Stanton, Esq.        | 8           | 1                | 2                      | 136 | 675            | 26·59   | 191                                    | 130                                    |
| D Tewkesbury Pumping Station . . .J. S. Pickering, Esq., C.E. . . . . |                               | 5           | 0                | 9                      | 47  | 593            | 23·33 ? | 161                                    | 128                                    |
| D Alderton Rectory . . . . .  | Rev. A. D. Pennington         | ..          | 2                | 2                      | 185 | 531            | 20·89 ? | 182                                    | 111                                    |
| D Beckford Hall . . . . .   | Capt. H. A. Case              | ..          | 1                | 0                      | 130 | 671            | 26·41   | ..                                     | ..                                     |
| <b>4.—SEVERN—Upper Avon. 99 sq. mi.</b>                               |                               |             |                  |                        |     |                |         |  |  |
| D Chipping Campden (Hidcote) . .Major W. Wright . . . . .             |                               | 5           | 1                | 0                      | 520 | 694            | 27·34   | 172                                    | 131                                    |
| D Mickleton (Bank House) . . . . .                                    | M. J. Salter, Esq.            | 5           | 1                | 0                      | 233 | 693            | 27·30   | 188                                    | 123                                    |
| <b>5.—LOWER AVON &amp; C. 198 sq. mi.</b>                             |                               |             |                  |                        |     |                |         |  |  |
| D Bath (Monkswood Reservoir) . . .J. Dent Young, Esq. C.E. . . . .    |                               | 5           | 2                | 0                      | 365 | 864            | 34·01   | 194                                    | 144                                    |
| D Bristol Docks (Underfall Yard) . .T. A. Peace, Esq. . . . .         |                               | 8           | 19               | 6                      | 45  | 757            | 29·80   | 183                                    | 136                                    |

## DIVISION VI.—WEST MIDLAND COUNTIES—(con.).

| STATIONS.                                    | AUTHORITIES.                   | Rain Gauge. |                  |                        | Depth of Rain. |      | Days with<br>·01 in.<br>or<br>more. | Days with<br>·01 in.<br>or<br>more. |     |
|--|--------------------------------|-------------|------------------|------------------------|----------------|------|-------------------------------------|-------------------------------------|-----|
|  |                                | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |      |                                     |                                     |     |
| GLOUCESTERSHIRE—(con.).                      |                                | in.         | ft.              | in.                    | ft.            | mm.  | in.                                 |                                     |     |
| 5.—LOWER AVON & C.—(con.).                   |                                |             |                  |                        |                |      |                                     |                                     |     |
| Bristol (Telephone Avenue).....              | J. A. McPherson, Esq., C.E.    | 5           | 60               | 0                      | 80             | 876  | 34·49                               | 192                                 | 146 |
| Bristol (Cotham).....                        | H. A. Rogers, Esq.             | 5           | 1                | 4                      | 180            | 917  | 36·09                               | 180                                 | 139 |
| Clifton (Oakfield Road).....                 | J. A. McPherson, Esq., C.E.    | 5           | 1                | 0                      | 200            | 941  | 37·03                               | 194                                 | 151 |
| Clifton (Harley Place).....                  | Miss Hooper                    | 5           | 1                | 5                      | 260            | 937  | 36·89                               | 210                                 | 153 |
| Clifton College.....                         | A. G. Statton, Esq.            | 8           | 1                | 2                      | 230            | 979  | 38·54                               | 193                                 | 152 |
| Clifton (Stoke Bishop).....                  | H. L. P. Lowe, Esq.            | 8           | 1                | 3                      | 243            | 950  | 37·40                               | 191                                 | 149 |
| Filton.....                                  | F. W. Gayner, Esq.             | 5           | 2                | 0                      | 202            | 788  | 31·01                               | 177                                 | 136 |
| Winterbourne (Kendleshire)...                | J. Marsh, Esq.                 | 5           | 1                | 0                      | 170            | 773  | 30·45                               | 175                                 | 138 |
| Frampton Cotterell (Park Ho)...              | H. H. Harding, Esq.            | 5           | 1                | 0                      | 158            | 789  | 31·07                               | 185                                 | 138 |
| Chipping Sodbury (The Ridge)...              | Col. P. Burges                 | 5           | 1                | 0                      | 375            | 790  | 31·11                               | 205                                 | 147 |
| Almondsbury (Over Court Park)...             | Mr. F. Delbridge               | 5           | 1                | 0                      | 147            | 900  | 35·43                               | 199                                 | 151 |
| Almondsbury (Over Court Gdn)...              | Mr. F. Delbridge               | 8           | 1                | 0                      | 137            | 897  | 35·31                               | 198                                 | 150 |
| Badminton Gardens.....                       | Mr. J. Pearce                  | 5           | 1                | 0                      | 407            | 880  | 34·64                               | 185                                 | 150 |
| 6.—THAMES—Right Bank Tributaries. 15 sq. mi. |                                |             |                  |                        |                |      |                                     |                                     |     |
| 7.—THAMES—Windrush & c. 333 sq. mi.          |                                |             |                  |                        |                |      |                                     |                                     |     |
| Fairford (Dunfield, Kempsford)...            | A. T. Iles, Esq.               | 5           | 1                | 0                      | 260            | 718  | 28·28                               | 205                                 | 138 |
| Fairford Vicarage.....                       | Rev. Canon R. C. S. Jones      | 5           | 0                | 9                      | 280            | 685  | 26·97                               | 185                                 | 133 |
| Fairford (Draycott).....                     | C. W. Edmonds, Esq.            | 5           | 2                | 0                      | 200            | 731  | 28·78                               | 183                                 | 141 |
| Lechlade (St. John's Lock).....              | R. A. Swarbrick, Esq.          | 5           | 3                | 2                      | 239            | 674  | 26·52                               | 179                                 | 123 |
| Lechdale (Claydon House).....                | T. T. S. Metcalfe, Esq.        | 5           | 1                | 0                      | 250            | 719  | 28·31                               | 201                                 | 133 |
| Lechade (Southrop).....                      | Thomas Arkell, Esq.            | 5           | 1                | 0                      | ..             | 682  | 26·86                               | ..                                  | ..  |
| Cirencester (Cripps Mead).....               | Mrs. Wilfred Cripps            | 5           | 0                | 8                      | 366            | 810  | 31·87                               | 192                                 | 144 |
| Cirencester (Dollarward House)...            | C. P. Hooker, Esq.             | 5           | 1                | 6                      | 366            | 883  | 34·75                               | 202                                 | 147 |
| Cirencester (Dollarward House)...            | C. P. Hooker, Esq.             | 8           | 1                | 6                      | 366            | 860  | 33·85                               | 202                                 | 147 |
| Colesborne Park.....                         | H. J. Elwes, Esq., F.R.S.      | 5           | 0                | 9                      | 538            | 944  | 37·15                               | 166                                 | 143 |
| Great Barrington.....                        | H. J. Barrett, Esq.            | 5           | 1                | 6                      | 430            | 796  | 31·32                               | 194                                 | 139 |
| Northleach (Sherborne House)...              | Mr. A. Mitchell                | 5           | 1                | 0                      | 420            | 858  | 33·78                               | 168                                 | 147 |
| Northleach (Leygore Manor).....              | Arthur E. Moss, Esq.           | 5           | 1                | 0                      | 650            | 823  | 32·41                               | 226                                 | 147 |
| Bourton-on-Water (Eastfield).....            | E. W. Kendall, Esq.            | 5           | 1                | 6                      | 434            | 818  | 32·20                               | 180                                 | 140 |
| Bourton-on-Water (Chardwar).....             | G. F. Moore, Esq.              | 5           | 0                | 10                     | 430            | 825  | 32·49                               | 192                                 | 140 |
| Bourton-on-Water Rectory.....                | Rev. Canon W. E. White         | 5           | 0                | 10                     | 433            | 826  | 32·54                               | 156                                 | 129 |
| Stow-on-the-Wold (Icomb Place)...            | Capt. G. H. Simpson            | 8           | 1                | 6                      | 500            | 856  | 33·71                               | 174                                 | 146 |
| Stow-on-the-Wold (Duncombe)...               | W. T. Arkell, Esq.             | 5           | 1                | 0                      | 670            | 822  | 32·37                               | 190                                 | 146 |
| HEREFORDSHIRE. (Area, 840 sq. mi.)           |                                |             |                  |                        |                |      |                                     |                                     |     |
| 1.—WYE. 685 sq. mi.                          |                                |             |                  |                        |                |      |                                     |                                     |     |
| Ross (Hill Court).....                       | G. R. Trafford, Esq.           | 5           | 1                | 1                      | 161            | 758  | 29·86                               | 171                                 | 128 |
| Weston-under-Penyard.....                    | E. J. Prevost, Esq.            | 5           | 1                | 0                      | 240            | 752  | 29·61                               | 152                                 | ..  |
| Ross (Chasedale Observatory)...              | F. J. Parsons, Esq.            | 5           | 1                | 0                      | 203            | 728  | 28·65                               | 185                                 | 121 |
| Ross (Birchlea).....                         | Miss M. L. Southall            | 5           | 1                | 0                      | 210            | 780  | 30·69                               | 206                                 | 134 |
| Kentchurch Rectory.....                      | Rev. R. P. Dansey              | 5           | 1                | 0                      | 220            | 1055 | 41·55                               | 189                                 | 144 |
| Kentchurch Rectory.....                      | Rev. R. P. Dansey              | 5           | 1                | 0                      | 220            | 1005 | 39·56                               | ..                                  | ..  |
| Ross (Ashe Leigh).....                       | Major W. Stanley R. Cox        | 5           | 1                | 1                      | 200            | 736  | 28·98                               | ..                                  | 121 |
| Perrystone Court.....                        | Brig.-Gen. G. S. Clive, D.S.O. | 5           | 1                | 3                      | 450            | 639  | 25·15                               | 157                                 | ..  |
| Brockhampton Court.....                      | Col. A. W. Foster              | 8           | 4                | 0                      | 500            | 762  | 30·02                               | ..                                  | ..  |
| Fownhope (Lower House).....                  | Miss F. Cresswell              | 5           | 1                | 0                      | 200            | 826  | 32·50                               | 216                                 | 144 |
| Fownhope (Morney Cross).....                 | A. P. Maudslay, Esq., D.Sc.    | 5           | 1                | 0                      | 195            | 764  | 30·06                               | 192                                 | 127 |
| Woolhope (The Hyde).....                     | J. A. Thompson, Esq.           | 5           | 1                | 0                      | 440            | 749  | 29·48                               | 180                                 | 125 |
| Vowchurch (Whitehouse).....                  | A. S. Wood, Esq.               | 5           | 5                | 6                      | 450            | 1074 | 42·30                               | 214                                 | ..  |
| Hereford (Belmont Abbey).....                | Rev. John Owen, O.S.B.         | 8           | 1                | 0                      | 292            | 836  | 32·91                               | 216                                 | 138 |
| Hereford (Barton House).....                 | Rev. A. G. Jones               | 8           | 1                | 0                      | 179            | 811  | 31·94                               | 195                                 | 134 |
| Hereford (Breinton Court).....               | H. A. Wadworth, Esq.           | 5           | 3                | 0                      | 238            | 733  | 28·87                               | 172                                 | 128 |
| Hereford (Broomy Hill).....                  | W. Cooke, Esq.                 | 8           | 0                | 10                     | 201            | 752  | 29·60                               | 177                                 | 127 |
| Hereford (Holmer Hall).....                  | Rev. Preb. M. Hopton           | 8           | 1                | 3                      | 244            | 719  | 28·31                               | 204                                 | 128 |
| Credenhill (Stretton Sugwas)...              | Capt. S. H. Armitage           | 5           | 1                | 0                      | 226            | 739  | 29·09                               | 187                                 | 132 |
| Credenhill.....                              | F. E. Whiting, Esq.            | 5           | 1                | 5                      | 275            | 762  | 30·00                               | 189                                 | 131 |
| Burghill Court.....                          | Miss E. D. Woodhouse           | 5           | 1                | 0                      | 293            | 699  | 27·52                               | 189                                 | 126 |
| Ocle Pychard (Ocle Court).....               | G. Cresswell, Esq.             | 8           | 1                | 2                      | 298            | 848  | 33·40                               | 220                                 | 145 |
| Whitney-on-Wye.....                          | Mr. W. Burgess                 | 8           | 1                | 0                      | 428            | 1043 | 41·08                               | 226                                 | 163 |
| Brilley Vicarage.....                        | Rev. W. Head                   | 5           | 1                | 0                      | 590            | 1068 | 42·06                               | 225                                 | 165 |

## DIVISION VI.—WEST MIDLAND COUNTIES—(con.).

| STATIONS.                                     | AUTHORITIES.                | Rain Gauge. |               |                  | Depth of Rain. |      | Days with .01 in. or more. | Days with .04 in. or more. |     |
|---|-----------------------------|-------------|---------------|------------------|----------------|------|----------------------------|----------------------------|-----|
|   |                             | Diam.       | Height Ground | above Sea Level. | 1920           |      |                            |                            |     |
| HEREFORDSHIRE—(con.).                         |                             | in.         | ft.           | in.              | ft.            | mm.  | in.                        |                            |     |
| 1.—WYE—(con.).                                |                             |             |               |                  |                |      |                            |                            |     |
| Sarnesfield Court.....                        | Rev. W. Marshall.....       | 5           | 0             | 10               | 378            | 897  | 35.31                      | 183                        | 139 |
| d Almeley (The Bungalow).....                 | B. G. Ronalds, Esq.....     | 5           | 1             | 0                | 396            | 900  | 35.45                      | 195                        | 141 |
| d Weobley School.....                         | A. J. Dean, Esq.....        | 5           | 1             | 0                | 320            | 888  | 34.96                      | 226                        | 143 |
| d Pencombe Rectory.....                       | Rev. J. Seymour St. John    | 5           | 1             | 6                | 520            | 835  | 32.89                      | 193                        | 137 |
| d Pembridge (Ditwyn).....                     | Dr. T. Lambert Hall.....    | 5           | 0             | 8                | 290            | 809  | 31.86                      | 183                        | 135 |
| Pembridge (Burton Court).....                 | Lt.-Col. P. L. Clowes, C.B. | 5           | 1             | 6                | 400            | 848  | 33.37                      | 246                        | ..  |
| d Bromyard (Dumbleton Cottage)                | T. V. Philpott, Esq.....    | 5           | 1             | 0                | 393            | 792  | 31.16                      | 188                        | 135 |
| d Bromyard (Rowden Abbey).....                | H. J. Bailey, Esq.....      | 5           | 1             | 0                | 450            | 813  | 32.02                      | 205                        | 140 |
| d Bromyard (Buckenhill).....                  | Mrs. Phipps.....            | 8           | 1             | 6                | 410            | 801  | 31.52                      | 170                        | 141 |
| Kington (Sunset).....                         | H. Langston, Esq.....       | 5           | 1             | 0                | 495            | 952  | 37.47                      | ..                         | ..  |
| d Kington (Gravel Hill).....                  | Col. G. F. Pearson.....     | 5           | 0             | 8                | 535            | 852  | 33.54                      | 210                        | 158 |
| d Pembridge (Byletts).....                    | Gen. Sir E. Wood K.C.B....  | 5           | 1             | 0                | 350            | 858  | 33.76                      | 190                        | 140 |
| d Kimbolton (Grantsfield).....                | J. M. Hutchinson, Esq....   | 5           | 1             | 0                | 424            | 831  | 32.71                      | 205                        | 148 |
| d Eyton.....                                  | Rev. B. G. Way.....         | 5           | 1             | 1                | 200            | 785  | 30.92                      | 194                        | 141 |
| d Eyton Hall.....                             | R. H. Evans, Esq.....       | 5           | 0             | 9                | 300            | 815  | 32.07                      | 195                        | 145 |
| 2.—SEVERN—Right Bank Tributaries. 155 sq. mi. |                             |             |               |                  |                |      |                            |                            |     |
| d Much Marcle (The Mount).....                | Miss A. M. Charles.....     | 5           | 0             | 9                | 240            | 725  | 28.56                      | 179                        | 138 |
| d Ledbury (Orchardleigh).....                 | Dr. Miles A. Wood.....      | 5           | 3             | 6                | 180            | 704  | 27.70                      | 171                        | 133 |
| d Ledbury (Underdown).....                    | S. H. Bickham, Esq.....     | 5           | 1             | 0                | 307            | 689  | 27.13                      | 180                        | 130 |
| M Ledbury (Underdown).....                    | S. H. Bickham, Esq.....     | 5           | 1             | 0                | 306            | 668  | 26.31                      | ..                         | ..  |
| Ledbury (Putley Court).....                   | J. Riley, Esq.....          | 5           | 1             | 0                | 290            | 834  | 32.84                      | 184                        | 144 |
| d Ledbury (Wellington Heath Vic)              | Rev. F. S. Stooke-Vaughan   | 5           | 1             | 0                | 505            | 727  | 28.61                      | 215                        | 137 |
| Cradley (Mill Bank).....                      | Lt.-Col. E. H. Thurlow..... | 5           | 1             | 0                | 320            | 764  | 30.08                      | 159                        | ..  |
| d Leintwardine.....                           | E. Charnock, Esq.....       | 5           | 1             | 6                | 430            | 969  | 38.14                      | 233                        | 160 |
| SHROPSHIRE. (Area, 1343 sq. mi.)              |                             |             |               |                  |                |      |                            |                            |     |
| 1.—MERSEY—Weaver. 27 sq. mi.                  |                             |             |               |                  |                |      |                            |                            |     |
| 2.—DEE. 30 sq. mi.                            |                             |             |               |                  |                |      |                            |                            |     |
| d Whitchurch (Fenns Bank).....                | M. W. Sowden, Esq., C.E.... | 8           | 1             | 0                | 271            | 885  | 34.86                      | 187                        | 147 |
| 3.—SEVERN—Right Bank Tributaries. 722 sq. mi. |                             |             |               |                  |                |      |                            |                            |     |
| d Ashford House.....                          | W. Downes Hall, Esq.....    | 5           | 0             | 5                | 315            | 905  | 35.63                      | 207                        | 159 |
| d Ludlow (Ashford Hall).....                  | Viscountess Hereford.....   | ..          | ..            | ..               | ..             | 783  | 30.83                      | 173                        | 140 |
| d Whitton (Whitton Paddocks).....             | Miss A. M. Sparrow.....     | 5           | 0             | 4                | 420            | 768  | 30.23                      | 185                        | 145 |
| d Ludlow (Spring Field).....                  | A. A. Barnes, Esq., C.E.... | 5           | 1             | 0                | 302            | 783  | 30.81                      | 208                        | 142 |
| M Ludlow (Spring Field).....                  | A. A. Barnes, Esq., C.E.... | 5           | 1             | 0                | 301            | 773  | 30.43                      | ..                         | ..  |
| d Bromfield (Oakley Park).....                | Mr. J. R. Francis.....      | 5           | 1             | 0                | 300            | 871  | 34.28                      | 203                        | 153 |
| d Bromfield (Warwick House).....              | F. Brayshaw, Esq.....       | 5           | 1             | 0                | 320            | 866  | 34.09                      | 213                        | 153 |
| d Bitterley Rectory.....                      | Rev. Preb. J. R. Burton.... | 5           | 1             | 6                | 509            | 736  | 28.97                      | 199                        | 135 |
| Clun (Trinity Hospital).....                  | Rev. W. M. D. La Touche     | 5           | 1             | 0                | 685            | 1067 | 42.02                      | 222                        | ..  |
| d Clun Forest (Bettws-y-crwyn).....           | Rev. Irving Watson.....     | 5           | 2             | 6                | 1400           | 1352 | 53.21                      | 207                        | 168 |
| d Craven Arms (Newington Ho.).....            | R. E. Serjeantson, Esq....  | 8           | 1             | 6                | 406            | 733  | 28.86                      | 192                        | 141 |
| d Wistanstow Rectory.....                     | Rev. W. M. D. La Touche..   | 8           | 1             | 2                | 482            | 724  | 28.49                      | 193                        | 129 |
| Burwarton Hall.....                           | Rev. W. M. D. La Touche..   | ..          | ..            | ..               | 900            | 942  | 37.07                      | 187                        | ..  |
| M Clun Forest (Cwm Ffrydd).....               | Sydney Wilson, Esq.....     | 5           | 1             | 0                | 1155           | 1235 | 48.63                      | ..                         | ..  |
| Lydbury North (Totterton H.).....             | W. H. Whitaker, Esq.....    | 5           | 1             | 3                | 700            | 817  | 32.17                      | ..                         | ..  |
| d Bishops Castle (Castle Street).....         | E. Griffiths, Esq.....      | 5           | 2             | 0                | 720            | 917  | 36.09                      | 193                        | 161 |
| d Bishops Castle (Claremont).....             | Richard Parry, Esq.....     | 5           | 1             | 0                | 681            | 878  | 34.58                      | 189                        | 155 |
| Bishops Castle Vicarage.....                  | Rev. C. E. Warner.....      | 5           | 1             | 6                | 596            | 924  | 36.36                      | 233                        | 161 |
| Bishops Castle (More Rectory).....            | Rev. Ridley Relton.....     | 6           | 0             | 11               | 600            | 845  | 33.27                      | ..                         | ..  |
| Bishops Castle (Roveries Hall).....           | A. H. Sykes, Esq.....       | 8           | 4             | 6                | 600            | 881  | 34.69                      | ..                         | ..  |
| d Church Stretton (Sewage Works).....         | E. J. Marsh, Esq.....       | 5           | 1             | 0                | 582            | 888  | 34.94                      | 187                        | 160 |
| d Church Stretton (Watling St.).....          | Mr. W. Bowden.....          | 5           | 1             | 0                | ..             | 954  | 37.55                      | 213                        | 169 |
| d Church Stretton (West Leigh).....           | H. Constantine, Esq.....    | 5           | 0             | 8                | 700            | 960  | 37.78                      | 202                        | 159 |
| d Bridgnorth (Cantreyn).....                  | W. Bayliss, Esq.....        | 5           | 3             | 0                | 290            | 731  | 28.79                      | 182                        | 143 |
| d Bridgnorth (Cantreyn).....                  | W. Bayliss, Esq.....        | 5           | 0             | 3                | 288            | 790  | 31.11                      | 182                        | 153 |
| d Bridgnorth (Aldenhall Park).....            | Mr. T. Canhing.....         | 5           | 3             | 9                | 430            | 757  | 29.81                      | 164                        | 141 |
| d Church Preen (Preen Cottage).....           | Mr. J. Hopkins.....         | 5           | 1             | 0                | 700            | 882  | 34.72                      | 187                        | 156 |
| d Church Stretton (Wolstaston).....           | Rev. Alan Clover.....       | 5           | 1             | 0                | 795            | 1004 | 39.52                      | 203                        | 160 |
| d Much Wenlock (Willey Park).....             | Col. Lord Forester.....     | 5           | 3             | 0                | 492            | 810  | 31.91                      | 193                        | 145 |
| Dorrington (Netley Hall).....                 | Miss Hope-Edwardes.....     | 5           | 1             | 6                | 351            | 918  | 36.13                      | 225                        | ..  |
| d Broseley (Benthall Hall).....               | Rev. C. F. Benthall.....    | 5           | 2             | 3                | 630            | 788  | 31.03                      | 164                        | 147 |

## DIVISION VI.—WEST MIDLAND COUNTIES—(con.).

| STATIONS.                                    | AUTHORITIES.                    | Rain Gauge. |                  |                        |     | Depth of Rain.<br>1920 | Days<br>with<br>01 in.<br>or<br>more. | Days<br>with<br>04 in.<br>or<br>more. |
|--|---------------------------------|-------------|------------------|------------------------|-----|------------------------|---------------------------------------|---------------------------------------|
|  |                                 | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     |                        |                                       |                                       |
| SHROPSHIRE—(con.).                           |                                 | in.         | ft.              | in.                    | ft. | mm.                    | in.                                   |                                       |
| 3.—SEVERN—Right Bank Tributaries—(con.).     |                                 |             |                  |                        |     |                        |                                       |                                       |
| D Shrewsbury (The Abbey House)               | Late Miss Rouse Boughton        | 8           | 1                | 2                      | 171 | 816                    | 32.11                                 | 212 153                               |
| D Shrewsbury (Highfield)                     | T. M. Howells, Esq.             | 5           | 4                | 6                      | 250 | 895                    | 35.25                                 | 201 156                               |
| Shrewsbury (Radbrook Hall)                   | Major D. D. Macpherson          | 5           | 0                | 8                      | 235 | 776                    | 30.56                                 | 191 ..                                |
| 4.—SEVERN—Left Bank Tributaries. 564 sq. mi. |                                 |             |                  |                        |     |                        |                                       |                                       |
| Bridgnorth (Coton Hall)                      | Lt.-Col. E. M. Wakeman          | 5           | 1                | 6                      | 460 | 824                    | 32.45                                 | 193 145                               |
| D Worfield (School House)                    | Frank Turner, Esq.              | 5           | 1                | 0                      | 140 | 757                    | 29.80                                 | 200 154                               |
| D Shifnal (Hatton Grange)                    | Mr. G. Risebrow                 | 5           | 4                | 4                      | 262 | 874                    | 34.43                                 | 227 168                               |
| D Shifnal (National Schools)                 | T. F. Chard, Esq.               | 5           | 1                | 5                      | 283 | 879                    | 34.60                                 | 181 142                               |
| Wellington W.W. (Wrekin Res.)                | G. Riley, Esq., C.E.            | 8           | 1                | 6                      | 490 | 847                    | 33.35                                 | .. ..                                 |
| D Shrewsbury (Sedgeford House)               | R. C. Sikes, Esq., C.E.         | 5           | 1                | 0                      | 169 | 811                    | 31.93                                 | 213 144                               |
| w Shrewsbury (St. Michael's Sch.)            | W. H. Barclay, Esq.             | 5           | 30               | 9                      | 229 | 606                    | 23.85                                 | .. ..                                 |
| D Shrewsbury (Roden)                         | J. W. Nowell, Esq.              | 8           | 1                | 2                      | 207 | 852                    | 33.53                                 | 174 139                               |
| D Shrewsbury (Fitz Rectory)                  | Rev. W. Brewster                | 5           | 1                | 2                      | 238 | 839                    | 33.04                                 | 200 150                               |
| D Newport (Aston Hall)                       | Col. R. Leeke                   | 5           | 0                | 11                     | 280 | 893                    | 35.17                                 | 214 164                               |
| D Newport (Edgmond)                          | W. Bevan, Esq.                  | 5           | 1                | 0                      | 225 | 820                    | 32.27                                 | 187 136                               |
| D Newport (Agricultural College)             | P. Hedworth Foulkes, Esq.       | 5           | 1                | 0                      | 220 | 816                    | 32.13                                 | 192 141                               |
| D Newport (Chetwynd Park)                    | Mrs. Burton Borough             | 5           | 1                | 0                      | 240 | 885                    | 34.83                                 | 216 155                               |
| D Newport (Chetwynd Gardens)                 | Mr. N. Sherwood                 | 5           | 1                | 0                      | 250 | 876                    | 34.49                                 | 223 161                               |
| D Cheswardine (Knighton Res.)                | H. C. Jones, Esq.               | 5           | 1                | 0                      | 351 | 879                    | 34.62                                 | 172 148                               |
| D Oswestry (The Mount Res.)                  | G. W. Lacey, Esq., C.E.         | 5           | 1                | 0                      | 698 | 957                    | 37.66                                 | 232 161                               |
| D Oswestry (Council School)                  | E. Compton, Esq.                | 5           | 1                | 0                      | 450 | 1079                   | 42.48                                 | 220 166                               |
| D Ellesmere                                  | H. C. Jones, Esq.               | 8           | 1                | 0                      | 368 | 981                    | 38.62                                 | 178 158                               |
| STAFFORDSHIRE. (Area, 1171 sq. mi.)          |                                 |             |                  |                        |     |                        |                                       |                                       |
| 1.—MERSEY—Weaver. 50 sq. mi.                 |                                 |             |                  |                        |     |                        |                                       |                                       |
| D Biddulph Grange                            | Robert Heath, Esq.              | 5           | 0                | 7                      | 525 | 1109                   | 43.65                                 | 224 183                               |
| 2.—SEVERN—Left Bank Tributaries. 160 sq. mi. |                                 |             |                  |                        |     |                        |                                       |                                       |
| D Kingswinford (Ashwood P.S.)                | F. J. Dixon, Esq., C.E.         | 5           | 1                | 0                      | 207 | 721                    | 28.40                                 | 160 142                               |
| D Dudley (Shavers End)                       | F. J. Dixon, Esq., C.E.         | 5           | 1                | 0                      | 745 | 757                    | 29.80                                 | 203 144                               |
| Wolverhampton (Town Hall)                    | G. Green, Esq., C.E.            | 5           | 15               | 6                      | 482 | 778                    | 30.61                                 | 184 136                               |
| Wolverhampton (West Park)                    | Dr. Henry Malet                 | 5           | 1                | 6                      | 432 | 824                    | 32.45                                 | 211 ..                                |
| D Patshull Park                              | Earl of Dartmouth, K.C.B.       | 8           | 1                | 3                      | 273 | 881                    | 34.70                                 | 159 140                               |
| D Shifnal (Weston Park)                      | Earl of Bradford                | 5           | 1                | 6                      | 400 | 898                    | 35.35                                 | 219 153                               |
| D Norbury Junction                           | H. C. Jones, Esq.               | 8           | 1                | 0                      | 332 | 925                    | 36.42                                 | 218 168                               |
| D Market Drayton (Old Springs)               | F. E. Harding, Esq.             | 5           | 1                | 3                      | 422 | 851                    | 33.52                                 | 219 153                               |
| Maer Hall Gardens                            | Mrs. F. J. Harrison, O.B.E.     | 8           | 1                | 6                      | 390 | 971                    | 38.22                                 | 175 ..                                |
| 3.—TRENT—Right Bank Tributaries. 518 sq. mi. |                                 |             |                  |                        |     |                        |                                       |                                       |
| D West Bromwich                              | (R) A.D. Greathorex, Esq., C.E. | 8           | 1                | 7                      | 543 | 762                    | 30.02                                 | 188 136                               |
| D Wednesbury (Ocker Hill)                    | A. W. Willet, Esq., C.E.        | 5           | 1                | 0                      | 476 | 752                    | 29.59                                 | 194 134                               |
| D Walsall (Bescot Sewage Farm)               | J. Taylor, Esq.                 | 8           | 0                | 11                     | 376 | 788                    | 31.04                                 | 204 138                               |
| D Walsall (Wednesbury Sew. Wks)              | T. Wicks, Esq.                  | 5           | 2                | 8                      | 381 | 733                    | 28.86                                 | 200 130                               |
| D Bilston (The Lunt Outfall)                 | Edgar Willan, Esq., C.E.        | 8           | 1                | 0                      | 423 | 831                    | 32.70                                 | 193 142                               |
| Wolverhampton (Penn Road)                    | K. C. Berrington, Esq.          | 6           | 0                | 9                      | 506 | 841                    | 33.10                                 | 199 144                               |
| D Aldridge (Bourne Vale)                     | F. J. Dixon, Esq., C.E.         | 5           | 1                | 0                      | 419 | 740                    | 29.13                                 | 190 136                               |
| D Bloxwich (Sneyd Reservoir)                 | A. W. Willet, Esq., C.E.        | 5           | 1                | 0                      | 507 | 786                    | 30.95                                 | 188 137                               |
| D Brewood (Slade Heath P.S.)                 | F. J. Dixon, Esq., C.E.         | 5           | 1                | 0                      | 340 | 726                    | 28.57                                 | 197 149                               |
| D Hammerwich (Cannock Chase)                 | A. W. Willet, Esq., C.E.        | 5           | 1                | 0                      | 475 | 764                    | 30.07                                 | 229 147                               |
| D Brewood (Belvide Reservoir)                | H. C. Jones, Esq.               | 5           | 1                | 0                      | 367 | 785                    | 30.91                                 | 199 144                               |
| D Lichfield (St. John Street)                | Dr. F. M. Rowland, C.B.E.       | 5           | 0                | 10                     | 269 | 692                    | 27.25                                 | 204 139                               |
| D Penkridge (Rodbaston)                      | Mr. F. W. Dawe                  | 5           | 1                | 0                      | 324 | 813                    | 32.02                                 | 166 148                               |
| D Hednesford (Scout House)                   | F. J. Dixon, Esq., C.E.         | 5           | 1                | 0                      | 750 | 973                    | 26.49                                 | 189 127                               |
| D Lichfield (Hanch Reservoir)                | F. J. Dixon, Esq., C.E.         | 5           | 1                | 0                      | 259 | 690                    | 27.18                                 | 203 131                               |
| D Rugeley (Brindley Bank)                    | F. J. Dixon, Esq., C.E.         | 5           | 1                | 0                      | 254 | 773                    | 30.44                                 | 154 137                               |
| D Milford Waterworks                         | W. Plant, Esq., C.E.            | 5           | 1                | 0                      | 246 | 808                    | 31.79                                 | 198 144                               |
| D Shugborough                                | The Earl of Lichfield           | 5           | 1                | 0                      | 260 | 878                    | 34.55                                 | 176 158                               |
| D Stafford (Rising Brook)                    | W. Fred. Wright, Esq.           | 5           | 1                | 0                      | 273 | 835                    | 32.86                                 | 200 142                               |
| D Stafford (Corporation Depot)               | W. Plant, Esq., C.E.            | 5           | 1                | 6                      | 249 | 828                    | 32.62                                 | 198 140                               |
| D Stafford (West Bank, Doxey)                | Leslie Wilson, Esq.             | 5           | 0                | 6                      | 280 | 815                    | 32.07                                 | .. ..                                 |
| Little Ingestre                              | Major H. Cecil Gardner          | 8           | 1                | 6                      | 272 | 819                    | 32.25                                 | 166 ..                                |
| D Eccleshall (Johnson Hall)                  | Major W. Moat                   | 5           | 1                | 1                      | 400 | 896                    | 35.26                                 | 196 155                               |
| Stone (Meece House)                          | E. J. W. Wood, Esq.             | 5           | 1                | 6                      | 331 | 911                    | 35.86                                 | 190 ..                                |
| D Standon (Hatton W.W.)                      | R. C. Frain, Esq., C.E.         | 5           | 1                | 8                      | 355 | 872                    | 34.33                                 | 185 153                               |

## DIVISION VI.—WEST MIDLAND COUNTIES—(con.).

| STATIONS.                                     | AUTHORITIES.                   | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|---|--------------------------------|-------------|------------------|------------------------|-----|----------------|-------|-------------------------------------|-------------------------------------|
|   |                                | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |                                     |                                     |
| STAFFORDSHIRE—(con.).                         |                                | in.         | ft.              | in.                    | ft. | mm.            | in.   |                                     |                                     |
| 4.—TRENT—Left Bank Tributaries. 193 sq. mi.   |                                |             |                  |                        |     |                |       |                                     |                                     |
| D Burton (Hoar Cross)                         | F. W. Lycett, Esq.             | 8           | 1                | 0                      | 400 | 789            | 31·06 | 169                                 | 142                                 |
| D Burton (Rangemore)                          | Mr. H. Barson                  | 5           | 5                | 6                      | 424 | 826            | 32·53 | 157                                 | 137                                 |
| D Burton Reservoir                            | F. J. Dixon, Esq., C.E.        | 5           | 1                | 0                      | 309 | 718            | 28·27 | 154                                 | 123                                 |
| D Burton (Borough Hospital)                   | Dr. J. M. Cowie                | 8           | 1                | 6                      | 220 | 791            | 31·15 | 230                                 | 149                                 |
| D Burton (Shobnall)                           | Messrs. Bass & Co. Ltd.        | 5           | 5                | 6                      | 156 | 683            | 26·88 | 199                                 | 142                                 |
| D Stone (Alleyne's Grammar Sch.)              | H. Malcolm Fraser, Esq.        | 5           | 1                | 6                      | 415 | 904            | 35·57 | 236                                 | 163                                 |
| D Stone (Idlerocks)                           | Mrs. Wedgwood                  | 5           | 1                | 2                      | 740 | 1039           | 40·99 | 217                                 | 180                                 |
| D Longton (The Meir)                          | R. C. Frain, Esq., C.E.        | 5           | 1                | 0                      | 618 | 955            | 37·59 | 226                                 | 158                                 |
| 5.—TRENT—Dove. 250 sq. mi.                    |                                |             |                  |                        |     |                |       |                                     |                                     |
| D Tean (Oak Hill)                             | Vincent H. Jackson, Esq.       | 5           | 2                | 0                      | 590 | 902            | 35·52 | 216                                 | 153                                 |
| D Tean (The Heath House)                      | Lt.-Col. B. H. Philips, C.M.G. | 5           | 1                | 0                      | 647 | 972            | 38·27 | 192                                 | 154                                 |
| D Oakamoor (Lightoaks)                        | M. A. Bolton, Esq.             | 5           | 1                | 6                      | 650 | 959            | 37·76 | 202                                 | 160                                 |
| D Oakamoor (Woodbank)                         | (R) M. A. Bolton, Esq.         | 8           | 4                | 9                      | 600 | 927            | 36·48 | 230                                 | 155                                 |
| D Ashbourne (Mayfield House)                  | Graham C. Lawson, Esq.         | 8           | 1                | 0                      | 374 | 920            | 36·23 | 200                                 | 147                                 |
| D Ashbourne (Mayfield House)                  | Graham C. Lawson, Esq.         | 8           | 1                | 0                      | 374 | 946            | 37·26 | 209                                 | 150                                 |
| D Mayfield (Doveside)                         | Mr. T. Bridge                  | 8           | 1                | 0                      | 421 | 876            | 34·50 | 204                                 | 149                                 |
| D Leek (Wall Grange)                          | R. C. Frain, Esq., C.E.        | 5           | 1                | 0                      | 458 | 1058           | 41·65 | 223                                 | 170                                 |
| D Leek (Hillesdon)                            | John Wilson, Esq.              | 5           | 1                | 0                      | 750 | 1052           | 41·41 | 218                                 | 174                                 |
| D Leek (Haregate)                             | Mr. G. Sweetmore               | 5           | 0                | 9                      | 680 | 1109           | 43·65 | 219                                 | 179                                 |
| WORCESTERSHIRE. (Area, 751 sq. mi.)           |                                |             |                  |                        |     |                |       |                                     |                                     |
| 1.—SEVERN—Right Bank Tributaries. 231 sq. mi. |                                |             |                  |                        |     |                |       |                                     |                                     |
| D Redmarley (Haselden)                        | Miss F. L. Newbury             | 5           | 0                | 5                      | 280 | 719            | 28·29 | 175                                 | 134                                 |
| D Pendock (Littleridge)                       | Lady Hooker                    | 5           | 1                | 0                      | 85  | 706            | 27·80 | 168                                 | 140                                 |
| D Upton-on-Severn (Willow Bank)               | J. Selwyn Cowley, Esq.         | 5           | 1                | 2                      | 46  | 739            | 29·10 | 181                                 | 140                                 |
| D Upton-on-Severn (The Eades)                 | Lt.-Col. E. W. Tennant.        | 5           | 0                | 9                      | 100 | 728            | 28·67 | 178                                 | 133                                 |
| D Malvern (British Camp Res.)                 | Capt. W. Osborne Thorp.        | 5           | 1                | 0                      | 677 | 761            | 29·95 | ..                                  | ..                                  |
| D Malvern (Church Street)                     | Capt. W. Osborne Thorp.        | 5           | 1                | 0                      | 350 | 820            | 32·28 | ..                                  | ..                                  |
| D West Malvern                                | Capt. W. Osborne Thorp.        | ..          | ..               | ..                     | ..  | 806            | 31·75 | ..                                  | ..                                  |
| D Malvern (Hayes Bank)                        | Capt. G. M. Archdale           | 4           | 1                | 0                      | 190 | 740            | 29·13 | 166                                 | 125                                 |
| D Malvern (Belle Vue House)                   | A. Mander, Esq.                | 5           | 4                | 0                      | 520 | 826            | 32·50 | 193                                 | 113                                 |
| D Malvern (Free Library)                      | E. W. Harris, Esq.             | 5           | 1                | 0                      | 377 | 806            | 31·74 | 193                                 | 133                                 |
| D Malvern (Clarence Road)                     | S. Bottomley, Esq.             | 5           | 1                | 0                      | 300 | 774            | 30·46 | 210                                 | 138                                 |
| D Malvern (Hornvold Road)                     | Rev. T. Wolsey Lewis           | 5           | 1                | 0                      | 498 | 762            | 30·01 | ..                                  | 126                                 |
| D Knightwick Sanatorium                       | H. Gordon-Smith, Esq.          | 5           | 1                | 0                      | 300 | 745            | 29·34 | 176                                 | 122                                 |
| D Worcester (Diglis Lock)                     | E. J. Bradley, Esq.            | 5           | 1                | 0                      | 49  | 693            | 27·30 | 197                                 | 131                                 |
| D Worcester (Bromwich House)                  | Rev. Manley Power              | 5           | 0                | 10                     | 65  | 708            | 27·89 | 177                                 | 133                                 |
| D Worcester (St. John's School)               | E. R. Bowen, Esq.              | 5           | 1                | 4                      | 82  | 712            | 28·05 | 166                                 | 129                                 |
| D Martley Rectory                             | Rev. J. F. Hastings            | 5           | 1                | 0                      | 220 | 764            | 30·07 | 199                                 | 144                                 |
| D Ombersley (Holt Lock)                       | E. J. Bradley, Esq.            | 5           | 1                | 1                      | 55  | 672            | 26·46 | 178                                 | 124                                 |
| D Shelsley Grange                             | A. G. Burney, Esq.             | 5           | 1                | 0                      | 350 | 738            | 29·04 | 180                                 | 131                                 |
| D Rochford Rectory                            | Rev. Allan Ellison             | 5           | 1                | 0                      | 315 | 803            | 31·61 | 185                                 | 143                                 |
| D Tenbury (St. Michael's)                     | Miss Hewitt                    | 5           | 1                | 0                      | 329 | 828            | 32·59 | 190                                 | 144                                 |
| D Tenbury (St. Michael's Obsy.)               | Frederick Lowe, Esq.           | 5           | 1                | 0                      | 314 | 821            | 32·32 | 201                                 | 141                                 |
| D Stockton-on-Teme (Eardiston)                | Miss M. Wallace                | 5           | 0                | 8                      | 200 | 796            | 31·34 | 184                                 | 140                                 |
| D Bewdley (Winterdyne)                        | Miss K. M. Sturt               | 5           | 3                | 5                      | 175 | 624            | 24·55 | 173                                 | 133                                 |
| M Bewdley (Winterdyne)                        | Miss K. M. Sturt               | 5           | 1                | 0                      | 110 | 728            | 28·66 | ..                                  | ..                                  |
| 2.—SEVERN—Left Bank Tributaries. 194 sq. mi.  |                                |             |                  |                        |     |                |       |                                     |                                     |
| D Earl's Croome (Levant Lodge)                | F. W. Burnett, Esq.            | 5           | 2                | 0                      | 110 | 738            | 29·06 | 182                                 | 132                                 |
| D Kempsey (Draycott Lodge)                    | Major H. Berkeley Hill         | 5           | 1                | 0                      | 70  | 728            | 28·67 | 178                                 | ..                                  |
| D Kempsey (The Lodge)                         | Mrs. Isaac                     | 5           | 0                | 9                      | 80  | 678            | 26·70 | 163                                 | 128                                 |
| D Worcester (Water Works)                     | T. Caink, Esq., C.E.           | 5           | 1                | 0                      | 52  | 676            | 26·62 | 179                                 | 117                                 |
| D Worcester (Barbourne)                       | B. Brotherton, Esq.            | 5           | 1                | 0                      | 92  | 700            | 27·58 | 173                                 | 122                                 |
| D Worcester (Hindlip Hall)                    | Hon. C. S. V. Allsopp          | 8           | 1                | 0                      | 201 | 574            | 22·62 | ..                                  | ..                                  |
| D Worcester (Bever Lock)                      | E. J. Bradley, Esq.            | 5           | 1                | 1                      | 52  | 695            | 27·35 | 180                                 | 132                                 |
| D Droitwich (Friar Street Depôt)              | H. Hulse, Esq., C.E.           | 12          | 4                | 0                      | 98  | 694            | 27·31 | 199                                 | 155                                 |
| D Bromsgrove (Tardebigge Res.)                | F. A. Jones, Esq., C.E.        | 5           | 4                | 6                      | 455 | 855            | 33·66 | 188                                 | 142                                 |
| D Barnet Green (Upwood)                       | Miss M. Gibbins                | 5           | 0                | 11                     | 650 | 720            | 28·34 | 181                                 | 127                                 |
| D Stourport (Lincombe Lock)                   | E. J. Bradley, Esq.            | 5           | 1                | 0                      | 62  | 716            | 28·18 | 167                                 | 153                                 |
| D Kidderminster (Brinton Park)                | J. T. Cowderoy, Esq.           | 5           | 1                | 0                      | 160 | 646            | 25·44 | 188                                 | 131                                 |

## DIVISION VI.—WEST MIDLAND COUNTIES—(con.).

| STATIONS.                                    | AUTHORITIES.                        | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|--|-------------------------------------|-------------|------------------|------------------------|-----|----------------|-------|--|--|
|  |                                     | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |  |  |
| WORCESTERSHIRE—(con.).                       |                                     |             |                  |                        |     |                |       |  |  |
| 2.—SEVERN—Left Bank Tributaries—(con.).      |                                     |             |                  |                        |     |                |       |  |  |
| d Kidderminster (Park Hall) . . . . .        | G. E. Wilson, Esq. . . . .          | 5           | 1                | 0                      | 200 | 693            | 27·27 | ..                                     | 130                                    |
| d Pedmore (The Dene) . . . . .               | T. Grazebrook, Esq. . . . .         | 5           | 0                | 6                      | 340 | 730            | 28·74 | 189                                    | 144                                    |
| d Stourbridge . . . . .                      | W. Fiddian, Esq. . . . .            | 8           | 1                | 0                      | 215 | 792            | 31·17 | 219                                    | 150                                    |
| d Halesowen (Hasbury Cottage) . . . . .      | Rev. A. S. Rashleigh . . . . .      | 5           | 1                | 1                      | 532 | 770            | 30·32 | 206                                    | 145                                    |
| d Netherton (Lodge Farm Res.) . . . . .      | A. W. Willett, Esq., C.E. . . . .   | 5           | 1                | 0                      | 445 | 672            | 26·44 | 183                                    | 136                                    |
| Dudley (Borough Cemetery) . . . . .          | Vincent Turner, Esq., C.E. . . . .  | 5           | 1                | 3                      | 591 | 699            | 27·51 | 171                                    | 134                                    |
| Dudley (Trindle House) . . . . .             | S. Staffs Drainage Comm. . . . .    | 8           | 1                | 0                      | 575 | 915            | 36·04 | ..                                     | ..                                     |
| 3.—SEVERN—Upper Avon. 260 sq. mi.            |                                     |             |                  |                        |     |                |       |  |  |
| d Blockley (Upton Wold) . . . . .            | E. W. Arkell, Esq. . . . .          | 5           | 1                | 0                      | 800 | 927            | 36·50 | 185                                    | 147                                    |
| Bredon (The Croft) . . . . .                 | Jasper Lambert, Esq. . . . .        | 5           | 1                | 1                      | 120 | 673            | 26·48 | 162                                    | ..                                     |
| d Shipston (Tidmington House) . . . . .      | Miss Staunton . . . . .             | 5           | 1                | 0                      | 160 | 779            | 30·68 | ..                                     | 116                                    |
| d Evesham (Bengeworth) . . . . .             | Messrs. Ross Bros., Ltd. . . . .    | 5           | 1                | 0                      | 128 | 603            | 23·73 | 166                                    | 127                                    |
| d Evesham (Lansdowne) . . . . .              | R. Burlingham, Esq. . . . .         | 5           | 5                | 0                      | 108 | 671            | 26·43 | ..                                     | 119                                    |
| d Evesham (Rossyvera House) . . . . .        | R. Burlingham, Esq. . . . .         | 5           | 1                | 0                      | 163 | 636            | 25·02 | ..                                     | 111                                    |
| Evesham (Sewage Works) . . . . .             | L. Abbott, Esq. . . . .             | 8           | 3                | 0                      | 86  | 602            | 23·70 | 181                                    | ..                                     |
| d Evesham (Great Hampton) . . . . .          | H. C. Boutflower, Esq. . . . .      | 5           | 1                | 0                      | 130 | 624            | 24·57 | 178                                    | 121                                    |
| d Shipston (Armscote) . . . . .              | W. L. Stanton, Esq. . . . .         | 5           | 1                | 1                      | 241 | 675            | 26·58 | 212                                    | 134                                    |
| Shipston (Cookhill Co. School) . . . . .     | T. Barber, Esq. . . . .             | 5           | 1                | 0                      | 400 | 714            | 28·09 | 186                                    | ..                                     |
| d Redditch (Hewell Gardens) . . . . .        | Mr. J. J. Graham . . . . .          | 5           | 1                | 0                      | 469 | 847            | 33·35 | 214                                    | 140                                    |
| d Alvechurch (Bordesley Hall) . . . . .      | A. H. Wiggin, Esq. . . . .          | 11          | 3                | 0                      | 490 | 831            | 32·71 | 176                                    | 146                                    |
| d Alvechurch (High Croft) . . . . .          | D. B. Grubb, Esq. . . . .           | 5           | 1                | 0                      | 580 | 846            | 33·30 | 181                                    | 146                                    |
| d Alvechurch (Fairfield) . . . . .           | D. McMichael, Esq. . . . .          | 5           | 1                | 0                      | 400 | 848            | 33·38 | 171                                    | 150                                    |
| d Bromsgrove (Lower Bittal Res.) . . . . .   | F. A. Jones, Esq., C.E. . . . .     | 5           | 3                | 0                      | 457 | 840            | 33·06 | 208                                    | 144                                    |
| 4.—THAMES—Windrush & c. 10 sq. mi.           |                                     |             |                  |                        |     |                |       |  |  |
| 5.—TRENT—Right Bank Tributaries. 56 sq. mi.  |                                     |             |                  |                        |     |                |       |  |  |
| d Halesowen (Frankley) . . . . .             | F. W. Macaulay, Esq., C.E. . . . .  | 5           | 0                | 10                     | 570 | 868            | 34·17 | 192                                    | 142                                    |
| WARWICKSHIRE. (Area, 902 sq. mi.)            |                                     |             |                  |                        |     |                |       |  |  |
| 1.—SEVERN—Upper Avon. 603 sq. mi.            |                                     |             |                  |                        |     |                |       |  |  |
| d Long Compton (Weston Park) . . . . .       | H. A. Warriner, Esq. . . . .        | 8           | 3                | 0                      | 510 | 689            | 27·11 | 170                                    | 124                                    |
| d Bidford (Moor Hall) . . . . .              | E. H. Cubberley, Esq. . . . .       | 5           | 1                | 0                      | 125 | 664            | 26·14 | 178                                    | 131                                    |
| d Kineton (Lodge Farm) . . . . .             | L. G. Slade, Esq. . . . .           | 8           | 1                | 2                      | 403 | 845            | 33·25 | 175                                    | 140                                    |
| d Stratford-on-Avon (Milcote) . . . . .      | F. W. Jones, Esq., C.E. . . . .     | 5           | 1                | 6                      | 122 | 711            | 27·99 | 159                                    | 128                                    |
| d Stratford-on-Avon (Avonfield) . . . . .    | G. W. Everard, Esq. . . . .         | 5           | 6                | 0                      | 120 | 617            | 24·30 | 161                                    | ..                                     |
| d Stratford-on-Avon (Shottery H.) . . . . .  | R. C. Carter, Esq. . . . .          | 5           | 0                | 8                      | 140 | 622            | 24·50 | 147                                    | 116                                    |
| d Alcester (Ragley Hall) . . . . .           | Mr. C. Harding . . . . .            | 5           | 1                | 0                      | 270 | 748            | 29·44 | ..                                     | 122                                    |
| w Ashorne . . . . .                          | Mr. G. T. Osborn . . . . .          | 5           | 1                | 0                      | 160 | 749            | 29·50 | ..                                     | ..                                     |
| d Southam (Stockton House) . . . . .         | G. B. Blyth, Esq. . . . .           | 6           | 1                | 4                      | 394 | 632            | 24·90 | 201                                    | 122                                    |
| d Studley College . . . . .                  | Miss E. H. Ekins . . . . .          | 5           | 0                | 9                      | 235 | 754            | 29·69 | 180                                    | 134                                    |
| d Warwick Castle Gardens . . . . .           | Mr. H. F. Smale . . . . .           | 5           | 1                | 0                      | 197 | 796            | 31·35 | 210                                    | 141                                    |
| d Warwick (The Lawn Gardens) . . . . .       | Mr. D. Cooper . . . . .             | 5           | 1                | 0                      | 180 | 806            | 31·75 | 209                                    | 149                                    |
| d Leamington (Pump Room Gdns.) . . . . .     | H. Gibbins Ward, Esq. . . . .       | 8           | 0                | 9                      | 165 | 679            | 26·73 | 181                                    | 128                                    |
| d Willoughby Vicarage . . . . .              | Rev. H. Trethewy . . . . .          | 5           | 1                | 0                      | 300 | 716            | 28·17 | 195                                    | 151                                    |
| d Lapworth Croft . . . . .                   | T. Birkett Barker, Esq. . . . .     | 5           | 1                | 6                      | 410 | 793            | 31·21 | 150                                    | 139                                    |
| d Kenilworth (The Gate House) . . . . .      | Miss M. E. Rotherham . . . . .      | 5           | 1                | 0                      | 250 | 706            | 27·80 | 207                                    | 168                                    |
| d Rugby (Bilton Grange) . . . . .            | W. H. G. Southcomb, Esq. . . . .    | 5           | 1                | 0                      | 400 | 628            | 24·72 | 173                                    | 126                                    |
| d Rugby (Caldecott) . . . . .                | W. A. D. Rudge, Esq. . . . .        | 5           | 1                | 0                      | 390 | 653            | 25·72 | 173                                    | 125                                    |
| d Stretton-on-Dunsmore Manor Ho . . . . .    | Mrs. Lister-Kaye . . . . .          | 5           | 0                | 8                      | 295 | 700            | 27·56 | 166                                    | 133                                    |
| d Ryton-on-Dunsmore (Ryton Ho) . . . . .     | Charles Browett, Esq. . . . .       | 5           | 1                | 2                      | 260 | 806            | 31·75 | 190                                    | 149                                    |
| d Coventry (Radcliffe Road) . . . . .        | J. B. Morris, Esq. . . . .          | 5           | 1                | 0                      | 339 | 742            | 29·22 | 207                                    | 137                                    |
| d Coventry (City Hospital) . . . . .         | E. H. Snell, Esq., M.D. . . . .     | 8           | 1                | 0                      | 269 | 701            | 27·59 | 191                                    | 136                                    |
| d Coventry (Keresley Grange) . . . . .       | Miss H. Rotherham . . . . .         | 5           | 0                | 10                     | 413 | 759            | 29·89 | 238                                    | 147                                    |
| 2.—THAMES—Windrush & c. 2 sq. mi.            |                                     |             |                  |                        |     |                |       |  |  |
| 3.—THAMES—Cherwell. 15 sq. mi.               |                                     |             |                  |                        |     |                |       |  |  |
| d Farnborough . . . . .                      | Miss C. A. Prater . . . . .         | 5           | 1                | 0                      | 515 | 819            | 32·24 | 198                                    | 140                                    |
| 4.—TRENT—Right Bank Tributaries. 282 sq. mi. |                                     |             |                  |                        |     |                |       |  |  |
| d Solihull (Marsh Cottage) . . . . .         | Capt. E. P. Currall . . . . .       | 5           | 1                | 0                      | 420 | 763            | 30·05 | 197                                    | 140                                    |
| d Selly Oak (Bourneville) . . . . .          | Messrs. Cadbury Bros., Ltd. . . . . | 5           | 1                | 0                      | 432 | 787            | 30·99 | 215                                    | 142                                    |
| d Selly Oak (Lodge Hill Cemtry.) . . . . .   | Mr. W. Garden . . . . .             | 5           | 1                | 2                      | 540 | 785            | 30·89 | 164                                    | 131                                    |



## DIVISION VI.—WEST MIDLAND COUNTIES—(con.).

| STATIONS.                              | AUTHORITIES.                 | Rain Gauge. |               |                  | Depth of Rain. |     | Days with .01 in. or more. | Days with .04 in. or more. |     |
|--|------------------------------|-------------|---------------|------------------|----------------|-----|----------------------------|----------------------------|-----|
|  |                              | Diam.       | Height Ground | above Sea Level. | 1920           |     |                            |                            |     |
| WARWICKSHIRE—(con.).                   |                              | in.         | ft.           | in.              | ft.            | mm. | in.                        |                            |     |
| 4.—TRENT—Right Bank Tributaries—(con.) |                              |             |               |                  |                |     |                            |                            |     |
| D Selly Oak (South Hill) .....         | W. Littleboy, Esq. ....      | 5           | 0             | 9                | 460            | 778 | 30.64                      | 196                        | 141 |
| D Moseley (Prospect Road) .....        | Rev. F. Oscar Lane .....     | 5           | 1             | 0                | 550            | 770 | 30.31                      | 202                        | 136 |
| D Moseley (Highfield Road) .....       | J. Newland Brown, Esq. ...   | 8           | 1             | 9                | 550            | 838 | 32.99                      | 213                        | 140 |
| d Moseley (Oxford Road) .....          | G. F. Lyndon, Esq. ....      | 5           | 1             | 0                | 506            | 819 | 32.26                      | ..                         | ..  |
| D Birmingham (Sparkhill) .....         | D. H. Owen, Esq. ....        | 5           | 1             | 0                | 426            | 831 | 32.73                      | 206                        | 144 |
| D Birmingham (Edgbaston) .....         | A. J. Kelley, Esq. ....      | 8           | 1             | 6                | 525            | 796 | 31.33                      | 211                        | 135 |
| M Birmingham (The Crescent) .....      | J. J. Gilbert, Esq. ....     | 5           | 7             | 0                | 480            | 800 | 31.49                      | ..                         | ..  |
| d Birmingham (Perry Bar) .....         | P. H. Budgen, Esq. ....      | 5           | 1             | 0                | 340            | 776 | 30.55                      | ..                         | ..  |
| D Birmingham (Gravelly Hill) ...       | W. L. Mold, Esq. ....        | 5           | 3             | 0                | 470            | 816 | 32.11                      | 196                        | 129 |
| D Birmingham (Erdington) .....         | F. W. Macaulay, Esq., C.E. . | 5           | 1             | 2                | 472            | 730 | 28.72                      | 200                        | 133 |
| D Minworth Greaves .....               | Birmingham Drainage Bd. .    | 8           | 0             | 6                | 285            | 682 | 26.87                      | 186                        | 134 |
| D Whitacre (Birmingham W.W.) .         | F. W. Macaulay, Esq., C.E. . | 5           | 1             | 0                | 269            | 694 | 27.31                      | 202                        | 128 |
| D Sutton Coldfield (The Park) ..       | Mr. H. Harland .....         | 5           | 1             | 0                | 370            | 743 | 29.25                      | 182                        | 141 |

## DIVISION VII.—NORTH MIDLAND COUNTIES.

## LEICESTERSHIRE. (Area, 824 sq. mi.)

|   |                                    |   |      |     |     |       |     |     |
|---|------------------------------------|---|------|-----|-----|-------|-----|-----|
| <b>1.—SEVERN—Upper Avon. 41 sq. mi.</b>             |                                    |   |      |     |     |       |     |     |
| d Welford (The Reservoir) . . . . .                 | T. W. Millner, Esq. . . . .        | 5 | 1 6  | 430 | 717 | 28.22 | 198 | 138 |
| d Bitteswell School Gardens . . . . .               | Maurice Smith, Esq. . . . .        | 5 | 1 6  | 401 | 701 | 27.59 | 195 | 144 |
| <b>2.—WELLAND. 96 sq. mi.</b>                       |                                    |   |      |     |     |       |     |     |
| d Market Harborough (Rose Hill) . . . . .           | G. O. Nicholson, Esq. . . . .      | 5 | 1 0  | 350 | 663 | 26.10 | 173 | 141 |
| d East Langton Grange . . . . .                     | J. W. Logan, Esq., M.P. . . . .    | 5 | 1 0  | 300 | 625 | 24.60 | ..  | ..  |
| d Kibworth Beauchamp . . . . .                      | E. V. Phillips, Esq. . . . .       | 9 | 2 6  | 390 | 675 | 26.59 | 167 | 125 |
| d Hallaton Hall . . . . .                           | S. N. Bankart, Esq. . . . .        | 8 | 1 3  | 366 | 611 | 24.04 | ..  | 133 |
| m Horninghold House <i>Snowdon g.</i> . . . .       | Mr. B. Inchley . . . . .           | 5 | 1 6  | 380 | 616 | 24.24 | ..  | ..  |
| m Horninghold House <i>Float g.</i> . . . .         | Mr. B. Inchley . . . . .           | 6 | 2 0  | 380 | 602 | 23.70 | ..  | ..  |
| d Knossington Rectory . . . . .                     | Rev. G. G. Wilkinson . . . . .     | 5 | 0 11 | 575 | 659 | 25.93 | 177 | 142 |
| <b>3.—WITHAM. 7 sq. mi.</b>                         |                                    |   |      |     |     |       |     |     |
| <b>4.—TRENT—Right Bank Tributaries. 680 sq. mi.</b> |                                    |   |      |     |     |       |     |     |
| d Wistow Hall Gardens . . . . .                     | Col. Lord Cottesloe . . . . .      | 5 | 1 0  | 309 | 611 | 24.06 | 157 | 140 |
| d Countesthorpe (Wigston SewFm.) . . . . .          | W. G. J. Clark, Esq., C.E. . . . . | 8 | 0 9  | 257 | 566 | 22.27 | 197 | 121 |
| d Leicester (Stoughton Drive) . . . . .             | Theodore B. Ellis, Esq. . . . .    | 5 | 0 6  | 315 | 584 | 23.00 | 174 | 133 |
| d Leicester (Town Hall Square) . . . . .            | E. G. Mawbey, Esq., C.E. . . . .   | 5 | 0 6  | 211 | 594 | 23.38 | 184 | 126 |
| d Leicester (Town Hall Sq.) (R) . . . . .           | E. G. Mawbey, Esq., C.E. . . . .   | 7 | 1 8  | 212 | 591 | 23.28 | 184 | 126 |
| d Leicester (Westcotes Drive) . . . . .             | C. Modlen, Esq. . . . .            | 5 | 0 11 | 200 | 598 | 23.55 | 172 | 126 |
| d Market Bosworth (Osbaston Hall) . . . . .         | Sir Thomas Cope, Bart. . . . .     | 8 | 1 0  | 393 | 675 | 26.58 | 220 | 141 |
| d Humberstone Asylum . . . . .                      | S. C. Leak, Esq. . . . .           | 8 | 1 0  | 266 | 638 | 25.10 | 192 | 138 |
| d Leicester (Gilroes Cemetery) . . . . .            | E. G. Mawbey, Esq., C.E. . . . .   | 5 | 1 0  | 285 | 651 | 25.62 | 196 | 133 |
| d Thornton Reservoir . . . . .                      | G. T. Edwards, Esq., C.E. . . . .  | 8 | 1 2  | 371 | 699 | 27.53 | 184 | 149 |
| d Cropstone (Bradgate Res.) . . . . .               | G. T. Edwards, Esq., C.E. . . . .  | 8 | 1 0  | 246 | 730 | 28.74 | 193 | 153 |
| d Barkby Hall . . . . .                             | Victor R. Pochin, Esq. . . . .     | 5 | 0 6  | 227 | 640 | 25.18 | 172 | 138 |
| d Swithland (The Brand) . . . . .                   | G. T. Edwards, Esq., C.E. . . . .  | 8 | 1 0  | 172 | 667 | 26.26 | 175 | 139 |
| d Ratcliffe-on-Wreake College . . . . .             | G. Murray, Esq. . . . .            | 5 | 1 0  | 288 | 795 | 31.31 | 187 | 130 |
| d Ashby-de-la-Zouch (Cole Orton) . . . . .          | Mr. H. T. Wilson . . . . .         | 5 | 2 0  | 540 | 796 | 31.35 | 207 | 151 |
| d Barrow-upon-Soar (The Mount) . . . . .            | Mrs. C. Stuart Thomson . . . . .   | 5 | 1 6  | ..  | 609 | 23.97 | 158 | 127 |
| d Asfordby Rectory . . . . .                        | Rev. W. R. Finch . . . . .         | 5 | 0 11 | 212 | 584 | 23.00 | 165 | 137 |
| d Melton Mowbray (White Lodge) . . . . .            | R. Barker, Esq. . . . .            | 8 | 1 0  | 236 | 620 | 24.39 | 193 | 130 |
| d Melton Mowbray . . . . .                          | Hon. Gerald Walsh . . . . .        | 5 | 1 0  | 345 | 583 | 22.97 | 183 | 131 |
| d Charnwood For. (Blackbrk. Res) . . . . .          | A. H. Walker, Esq., C.E. . . . .   | 5 | 1 0  | 379 | 682 | 26.86 | 209 | 161 |
| d Loughborough (Nanpantan Res) . . . . .            | A. H. Walker, Esq., C.E. . . . .   | 8 | 1 0  | 269 | 724 | 28.51 | 203 | 146 |
| d Loughborough (The Widenings) . . . . .            | Adrian Young, Esq. . . . .         | 5 | 0 7  | 197 | 630 | 24.80 | 199 | ..  |
| d Loughborough (Sewage Farm) . . . . .              | A. H. Walker, Esq., C.E. . . . .   | 8 | 1 0  | 134 | 554 | 21.81 | ..  | ..  |
| d Burton-on-the-Wolds (Burtn H.) . . . . .          | Lord Ernest St. Maur. . . . .      | 5 | 1 0  | 270 | 654 | 25.73 | 178 | 141 |
| d Prestwold Hall . . . . .                          | E. H. Packe, Esq. . . . .          | 8 | 1 0  | 209 | 658 | 25.90 | 177 | 144 |
| d Croxton Kerrial School . . . . .                  | C. J. Prowse, Esq. . . . .         | 5 | 1 0  | 480 | 666 | 26.21 | 179 | 137 |
| d Belvoir Castle Gardens . . . . .                  | The Duke of Rutland, K.G. . . . .  | 8 | 1 0  | 259 | 665 | 26.17 | 192 | 135 |

## DIVISION VII.—NORTH MIDLAND COUNTIES—(con.).

| STATIONS.                                   | AUTHORITIES.                  | Rain Gauge. |                  |                        |     | Depth of Rain. |        | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|---|-------------------------------|-------------|------------------|------------------------|-----|----------------|--------|-------------------------------------|-------------------------------------|
|   |                               | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |        |                                     |                                     |
| RUTLAND. (Area, 152 sq. mi.)                |                               | in.         | ft.              | in.                    | ft. | mm.            | in.    |                                     |                                     |
| 1.—WELLAND. 125 sq. mi.                     |                               |             |                  |                        |     |                |        |                                     |                                     |
| d Uppingham (Ridlington)                    | N. W. Wortley, Esq.           | 5           | 4                | 7                      | 527 | 677            | 26·66  | 194                                 | 139                                 |
| 2.—WITHAM. 5 sq. mi.                        |                               |             |                  |                        |     |                |        |                                     |                                     |
| 3.—TRENT—Right Bank Tributaries. 22 sq. mi. |                               |             |                  |                        |     |                |        |                                     |                                     |
| LINCOLNSHIRE. (Area, 2646 sq. mi.)          |                               |             |                  |                        |     |                |        |                                     |                                     |
| 1.—NENE. 100 sq. mi.                        |                               |             |                  |                        |     |                |        |                                     |                                     |
| d Tydd (North Level Sluice)                 | Mr. S. Fovargne               | 5           | 3                | 0                      | 10  | 524            | 20·65  | 150                                 | 119                                 |
| 2.—WELLAND. 341 sq. mi.                     |                               |             |                  |                        |     |                |        |                                     |                                     |
| Stamford (Tinwell Road)                     | W. J. Richards, Esq.          | 5           | 2                | 0                      | 88  | 584            | 23·00  | ..                                  | 106                                 |
| d Crowland (Bank House)                     | J. Goodacre, Esq.             | 5           | 6                | 0                      | 10  | 586            | 23·09  | ..                                  | ..                                  |
| d Market Deeping (Wilsthorpe)               | W. H. A. Court, Esq.          | 8           | 3                | 10                     | 55  | 519            | 20·44  | 168                                 | 111                                 |
| Holywell Hall                               | Lt.-Col. A. A. H. Reynardson  | 5           | 0                | 6                      | 190 | 570            | 22·45  | 147                                 | 121                                 |
| Bourne (Council School)                     | J. Langsford, Esq.            | 5           | 1                | 0                      | 23  | 572            | 22·51  | 146                                 | ..                                  |
| d Bourne (Guthram)                          | F. S. Robins, Esq., C.E.      | 8           | 1                | 6                      | 19  | 495            | 19·50  | 161                                 | 117                                 |
| d Spalding (Pode Hole)                      | H. Bain, Esq.                 | 8           | 1                | 3                      | 12  | 612            | 24·08  | 217                                 | 122                                 |
| d Dowsby (The Cottage)                      | Miss Burt                     | 5           | 1                | 5                      | 14  | 604            | 23·79  | 171                                 | 125                                 |
| 3.—WITHAM & C. 1085 sq. mi.                 |                               |             |                  |                        |     |                |        |                                     |                                     |
| d Stainby Rectory                           | Rev. W. L. de B. Thorold      | 4           | 0                | 9                      | 496 | 557            | 21·92  | ..                                  | 116                                 |
| Stroxton Rectory                            | Rev. S. C. Wood               | 5           | 0                | 10                     | 350 | 623            | 24·51  | ..                                  | ..                                  |
| d Denton Manor                              | Sir C. G. E. Welby, Bt., C.B. | 5           | 3                | 0                      | 310 | 650            | 25·57  | 213                                 | 135                                 |
| d Grantham (Saltersford)                    | H. Preston, Esq.              | 5           | 0                | 6                      | 188 | 584            | 23·00  | 183                                 | 129                                 |
| d Grantham (Guildhall)                      | G. A. Ballard, Esq., O.B.E.   | 5           | 17               | 0                      | 206 | 594            | 23·39  | 177                                 | 123                                 |
| d Boston (Black Sluice, Skirbeck)           | F. S. Robins, Esq., C.E.      | 8           | 1                | 3                      | 11  | 604            | 23·79  | 181                                 | 122                                 |
| d Boston (Sleaford Road)                    | J. Shaw, Esq.                 | 5           | 1                | 2                      | 9   | 603            | 23·75  | 167                                 | 118                                 |
| d Boston (Grand Sluice)                     | J. H. Johnson, Esq., C.E.     | 8           | 8                | 0                      | 18  | 558            | 21·95  | 179                                 | 115                                 |
| d Boston (Bargate End)                      | A. O. Scrivener, Esq.         | 8           | 1                | 4                      | 9   | 554            | 21·83  | 159                                 | ..                                  |
| d Sleaford (Kesteven County Asy.)           | Dr. J. A. Ewan                | 5           | 0                | 9                      | 100 | 588            | 23·16  | 193                                 | 124                                 |
| d Fulbeck Hall                              | Lt.-Col. W. V. R. Fane        | 5           | 1                | 0                      | 180 | 600            | 23·61  | 229                                 | 127                                 |
| d Cranwell                                  | The Air Ministry              | 8           | 1                | 0                      | 236 | 601            | 23·66  | 191                                 | 121                                 |
| d New Leake (Lade Bank Engine)              | J. H. Johnson, Esq., C.E.     | 8           | 1                | 0                      | 10  | 480            | 18·88  | ..                                  | 105                                 |
| d Carrington Grange                         | Mr. T. J. Ward                | 5           | 6                | 0                      | 15  | 583            | 22·94  | 150                                 | 131                                 |
| d Wellington                                | Miss A. S. Morley             | 5           | 1                | 0                      | ..  | 606            | 23·84  | 185                                 | 121                                 |
| Navenby Rectory                             | Mr. J. Thompson               | 5           | 1                | 0                      | 218 | 632            | 24·87  | ..                                  | ..                                  |
| d Carlton-le-Moorland                       | J. Brocklebank, Esq.          | 5           | 1                | 2                      | 49  | 644            | 25·35  | 158                                 | 131                                 |
| d East Kirkby (E. Kirkby House)             | Capt. R. S. Fieldsend         | 5           | 1                | 0                      | 90  | 593            | 23·35  | 175                                 | 128                                 |
| d Revesby Reservoir                         | J. Shaw, Esq.                 | 5           | 2                | 0                      | 124 | 645            | 25·40  | 151                                 | 129                                 |
| d Woodhall Spa (Galm House)                 | J. Collins Esq.               | 5           | 1                | 6                      | 72  | 632            | 24·88  | 203                                 | 120                                 |
| d Bardney Railway Station                   | A. Burridge, Esq., C.E.       | 8           | 7                | 6                      | 25  | 508            | 19·99? | 157                                 | 108                                 |
| d Horncastle                                | H. R. Maynard, Esq.           | 5           | 1                | 6                      | 110 | 738            | 29·05  | 186                                 | 131                                 |
| Lincoln (Boultham Pump Stn.)                | C. Horobin, Esq., C.E.        | 5           | 1                | 0                      | 19  | 670            | 26·36  | ..                                  | 126                                 |
| Lincoln (Skellingthorpe Hall)               | A. H. Bergne-Coupland, Esq.   | 5           | 1                | 0                      | 40  | 656            | 25·81  | 162                                 | ..                                  |
| Lincoln (Station)                           | Great Central Rly. Co.*       | 9           | 3                | 6                      | 26  | 618            | 24·32  | 171                                 | ..                                  |
| d Lincoln (Sessions House)                  | Arthur Smith, Esq.            | 5           | 1                | 0                      | 59  | 628            | 24·74  | 178                                 | 123                                 |
| d Lincoln (D'Isney Place)                   | A. H. Leslie Melville, Esq.   | 4           | 1                | 0                      | 215 | 641            | 25·23  | 184                                 | 134                                 |
| d Lincoln (Cottesford Place)                | F. A. Peacock, Esq.           | 6           | 0                | 9                      | 224 | 654            | 25·76  | 181                                 | 128                                 |
| d Hackthorn Hall                            | E. W. Cracroft, Esq.          | 5           | 4                | 6                      | 105 | 647            | 25·46  | 184                                 | 126                                 |
| d Willingham-by-Stow                        | R. C. Bacon, Esq.             | 8           | 2                | 0                      | 65  | 656            | 25·83  | 180                                 | 130                                 |
| Springthorpe Rectory                        | Rev. B. Davies                | 5           | 1                | 0                      | 75  | 666            | 26·20  | 156                                 | 121                                 |
| 4.—GREAT EAU & C. 443 sq. mi.               |                               |             |                  |                        |     |                |        |                                     |                                     |
| d Wainfleet (Bridge House)                  | Late G. Booth Walker, Esq.    | 5           | 1                | 0                      | 17  | 590            | 23·22  | 170                                 | 127                                 |
| d Skegness (Estate Offices)                 | Mrs. R. H. Jenkins            | 8           | 1                | 0                      | 13  | 508            | 19·99  | 162                                 | 113                                 |
| d East Keal Rectory                         | Rev. R. H. Simpson            | 5           | 0                | 7                      | 180 | 561            | 22·07  | 178                                 | 131                                 |
| d Spilsby (Ashby Road)                      | J. Jarvis Rainey              | 5           | 1                | 0                      | 160 | 619            | 24·38  | 168                                 | 132                                 |
| d Hagworthingham                            | Mr. R. Wright                 | 5           | 1                | 8                      | 240 | 665            | 26·13  | 174                                 | 135                                 |
| d Mablethorpe (Trusthorpe Hall)             | I. N. Woodiwiss, Esq.         | 8           | 1                | 3                      | 10  | 621            | 24·44  | 187                                 | 132                                 |
| d Louth (Westgate)                          | Rev. W. E. Yates              | 5           | 0                | 9                      | 120 | 673            | 26·50  | 202                                 | 137                                 |

\* Kept for the Canal Department of the Great Central Railway Company. Returns supplied by F. T. Chappell, Esq.

## DIVISION VII.—NORTH MIDLAND COUNTIES—(con.).

| STATIONS.                                     | AUTHORITIES.                       | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|---|------------------------------------|-------------|------------------|------------------------|-----|----------------|-------|-------------------------------------|-------------------------------------|
|   |                                    | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |                                     |                                     |
| LINCOLNSHIRE—(con.).                          |                                    | in.         | ft.              | in.                    | ft. | mm.            | in.   |                                     |                                     |
| 4.—GREAT EAU & C.—(con.).                     |                                    |             |                  |                        |     |                |       |                                     |                                     |
| Louth (High Holm Road) . . . . .              | J. Larder, Esq. . . . .            | 4           | 0                | 10                     | 120 | 677            | 26·66 | ..                                  | ..                                  |
| S. Elkington (Elkington Hall) . . . . .       | Countess of Wilton . . . . .       | 5           | 1                | 9                      | 234 | 764            | 30·08 | 171                                 | ..                                  |
| d Kirmond . . . . .                           | C. Fieldsend, Esq. . . . .         | 5           | 1                | 2                      | 309 | 758            | 29·83 | 197                                 | 130                                 |
| Wold Newton Manor . . . . .                   | W. Maurice Wright, Esq. . . . .    | 5           | 1                | 0                      | 230 | 701            | 27·59 | ..                                  | ..                                  |
| d Grainsby Hall . . . . .                     | Mr. J. Butters . . . . .           | 5           | 1                | 0                      | 75  | 723            | 28·48 | 192                                 | 136                                 |
| 5.—HUMBER—Right Bank Tributaries. 428 sq. mi. |                                    |             |                  |                        |     |                |       |                                     |                                     |
| d N. Willingham House . . . . .               | Mr. J. H. Staniforth . . . . .     | 5           | 3                | 4                      | ..  | 752            | 29·60 | 237                                 | 144                                 |
| Market Rasen . . . . .                        | Great Central Rly. Co. . . . .     | 9           | 3                | 6                      | 100 | 535            | 21·05 | 148                                 | ..                                  |
| Brigg Station . . . . .                       | Great Central Rly. Co. . . . .     | 9           | 3                | 6                      | 16  | 591            | 23·26 | 161                                 | ..                                  |
| d Brigg (Grammar School) . . . . .            | H. E. Bryant, Esq. . . . .         | 5           | 1                | 0                      | 32  | 675            | 26·57 | ..                                  | 118                                 |
| d Brigg . . . . .                             | A. Atkinson, Esq., C.E. . . . .    | 8           | 1                | 2                      | 11  | 752            | 29·61 | 187                                 | 153                                 |
| d Riby (Riby Grove) . . . . .                 | Rev. Watson Stratton . . . . .     | 5           | 1                | 11                     | 117 | 752            | 29·62 | ..                                  | 125                                 |
| d Grimsby (Abbey Road) . . . . .              | W. J. Wood, Esq., C.E. . . . .     | 5           | 3                | 0                      | 23  | 624            | 24·57 | 151                                 | 122                                 |
| Grimsby . . . . .                             | Great Central Rly. Co. . . . .     | 9           | 15               | 0                      | 42  | 555            | 21·85 | ..                                  | ..                                  |
| Barnetby . . . . .                            | Great Central Rly. Co. . . . .     | 9           | 3                | 6                      | 52  | 663            | 26·11 | 149                                 | ..                                  |
| d Brocklesby Park . . . . .                   | Mr. F. C. Stainsby . . . . .       | 5           | 2                | 0                      | 108 | 756            | 29·76 | 166                                 | 127                                 |
| d Burton-on-Stather (Normanby) . . . . .      | A. G. Wilkes, Esq. . . . .         | 5           | 1                | 0                      | 185 | 630            | 24·82 | 175                                 | 127                                 |
| d Horkstow . . . . .                          | E. J. Turton, Esq. . . . .         | 5           | 0                | 10                     | 75  | 596            | 23·46 | 154                                 | 117                                 |
| Ferriby Sluice . . . . .                      | A. Atkinson, Esq. C.E. . . . .     | 5           | 1                | 0                      | 18  | 606            | 23·85 | 185                                 | ..                                  |
| New Holland . . . . .                         | Great Central Rly. Co. . . . .     | 9           | 3                | 6                      | 18  | 615            | 24·22 | ..                                  | ..                                  |
| 6.—TRENT—Right Bank Tributaries. 172 sq. mi.  |                                    |             |                  |                        |     |                |       |                                     |                                     |
| Woolthorpe . . . . .                          | A. Brown, Esq., C.E. . . . .       | ..          | 1                | 3                      | 182 | 593            | 23·35 | 170                                 | ..                                  |
| d Swinderby (Ling Moor) . . . . .             | Capt. Cecil H. Wray . . . . .      | 5           | 0                | 9                      | 50  | 644            | 25·35 | 162                                 | 154                                 |
| d Gate Burton Hall . . . . .                  | J. D. Sandars, Esq. . . . .        | 5           | 2                | 0                      | 97  | 645            | 25·41 | ..                                  | ..                                  |
| Gainsborough . . . . .                        | Great Central Rly. Co. . . . .     | 9           | ..               | ..                     | 76  | 618            | 24·34 | 150                                 | ..                                  |
| 7.—Trent—Left Bank Tributaries. 77 sq. mi.    |                                    |             |                  |                        |     |                |       |                                     |                                     |
| d Wroot (S. Level Pump Station) . . . . .     | Mr. F. S. Trafford . . . . .       | 10          | 4                | 0                      | 13  | 619            | 24·37 | 139                                 | 111                                 |
| d Crowle (N. Level Pump. Station) . . . . .   | Mr. H. G. Trafford . . . . .       | 5           | 2                | 6                      | 13  | 598            | 23·56 | ..                                  | ..                                  |
| Keadby . . . . .                              | Great Central Rly. Co. . . . .     | 9           | 3                | 6                      | 17  | 569            | 22·41 | 165                                 | ..                                  |
| Keadby (The Hollies) . . . . .                | G. Kelsey, Esq. . . . .            | 5           | 1                | 2                      | 16  | 655            | 25·80 | 192                                 | 122                                 |
| NOTTINGHAMSHIRE. (Area, 843 sq. mi.)          |                                    |             |                  |                        |     |                |       |                                     |                                     |
| 1.—WITHAM. 10 sq. mi.                         |                                    |             |                  |                        |     |                |       |                                     |                                     |
| 2.—TRENT—Right Bank Tributaries. 218 sq. mi.  |                                    |             |                  |                        |     |                |       |                                     |                                     |
| d Kingstons (Midland Agric.Coll.) . . . . .   | P. W. Bailey, Esq. . . . .         | 5           | 1                | 0                      | 129 | 543            | 21·37 | 172                                 | 123                                 |
| d Plumtree(Normanton-on-Wolds) . . . . .      | T.A. Hill, Esq. . . . .            | 8           | 1                | 0                      | 170 | 664            | 26·14 | 194                                 | 141                                 |
| d Nottingham (Wilford Hill Res.) . . . . .    | F. W. Davies, Esq. . . . .         | 8           | 0                | 10                     | 296 | 646            | 25·42 | 197                                 | 138                                 |
| d NorthCollingham(MarkhamHo.) . . . . .       | The Misses Turton . . . . .        | 5           | 1                | 0                      | 38  | 680            | 26·79 | 204                                 | 144                                 |
| 3.—TRENT—Derwent. 2 sq. mi.                   |                                    |             |                  |                        |     |                |       |                                     |                                     |
| 4.—TRENT—Erewash. 42 sq. mi.                  |                                    |             |                  |                        |     |                |       |                                     |                                     |
| d Nottingham (Strelley) . . . . .             | T. L. K. Edge, Esq. . . . .        | 8           | 1                | 0                      | 396 | 737            | 29·02 | 241                                 | 142                                 |
| d Nottingham (Strelley Hall) . . . . .        | T. L. K. Edge, Esq. . . . .        | 5           | 1                | 0                      | 378 | 692            | 27·25 | 190                                 | 133                                 |
| d Nottingham (Strelley Hall) . . . . .        | T. L. K. Edge, Esq. . . . .        | 5           | 1                | 0                      | 377 | 699            | 27·52 | ..                                  | ..                                  |
| d Bulwell (Watnall Reservoir) . . . . .       | F. W. Davies, Esq. . . . .         | 8           | 0                | 11                     | 472 | 768            | 30·24 | 223                                 | 138                                 |
| d Eastwood Waterworks . . . . .               | F. W. Davies, Esq. . . . .         | 8           | 1                | 2                      | 244 | 692            | 27·26 | 168                                 | 127                                 |
| d Eastwood Hall . . . . .                     | Messrs.Barber Walker & Co. . . . . | 5           | 1                | 0                      | 218 | 861            | 33·90 | 183                                 | 142                                 |
| d Eastwood (Moorgreen Res.) . . . . .         | Great Northern Rly Co. . . . .     | 5           | 6                | 0                      | 301 | 746            | 29·35 | 201                                 | 136                                 |
| d Annesley (Selston W.W.) . . . . .           | S. Maylan, Esq. . . . .            | 5           | 1                | 0                      | 475 | 687            | 27·06 | 168                                 | 115                                 |
| 5.—TRENT—Left Bank Tributaries. 569 sq. mi.   |                                    |             |                  |                        |     |                |       |                                     |                                     |
| d Beeston (Chilwell Road) . . . . .           | W. Norbury, Esq. . . . .           | 5           | 1                | 0                      | 110 | 657            | 25·85 | 185                                 | 128                                 |
| d Lenton (Lenton Fields) . . . . .            | R. F. T. Grainger, Esq. . . . .    | 8           | 1                | 0                      | 132 | 702            | 27·65 | 183                                 | 127                                 |
| d Nottingham (Trent Lane) . . . . .           | (R.) A. Brown, Esq., C.E. . . . .  | 8           | 1                | 0                      | 85  | 649            | 25·92 | 195                                 | 133                                 |
| d Nottingham (The Castle) . . . . .           | A. Brown, Esq., C.E. . . . .       | 8           | 1                | 0                      | 192 | 673            | 26·51 | 192                                 | 132                                 |
| d Nottingham (The Castle) . . . . .           | A. Brown, Esq., C.E. . . . .       | 8           | 76               | 0                      | 268 | 598            | 23·56 | 179                                 | 125                                 |
| d Nottingham(CarlsbrookeHouse) . . . . .      | Late W. Bradshaw, Esq. . . . .     | 5           | 0                | 6                      | 247 | 725            | 28·55 | 190                                 | 149                                 |
| d Nottingham (Burford Road) . . . . .         | A. B. Tinn, Esq. . . . .           | 5           | 1                | 0                      | 170 | 700            | 27·58 | 188                                 | 129                                 |
| d Nottingham (Stoke Bardolph) . . . . .       | A. Brown, Esq., C.E. . . . .       | 8           | 1                | 0                      | 58  | 706            | 27·80 | 146                                 | ..                                  |
| d Nottingham (Mapperley Hill) . . . . .       | Dr. E. Powell . . . . .            | 8           | 1                | 0                      | 400 | 662            | 26·07 | 187                                 | 140                                 |

## DIVISION VII.—NORTH MIDLAND COUNTIES—(con.).

| STATIONS.                                   | AUTHORITIES.                   | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |     |     |
|---|--------------------------------|-------------|------------------|------------------------|------------------------|--|--|-----|-----|
|   |                                | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |     |     |
| NOTTINGHAMSHIRE—(con.).                     |                                | in.         | ft. in.          | ft.                    | mm.                    | in.                                    |  |     |     |
| 5.—TRENT—Left Bank Tributaries—(con.).      |                                |             |                  |                        |                        |  |  |     |     |
| Bagthorpe (Isolation Hospital)              | P. Boobyer, Esq., M.D. . .     | 8           | 2                | 0                      | 189                    | 673                                    | 26·48                                  | 201 | ..  |
| D Nottingham (Basford W.W.)                 | F. W. Davies, Esq. . . . .     | 8           | 1                | 0                      | 169                    | 688                                    | 27·09                                  | 169 | 132 |
| D Burton Joyce Water Works                  | F. W. Davies, Esq. . . . .     | 8           | 0                | 9                      | 65                     | 764                                    | 30·10                                  | 179 | 144 |
| Bulcote (Corporation Farm)                  | A. Brown, Esq., C.E. . . . .   | 10          | 1                | 0                      | 65                     | 813                                    | 32·00                                  | 190 | ..  |
| Lowdham (Chilwell Nurseries)                | Mr. J. D. Pearson . . . . .    | 5           | 1                | 7                      | 90                     | 625                                    | 24·59                                  | ..  | ..  |
| D Bulwell (Bestwood W. W.)                  | F. W. Davies, Esq. . . . .     | 8           | 1                | 2                      | 317                    | 709                                    | 27·91                                  | 176 | 130 |
| D Daybrook (Red Hill Reservoir)             | F. W. Davies, Esq. . . . .     | 8           | 0                | 11                     | 407                    | 787                                    | 31·00                                  | 221 | 141 |
| D Daybrook (Ramsdale Hill Res.)             | F. W. Davies, Esq. . . . .     | 8           | 0                | 11                     | 495                    | 783                                    | 30·82                                  | 225 | 138 |
| Bulwell Hall Park                           | A. Brown, Esq., C.E. . . . .   | 8           | 1                | 0                      | 252                    | 736                                    | 28·98                                  | 190 | ..  |
| D Hucknall (Forge Mills)                    | Messrs. J. & T. Walker, Ltd. . | 5           | 4                | 3                      | 200                    | 684                                    | 26·91                                  | 147 | 120 |
| D Papplewick (Water Works)                  | F. W. Davies, Esq. . . . .     | 8           | 0                | 10                     | 317                    | 775                                    | 30·51                                  | 191 | 140 |
| Southwell (The Residence)                   | Vn. Acndn. W. J. Conybeare .   | 5           | 1                | 1                      | 106                    | 708                                    | 27·89                                  | 172 | ..  |
| D Southwell (Elmfield)                      | Dr. H. Handford . . . . .      | 5           | 1                | 0                      | 133                    | 685                                    | 26·97                                  | 176 | 122 |
| M Southwell (Elmfield)                      | Dr. H. Handford . . . . .      | 5           | 1                | 0                      | 133                    | 675                                    | 26·56                                  | ..  | ..  |
| D Sutton-in-Ashfield (Rushley P.S.)         | Messrs. G. & F. W. Hodson .    | 5           | 1                | 1                      | 462                    | 751                                    | 29·58                                  | 166 | 140 |
| D Sutton-in-Ashfield (Sew. Wks.)            | F. J. Grierson, Esq. . . . .   | 5           | 1                | 0                      | 453                    | 797                                    | 31·38                                  | 202 | 144 |
| D Mansfield (Rainworth W.W.)                | Messrs. G. & F. W. Hodson .    | 5           | 1                | 0                      | 360                    | 784                                    | 30·88                                  | 183 | 135 |
| D Mansfield (High Oakham)                   | P. J. Shacklock, Esq. . . . .  | 5           | 1                | 0                      | 425                    | 861                                    | 33·90                                  | 206 | 146 |
| D Mansfield (Berry Hill)                    | Mrs. W. Hollins . . . . .      | 8           | 1                | 0                      | 506                    | 854                                    | 33·61                                  | 225 | 145 |
| D Mansfield (West Bank)                     | W. Pickard, Esq. . . . .       | 8           | 1                | 0                      | 405                    | 765                                    | 30·12                                  | 200 | 135 |
| D Mansfield (Debdale Hall)                  | Francis N. Ellis, Esq. . . . . | 5           | 0                | 7                      | 400                    | 692                                    | 27·25                                  | ..  | ..  |
| D Clipstone Water Works                     | Messrs. G. & F. W. Hodson .    | 5           | 1                | 0                      | 236                    | 734                                    | 28·91                                  | 168 | 128 |
| D Ollerton (Boughton W.W.)                  | F. W. Davies, Esq. . . . .     | 8           | 0                | 7                      | 411                    | 707                                    | 27·84                                  | 187 | 126 |
| D Ollerton (Thoresby Gardens)               | Mr. A. Simmons . . . . .       | 8           | 0                | 9                      | 125                    | 920                                    | 36·22                                  | 165 | 137 |
| D Clumber Gardens                           | A. P. Elliott, Esq. . . . .    | 5           | 4                | 0                      | 164                    | 724                                    | 28·52                                  | 194 | 133 |
| Elkesley Pumping Station                    | C. Horobin, Esq., C.E. . . . . | 5           | 1                | 0                      | 118                    | 720                                    | 28·35                                  | 175 | 125 |
| D Worksop (Carlton Road)                    | J. Edeson, Esq. . . . .        | 5           | 1                | 1                      | 130                    | 622                                    | 24·50                                  | 180 | 131 |
| Worksop                                     | Great Central Rly. Co. . . . . | 9           | 3                | 6                      | 127                    | 649                                    | 25·55                                  | 169 | ..  |
| D Worksop (Osberton Gardens)                | Mr. E. Hill . . . . .          | 5           | 3                | 6                      | 70                     | 681                                    | 26·82                                  | 184 | 138 |
| Retford                                     | Great Central Rly. Co. . . . . | 9           | 3                | 6                      | 52                     | 666                                    | 26·20                                  | 169 | ..  |
| D Retford (Grammar School)                  | W. P. McFerran, Esq. . . . .   | 8           | 1                | 2                      | 53                     | 720                                    | 28·36                                  | 187 | ..  |
| D Retford (Morton Hall)                     | W. H. Mason, Esq. . . . .      | 5           | 1                | 0                      | 140                    | 683                                    | 26·88                                  | 173 | 127 |
| D Retford (Sewage Disposal Works)           | R. E. Wilson, Esq. . . . .     | 5           | 1                | 0                      | 74                     | 767                                    | 30·21                                  | 217 | 153 |
| D Sturton-le-Steeple                        | S. Ingham, Esq. . . . .        | 5           | 1                | 6                      | 40                     | 640                                    | 25·19                                  | 155 | 123 |
| D Worksop (Wigthorpe Hill)                  | R. C. Ramsden, Esq. . . . .    | 5           | 1                | 0                      | 100                    | 631                                    | 24·86                                  | 162 | 123 |
| D Worksop (Hodsock Priory)                  | Lt.-Col. H. Mellish, C.B. . .  | 8           | 1                | 0                      | 56                     | 634                                    | 25·11                                  | 195 | 125 |
| M Worksop (Hodsock Priory)                  | Lt.-Col. H. Mellish, C.B. . .  | 5           | 1                | 0                      | 56                     | 622                                    | 24·50                                  | ..  | ..  |
| Worksop (Hodsock Priory) (r.)               | Lt.-Col. H. Mellish, C.B. . .  | 11          | 1                | 6                      | 56                     | 629                                    | 24·76                                  | 183 | 121 |
| D Scrooby                                   | Mr. J. Mallender . . . . .     | 5           | 1                | 0                      | 44                     | 627                                    | 24·69                                  | 188 | 128 |
| D Bawtry Hall (The Gardens)                 | Mr. F. E. Hogbin . . . . .     | 5           | 1                | 0                      | 31                     | 639                                    | 25·16                                  | 166 | 124 |
| Stockwith                                   | Great Central Rly. Co. . . . . | 9           | 3                | 6                      | 21                     | 633                                    | 24·93                                  | 179 | ..  |
| 6.—OUSE—Don. 2 sq. mi.                      |                                |             |                  |                        |                        |  |  |     |     |
| DERBYSHIRE. (Area, 1029 sq. mi.)            |                                |             |                  |                        |                        |  |  |     |     |
| 1.—MERSEY, UPPER. 93 sq. mi.                |                                |             |                  |                        |                        |  |  |     |     |
| Comb's Reservoir                            | Great Central Rly. Co. . . . . | 9           | 3                | 6                      | 710                    | 1133                                   | 44·60                                  | 223 | ..  |
| Chapel-en-le-Frith                          | Great Central Rly. Co. . . . . | 9           | 3                | 6                      | 965                    | 1066                                   | 41·95                                  | 216 | ..  |
| D Whaley Bridge (Mosley Hall)               | S. Arrowsmith, Esq. . . . .    | 5           | 1                | 0                      | 760                    | 1247                                   | 49·09                                  | 230 | 181 |
| D Glossop W.W. (Swineshaw)                  | Mr. J. Garner . . . . .        | 12          | 3                | 0                      | 733                    | 1151                                   | 45·30                                  | 223 | 182 |
| Woodhead Station                            | Great Central Rly. Co. . . . . | 9           | 3                | 6                      | 878                    | 1432                                   | 56·37                                  | 215 | ..  |
| 2.—MERSEY—Weaver. 2 sq. mi.                 |                                |             |                  |                        |                        |  |  |     |     |
| 3.—TRENT—Right Bank Tributaries. 68 sq. mi. |                                |             |                  |                        |                        |  |  |     |     |
| D Repton (The Croft)                        | H. C. Hayward, Esq. . . . .    | 5           | 1                | 4                      | 170                    | 732                                    | 28·84                                  | 213 | 149 |
| D Stanton-by-Bridge W.W.                    | F. Worrall, Esq., C.E. . . . . | 8           | 1                | 2                      | 144                    | 652                                    | 25·66                                  | 159 | 137 |
| 4.—TRENT—Dove. 156 sq. mi.                  |                                |             |                  |                        |                        |  |  |     |     |
| Snelston Hall                               | H. Stanton, Esq. . . . .       | 5           | 1                | 0                      | 490                    | 959                                    | 37·75                                  | 190 | ..  |
| D Ashbourne Water Works                     | E. Wright Esq. . . . .         | 5           | 1                | 0                      | 582                    | 879                                    | 34·62                                  | 183 | 143 |
| D Ashbourne (The Mansion)                   | R. E. Sadler, Esq. . . . .     | 5           | 1                | 0                      | 396                    | 945                                    | 37·20                                  | 200 | 160 |

## DIVISION VII.—NORTH MIDLAND COUNTIES—(con.).

| STATIONS.                                     | AUTHORITIES.                            | Rain Gauge. |                  |                        |      | Depth of Rain. |        | Days with<br>·01 in. or<br>more. | Days with<br>·04 in. or<br>more. |
|---|---|-------------|------------------|------------------------|------|----------------|--------|----------------------------------|----------------------------------|
|   |   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |        |                                  |                                  |
| DERBYSHIRE—(con.).                            |   |             |                  |                        |      |                |        |                                  |                                  |
| 5.—TRENT—Left Bank Tributaries. 84 sq. mi.    |   |             |                  |                        |      |                |        |                                  |                                  |
| Findern (The Longlands) . . . . .             | Mrs. B. W. Spilsbury . . . . .          | 5           | 0                | 9                      | 186  | 647            | 25·46  | 169                              | 135                              |
| d Etwall (Blakeley Lodge) . . . . .           | Mr. R. Giles . . . . .                  | 5           | 1                | 0                      | 190  | 640            | 25·19  | 155                              | 129                              |
| d Etwall (Sewage Farm) . . . . .              | Mr. B. Hydes . . . . .                  | 5           | 13               | 0                      | 201  | 634            | 24·98  | 178                              | 140                              |
| d Mickleover (County Asylum) . . . . .        | M. L. Rowan, Esq., M.D. . . . .         | 5           | 3                | 0                      | 300  | 636            | 25·05  | 166                              | 134                              |
| d Mickleover Manor . . . . .                  | Mr. J. Campbell . . . . .               | 5           | 2                | 0                      | 280  | 758            | 29·83  | 187                              | 143                              |
| Littleover (The Knoll) . . . . .              | W. Blews Robotham, Esq. . . . .         | 5           | 1                | 0                      | 315  | 734            | 28·91  | 199                              | 139                              |
| Littleover (Old Hall) . . . . .               | E. McInnes, Esq. . . . .                | 5           | 2                | 6                      | 346  | 747            | 29·41  | 211                              | 135                              |
| 6.—TRENT—Derwent. 428 sq. mi.                 |   |             |                  |                        |      |                |        |                                  |                                  |
| d Spondon (Derby Sewage Wks.) . . . . .       | J. Ward, Esq., C.E. . . . .             | 5           | 1                | 3                      | 135  | 698            | 27·46  | 200                              | 137                              |
| d Derby (Wild Street) . . . . .               | Messrs. J. Davis & Son . . . . .        | 5           | 1                | 0                      | 174  | 777            | 30·59  | 212                              | 148                              |
| d Derby (Midland Railway) . . . . .           | J. Sayers, Esq. . . . .                 | 5           | 1                | 5                      | 156  | 660            | 25·99  | 175                              | 126                              |
| d Derby (Royal Infirmary) . . . . .           | W. Banks, Esq. . . . .                  | 5           | 1                | 0                      | 195  | 746            | 29·35  | 143                              | 143                              |
| d Derby (The Arboretum) . . . . .             | J. Ward, Esq., C.E. . . . .             | 8           | 1                | 0                      | 196  | 714            | 28·09  | 188                              | 137                              |
| Kirk Langley (Langley Hall) . . . . .         | G. W. Peach, Esq. . . . .               | 5           | 1                | 5                      | 396  | 811            | 31·92  | 212                              | 137                              |
| d Quarndon (Fairfield House) . . . . .        | Rev. W. Vale Bagshawe . . . . .         | 5           | 1                | 0                      | 460  | 758            | 29·85  | 180                              | 143                              |
| d Duffield (The Kirkstyles) . . . . .         | Messrs. J. Davis & Son . . . . .        | 5           | 1                | 0                      | 235  | 815            | 32·08  | 201                              | 145                              |
| d Milford (Derwent House) . . . . .           | Sir H. Fowler, K.B.E. . . . .           | 5           | 1                | 3                      | 250  | 851            | 33·50  | 183                              | 143                              |
| d Belper (Fernslope) . . . . .                | F. J. Jackson, Esq. . . . .             | 5           | 1                | 10                     | 356  | 858            | 33·79  | 187                              | 142                              |
| d Belper (Herbert Strutt School) . . . . .    | Cecil Round, Esq. . . . .               | 8           | 1                | 0                      | 223  | 899            | 35·38  | 204                              | 160                              |
| d Belper (Quarry Bank) . . . . .              | J. Hunter, Esq., C.E. . . . .           | 5           | 0                | 10                     | 281  | 846            | 33·29  | 192                              | 149                              |
| Ambergate Reservoir . . . . .                 | No. 61 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 700  | 861            | 33·91  | 164                              | 142                              |
| d Wirksworth (Manor House) . . . . .          | T. Atkinson, Esq. . . . .               | 5           | 1                | 0                      | 501  | 1026           | 40·39  | 196                              | 155                              |
| d Whatstandwell (Meerbrk Sough) . . . . .     | Messrs. G. & F.W. Hodson . . . . .      | 5           | 1                | 0                      | 246  | 982            | 38·67  | 179                              | 144                              |
| Matlock Bath (Lower Tower) . . . . .          | Miss E. Chadwick . . . . .              | 5           | 1                | 1                      | 500  | 966            | 38·02  | 143                              | 143                              |
| d Darley Dale (Whitworth Inst.) . . . . .     | E. Evans, Esq. . . . .                  | 5           | 1                | 8                      | 361  | 1147           | 45·14  | 221                              | 192                              |
| d Darley Hall . . . . .                       | A. Clay, Esq. . . . .                   | 5           | 1                | 0                      | 400  | 925            | 36·40  | 223                              | 154                              |
| d Clay Cross (Press Reservoirs) . . . . .     | Gilbert Frith, Esq., C.E. . . . .       | 8           | 1                | 0                      | 810  | 930            | 36·60  | 166                              | 155                              |
| d Chatsworth Gardens . . . . .                | Mr. G. F. Marples . . . . .             | 5           | 1                | 0                      | 436  | 714            | 28·09  | 206                              | 151                              |
| d Buxton (Portobello Bar) . . . . .           | F. Langley, Esq., C.E. . . . .          | 8           | 1                | 6                      | 1600 | 1592           | 62·68  | 259                              | 209                              |
| d Buxton (Stanley Moor) . . . . .             | F. Langley, Esq., C.E. . . . .          | 8           | 1                | 0                      | 1340 | 1445           | 56·89  | 254                              | 193                              |
| d Buxton (Burbage Edge) . . . . .             | F. Langley, Esq., C.E. . . . .          | 8           | 1                | 0                      | 1400 | 1498           | 58·99  | 255                              | 207                              |
| d Buxton (Devonshire Hospital) . . . . .      | Messrs. W. Pilkington & Son . . . . .   | 5           | 1                | 0                      | 988  | 1196           | 47·11  | 223                              | 179                              |
| d Holmesfield (Barbrook Res.) . . . . .       | Gilbert Frith Esq., C.E. . . . .        | 8           | 1                | 0                      | 1080 | 770            | 30·31  | 193                              | 148                              |
| w Froggatt Edge (Stoke Flat Filtr.) . . . . . | J. Gratten Bown, Esq. . . . .           | 5           | 1                | 0                      | 960  | 994            | 39·13  | 143                              | 143                              |
| d Bamford (Engineer's Office) . . . . .       | No. 60 S. B. Winser, Esq., C.E. . . . . | 8           | 2                | 0                      | 510  | 1023           | 40·26  | 259                              | 169                              |
| Bamford Filters . . . . .                     | No. 70 S. B. Winser, Esq., C.E. . . . . | 8           | 1                | 0                      | 656  | 991            | 39·02  | 237                              | 163                              |
| d Hope (Killhill Bridge) . . . . .            | No. 56 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 555  | 1100           | 43·32  | 189                              | 170                              |
| Bamford (Yorkshire Br. Weir) . . . . .        | No. 59 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 540  | 1014           | 39·94  | 143                              | 143                              |
| Derwent Vicarage . . . . .                    | No. 67 S. B. Winser, Esq., C.E. . . . . | 8           | 1                | 0                      | 675  | 1195           | 47·05  | 221                              | 180                              |
| Derwent (Lockerbrook Plant) . . . . .         | No. 68 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 755  | 1370           | 53·95  | 143                              | 143                              |
| Derwent Dam . . . . .                         | No. 26 S. B. Winser, Esq., C.E. . . . . | 8           | 1                | 0                      | 790  | 1214           | 47·78  | 238                              | 179                              |
| Woodland Dale (Woodlnds, S) . . . . .         | No. 48 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 1044 | 1114           | 43·87  | 143                              | 143                              |
| Woodland Dale (Woodlnds, N) . . . . .         | No. 47 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 1063 | 1129           | 44·45  | 143                              | 143                              |
| Hayfield (Ashop Head) . . . . .               | No. 43 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 1650 | 1331           | 52·40  | 143                              | 143                              |
| Derwent Dale (Shire Owlers) . . . . .         | No. 69 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 825  | 1243           | 48·95  | 143                              | 143                              |
| Derwent Dale (Birchinlee) . . . . .           | No. 23 S. B. Winser, Esq., C.E. . . . . | 8           | 1                | 0                      | 870  | 1396           | 54·97  | 240                              | 177                              |
| Westend Bridge . . . . .                      | No. 66 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 878  | 1396           | 54·97  | 143                              | 143                              |
| Lady Clough Moor . . . . .                    | No. 41 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 1720 | 1295           | 51·00  | 143                              | 143                              |
| Coldharbour Moor (Summit) . . . . .           | No. 39 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 1670 | 1283           | 50·50  | 143                              | 143                              |
| Derwent Dale (Howden Dam) . . . . .           | No. 17 S. B. Winser, Esq., C.E. . . . . | 8           | 1                | 0                      | 829  | 1343           | 52·87  | 241                              | 177                              |
| Derwent Dale (Ridge Farm) . . . . .           | No. 13 S. B. Winser, Esq., C.E. . . . . | 8           | 1                | 0                      | 1175 | 1162           | 45·74  | 143                              | 143                              |
| Alport Moor (Glethering Cl.) . . . . .        | No. 40 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 1640 | 1331           | 52·40  | 143                              | 143                              |
| Westend Moor (Blacklow Cote) . . . . .        | No. 15 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 970  | 1502           | 59·13  | 143                              | 143                              |
| Westend Moor . . . . .                        | No. 10 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 1560 | 1309           | 51·52  | 143                              | 143                              |
| Alport Moor . . . . .                         | No. 38 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 1790 | 1300           | 51·20  | 143                              | 143                              |
| Broadhead Clough . . . . .                    | No. 63 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 1005 | 1478           | 58·19  | 143                              | 143                              |
| Derwent Dale (Slippery Stones) . . . . .      | No. 62 S. B. Winser, Esq., C.E. . . . . | 5           | 1                | 0                      | 908  | 1310           | 51·58  | 143                              | 143                              |
| Ridgewalk Moor . . . . .                      | No. 9 S. B. Winser, Esq., C.E. . . . .  | 5           | 1                | 0                      | 1650 | 1434           | 56·45  | 143                              | 143                              |
| 7.—TRENT—Erewash. 50 sq. mi.                  |   |             |                  |                        |      |                |        |                                  |                                  |
| d Trowell (Ilkeston Sew. Wks.) . . . . .      | (R) H. J. Kilford, Esq., C.E. . . . .   | 6           | 1                | 11                     | 134  | 528            | 20·78? | 160                              | 119                              |
| d Codnor (Cross Hill) . . . . .               | A. F. Pine, Esq. . . . .                | 5           | 1                | 0                      | 372  | 797            | 31·38  | 192                              | 140                              |
| d Codnor Park . . . . .                       | Midland Railway Co. . . . .             | 5           | 1                | 0                      | 243  | 857            | 33·74  | 227                              | 140                              |

## DIVISION VII.—NORTH MIDLAND COUNTIES—(con.).

| STATIONS.                | AUTHORITIES.   | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more | Days<br>with<br>·04 in.<br>or<br>more. |     |     |
|--------------------------|--|-------------|------------------|------------------------|------------------------|---------------------------------------|--|-----|-----|
|                          |  | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |                                       |  |     |     |
| DERBYSHIRE—(con.).       |  | in.         | ft.              | in.                    | ft.                    | mm.                                   | in.                                    |     |     |
| 8.—OUSE—Don. 148 sq. mi. |  |             |                  |                        |                        |                                       |  |     |     |
|                          | Hardwick Hall.....Mr. E. Wilson .....                      | 8           | 2                | 6                      | 594                    | 888                                   | 34·94                                  | 176 | ..  |
| d                        | Grassmoor Colliery .....                                   | 5           | 19               | 10                     | 370                    | 607                                   | 23·90                                  | ..  | ..  |
|                          | Chesterfield (Central Station)..Great Central Rly. Co. ... | 9           | 3                | 6                      | 250                    | 755                                   | 29·73                                  | 179 | ..  |
| d                        | Chesterfield (Sewage Works) ..Mr. W. Tomlinson.....        | 5           | 2                | 0                      | 222                    | 713                                   | 28·07                                  | 155 | 128 |
| d                        | Chesterfield (Linacre Res.) ...Chesterfield Water Board .. | 8           | 1                | 0                      | 460                    | 847                                   | 33·36                                  | 190 | 159 |
| d                        | Chesterfield (Linacre Res.) ...Chesterfield Water Board .. | 5           | 1                | 0                      | 490                    | 818                                   | 32·19                                  | 190 | 159 |
| d                        | Chesterfield (Tupton Grove) ...Mr. W. R. Bloxham .....     | 5           | 4                | 3                      | 400                    | 771                                   | 30·37                                  | 186 | 135 |
| d                        | Totley Hall .....  | 5           | 1                | 0                      | 700                    | 1018                                  | 40·07                                  | 216 | 173 |
| d                        | Eckington (Mosbrough C.E.Sch.)W. H. Holmes, Esq. ....      | 5           | 1                | 0                      | 330                    | 736                                   | 28·98                                  | 180 | 129 |
|                          | Killamarsh (Norwood) .....                                 | 9           | 3                | 6                      | 226                    | 673                                   | 26·50                                  | 193 | ..  |

## DIVISION VIII.—NORTH-WESTERN COUNTIES.

## CHESHIRE. (Area, 1027 sq. mi.)

**1.—MERSEY, UPPER. 269 sq. mi.**

|                                       |                                     |    |      |      |      |       |         |
|---------------------------------------|-------------------------------------|----|------|------|------|-------|---------|
| d Macclesfield (West Park) .....      | Mr. S. H. Moss .....                | 5  | 1 0  | 501  | 1016 | 39·98 | 193 177 |
| Macclesfield .....                    | Great Central Rly Co. ....          | 9  | 3 6  | 539  | 806  | 31·73 | 210 ..  |
| d Macclesfield (Swanscoe Park) ..     | T. C. Horsfall, Esq. ....           | 5  | 1 0  | 676  | 1080 | 42·51 | 229 167 |
| d Bollington Cross (Turner Heath) ..  | Mrs. Murton .....                   | 5  | 1 8  | 500  | 1005 | 39·55 | .. ..   |
| d Wilmslow (Parkside) .....           | J. H. Neave, Esq. ....              | 8  | 1 0  | 255  | 957  | 37·67 | .. ..   |
| d Wilmslow (Dean Row) .....           | J. H. Cooke, Esq. ....              | 5  | 1 0  | 292  | 991  | 39·00 | 226 184 |
| d Kettleshulme (Glebe House) ..       | A. Y. Barker, Esq. ....             | 5  | 1 6  | 850  | 1163 | 45·79 | 210 179 |
| Whaley Bridge .....                   | Great Central Rly. Co. ....         | 9  | 3 6  | 602  | 1132 | 44·57 | 220 ..  |
| d Poynton (Waterloo) .....            | C. F. Butterworth, Esq. ....        | 5  | 1 0  | 397  | 960  | 37·78 | 207 168 |
| d Disley (Lyme Park) .....            | T. Molyneux, Esq., C.E. ....        | 5  | 1 0  | 674  | 918  | 36·13 | 208 185 |
| d Bramhall (Bramhall Lane) ...        | S. O'Dwyer, Esq. ....               | 5  | 1 0  | 250  | 964  | 37·95 | 168 148 |
| d Runcorn (Weston Point) .....        | Col. J. A. Saner, C.E. ....         | 8  | 1 4  | 17   | 954  | 37·54 | 191 160 |
| d Thelwall (The Clough) .....         | E. W. Reynolds, Esq. ....           | 5  | 1 0  | 95   | 942  | 37·07 | 214 158 |
| w Altrincham (Norman's Place) ..      | Miss G. A. Griffiths .....          | 5  | 8 0  | 150  | 1070 | 42·14 | .. ..   |
| Altrincham (Barrington House) ..      | C.E. Newton, Esq., C.E. ....        | 8  | 2 6  | 103  | 987  | 38·87 | .. ..   |
| Cheadle (Adswold) .....               | R. W. Wright, Esq. ....             | 5  | 0 6  | 186  | 962  | 37·87 | .. ..   |
| d Northenden (Wythenshawe Hall) ..    | T. E. Tatton, Esq. ....             | 5  | 1 0  | 114  | 895  | 35·23 | 220 162 |
| d Northenden (Wythenshawe Hall) ..    | T. E. Tatton, Esq. ....             | 8  | 1 6  | 114  | 897  | 35·30 | .. ..   |
| Marple Top Lock .....                 | Great Central Rly. Co. ....         | 9  | 3 6  | 523  | 955  | 37·61 | 192 ..  |
| Godley Reservoir .....                | Messrs. G. H. Hill & Sons C.E. .... | 12 | 2 0  | 500  | 979  | 38·54 | .. ..   |
| Newton .....                          | Great Central Rly. Co. ....         | 9  | 3 6  | 396  | 976  | 38·41 | 216 ..  |
| Mottram Station .....                 | Great Central Rly. Co. ....         | 9  | 3 6  | 452  | 1035 | 40·75 | 191 ..  |
| d Broadbottom (Harewood Lodge) ..     | Col. W. Sidebottom .....            | 5  | 1 0  | 440  | 1035 | 40·75 | 191 167 |
| d Dukinfield (Higher Reservoir) ..    | G. H. Raddin, Esq., C.E. ....       | 8  | 1 6  | 495  | 830  | 32·67 | 220 163 |
| d Dukinfield (Lower Reservoir) ..     | G. H. Raddin, Esq., C.E. ....       | 5  | 1 0  | 435  | 974  | 38·35 | 220 165 |
| Arnfield Reservoir .....              | Messrs. G. H. Hill & Sons C.E. .... | 12 | 2 6  | 550  | 1167 | 45·96 | .. ..   |
| Rhodes Wood Reservoir .....           | Messrs. G. H. Hill & Sons C.E. .... | 12 | 1 0  | 520  | 1261 | 49·64 | .. ..   |
| Torrside Reservoir .....              | Messrs. G. H. Hill & Sons C.E. .... | 12 | 1 6  | 680  | 1410 | 55·50 | .. ..   |
| d Stalybridge (Market Ground Yd.) ..  | G. H. Raddin, Esq., C.E. ....       | 5  | 1 0  | 373  | 1103 | 43·41 | 203 165 |
| d Stalybridge (Brushes Filter Ho.) .. | G. H. Raddin, Esq., C.E. ....       | 8  | 1 6  | 616  | 1171 | 46·12 | 205 182 |
| d Stalybridge (Brushes Filter Ho.) .. | G. H. Raddin, Esq., C.E. ....       | 6  | 3 0  | 615  | 1134 | 44·64 | 205 176 |
| Swineshaw Moor (Lees Hill) .....      | G. H. Raddin, Esq., C.E. ....       | 5  | 1 0  | 1168 | 1104 | 43·47 | .. ..   |
| Woodhead Reservoir .....              | Messrs. G. H. Hill & Sons C.E. .... | 12 | 0 10 | 660  | 1477 | 58·15 | .. ..   |

**2.—MERSEY—Weaver. 489 sq. mi.**

|                                     |                                  |    |      |      |     |       |         |
|-------------------------------------|----------------------------------|----|------|------|-----|-------|---------|
| d Nantwich (Dorfold Hall) .....     | Col. J. A. Saner, C.E. ....      | 8  | 1 0  | 190  | 889 | 35·00 | 218 159 |
| d Nantwich (Reaseheath Hall) ..     | Col. J. A. Saner, C.E. ....      | 8  | 1 0  | 130  | 871 | 34·29 | 236 162 |
| d Crewe (Queen's Park) .....        | W. H. Williams, Esq. ....        | 12 | 4 0  | 186  | 893 | 35·14 | 182 141 |
| d Sandbach (Malkins Bank) .....     | Messrs. Brunner, Mond & Co. .... | 5  | 3 8  | 138  | 751 | 29·57 | 199 147 |
| d Congleton (Sewerage Works) ..     | J. H. Walters, Esq., C.E. ....   | 5  | 1 0  | 248  | 889 | 34·99 | 202 170 |
| d Congleton (Buglawton Vicarage) .. | Col. J. A. Saner, C.E. ....      | 8  | 5 0  | 347  | 910 | 35·83 | 227 165 |
| d Bosley Reservoir .....            | Great Central Rly. Co. ....      | 9  | 3 6  | 590  | 950 | 37·38 | 213 ..  |
| Bosley Minns .....                  | Great Central Rly. Co. ....      | 9  | 3 6  | 1210 | 736 | 28·97 | 220 ..  |
| d Tarporey (Tirley Garth Gdns.) ..  | Mr. J. B. Allan .....            | 5  | 3 6  | 450  | 905 | 35·63 | 226 169 |
| d Middlewich .....                  | Messrs. Brunner, Mond & Co. .... | 5  | 3 10 | 138  | 788 | 31·01 | 190 150 |

## DIVISION VIII.—NORTH-WESTERN COUNTIES—(con.).

| STATIONS.                                     | AUTHORITIES.                 | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days with<br>·01 in.<br>or more. | Days with<br>·04 in.<br>or more. |
|---|------------------------------|-------------|------------------|------------------------|-----|----------------|-------|----------------------------------|----------------------------------|
|   |                              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |                                  |                                  |
| CHESHIRE—(con.).                              |                              | in.         | ft.              | in.                    | ft. | mm.            | in.   |                                  |                                  |
| 2.—MERSEY—Weaver—(con.).                      |                              |             |                  |                        |     |                |       |                                  |                                  |
| Middlewich (Bostock Hall) . . . . .           | Capt. W. H. France-Hayhurst  | 5           | 2                | 0                      | 157 | 887            | 34·92 | 168                              | ..                               |
| D Delamere Forest (Kingswood) . . . . .       | Office of Woods              | ..          | ..               | ..                     | 355 | 907            | 35·60 | 178                              | 157                              |
| D Chelford (Astle Hall) . . . . .             | Sir G. Dixon, Bart.          | 5           | 1                | 0                      | 250 | 961            | 37·85 | 195                              | 161                              |
| M Chelford (Astle Hall) . . . . .             | Sir G. Dixon, Bart.          | 8           | 1                | 0                      | 250 | 952            | 37·46 | ..                               | ..                               |
| Northwich . . . . .                           | Great Central Rly. Co.       | 9           | 3                | 6                      | 76  | 876            | 34·49 | 194                              | ..                               |
| D Northwich (Hunts Lock) . . . . .            | Col. J. A. Saner, C.E.       | 8           | 1                | 0                      | 47  | 968            | 38·13 | 227                              | 159                              |
| D Northwich (Winnington) . . . . .            | Messrs. Brunner, Mond & Co.  | 5           | 1                | 0                      | 64  | 947            | 37·30 | 208                              | 157                              |
| D Northwich (Lostock Gralam) . . . . .        | Messrs. Brunner, Mond & Co.  | 5           | 3                | 6                      | 75  | 915            | 36·02 | 196                              | 154                              |
| 3.—MERSEY, LOWER & C. 142 sq. mi.             |                              |             |                  |                        |     |                |       |                                  |                                  |
| D Ince Hall . . . . .                         | Mrs. Park-Yates              | 5           | 1                | 0                      | 95  | 971            | 38·22 | 220                              | 176                              |
| D Hooton Water Works . . . . .                | A. J. Robinson, Esq.         | 5           | 1                | 0                      | 97  | 913            | 35·95 | 205                              | 167                              |
| D Eastham (Mill Hey) . . . . .                | Roger P. Sing, Esq.          | 5           | 1                | 7                      | 125 | 1112           | 43·78 | 208                              | 168                              |
| D Eastham House . . . . .                     | Sir J. Herbert Vernon, Bart. | 5           | 1                | 0                      | 100 | 1008           | 39·70 | 218                              | 173                              |
| D Wirral W. W. (Prenton) . . . . .            | A. J. Robinson, Esq.         | 5           | 1                | 0                      | 91  | 905            | 35·64 | 191                              | 152                              |
| D Rock Ferry (Elmhurst) . . . . .             | Miss Shepherd                | 8           | 6                | 0                      | 110 | 1007           | 39·63 | 190                              | 162                              |
| D Birkenhead (Bidston Observ'y.) . . . . .    | W. E. Plummer, Esq.          | 8           | 1                | 0                      | 189 | 847            | 33·34 | 193                              | 143                              |
| D Hoylake (District Council Office) . . . . . | R. W. Fraser, Esq.           | 5           | 1                | 0                      | 29  | 909            | 35·77 | 194                              | 165                              |
| D New Brighton (Marine Park) . . . . .        | Dr. T. W. N. Barlow          | 5           | 1                | 0                      | 35  | 960            | 37·80 | 201                              | 168                              |
| 4.—DEE. 127 sq. mi.                           |                              |             |                  |                        |     |                |       |                                  |                                  |
| D Malpas (Chorlton Hall) . . . . .            | E. Radclyffe Crump, Esq.     | 5           | 1                | 0                      | 210 | 888            | 34·96 | 205                              | 156                              |
| Eaton Hall Gardens . . . . .                  | Mr. N. F. Barnes             | 5           | 3                | 0                      | 72  | 817            | 32·18 | 197                              | 140                              |
| Eccleston . . . . .                           | E. Wells, Esq.               | 5           | 1                | 1                      | 94  | 865            | 34·05 | 192                              | 147                              |
| D Rowton (Holly Bank) . . . . .               | R. J. Salmon, Esq.           | 5           | 1                | 5                      | 123 | 1004           | 39·52 | 191                              | 149                              |
| D Chester (Abbot's Park) . . . . .            | J. H. Howell, Esq.           | 5           | 1                | 1                      | 63  | 876            | 34·49 | 197                              | 153                              |
| D Chester (Sewage Works) . . . . .            | F. W. Davis, Esq.            | 5           | 1                | 0                      | 34  | 878            | 34·57 | 192                              | 159                              |
| D Chester (Water Works) . . . . .             | C. Wilfrid Bennett, Esq.     | 5           | 0                | 10                     | 85  | 884            | 34·79 | 206                              | 148                              |
| D Chester (Water Works) . . . . .             | C. Wilfrid Bennett, Esq.     | 8           | 2                | 3                      | 85  | 892            | 35·10 | 203                              | 152                              |
| D Chester (Northgate Station) . . . . .       | Great Central Rly. Co.       | 9           | 3                | 6                      | 84  | 762            | 29·99 | 164                              | ..                               |
| Puddington (Remote) . . . . .                 | Frank S. Smith, Esq.         | 5           | 1                | 0                      | 100 | 946            | 37·25 | 183                              | 160                              |
| Capenhurst Hall . . . . .                     | R. T. Richardson, Esq.       | 5           | 5                | 10                     | 125 | 978            | 38·52 | 202                              | 166                              |
| D Neston (Vine House) . . . . .               | H. F. Russell, Esq.          | 5           | 1                | 0                      | 111 | 856            | 33·68 | 201                              | 153                              |
| D Heswall (Gayton Cottage) . . . . .          | J. A. Dockray, Esq., C.E.    | 5           | 1                | 0                      | 29  | 890            | 35·03 | 192                              | 152                              |
| West Kirby (Hilbre House) . . . . .           | Egerton Macdona, Esq.        | 5           | 0                | 9                      | 25  | 912            | 35·91 | ..                               | ..                               |
| D West Kirby (Princes Av.) . . . . .          | W. Horseman Kirkby, Esq.     | 5           | 1                | 0                      | 80  | 910            | 35·81 | 199                              | 158                              |
| West Kirby (The Abbey Manor) . . . . .        | Cedric R. Boulton, Esq.      | 5           | 0                | 10                     | 200 | 886            | 34·88 | 182                              | ..                               |
| D West Kirby (St Andrew's Ho.) . . . . .      | Rev. E. F. Robson            | 5           | 0                | 9                      | 50  | 881            | 34·70 | 198                              | 148                              |
| SOUTH LANCASHIRE. (Area, 687 sq. mi.)         |                              |             |                  |                        |     |                |       |                                  |                                  |
| 1.—ALT & C. 103 sq. mi.                       |                              |             |                  |                        |     |                |       |                                  |                                  |
| D Liverpool (Knotty Ash) . . . . .            | W. M. Reade, Esq.            | 5           | 1                | 0                      | 100 | 949            | 37·35 | 265                              | 153                              |
| d Great Crosby (Carnegie Library) . . . . .   | J. Appleby, Esq.             | 5           | 1                | 0                      | 53  | 952            | 37·47 | 192                              | 155                              |
| D Blundellsands (Myra) . . . . .              | H. Montgomery, Esq.          | 5           | 1                | 0                      | 35  | 949            | 37·35 | 217                              | 166                              |
| d Ormskirk (Bickerstaffe P. Stn.) . . . . .   | G. H. Abbott, Esq.           | 5           | 1                | 2                      | 128 | 993            | 39·09 | 229                              | ..                               |
| d Ormskirk (Springfield P. Stn.) . . . . .    | G. H. Abbott, Esq.           | 5           | 0                | 11                     | 70  | 1020           | 40·17 | 226                              | ..                               |
| Downholland (Barton Moss) . . . . .           | J. Baxendell, Esq.           | 5           | 1                | 0                      | 15  | 924            | 36·38 | ..                               | ..                               |
| 2.—MERSEY, LOWER. 240 sq. mi.                 |                              |             |                  |                        |     |                |       |                                  |                                  |
| Garston . . . . .                             | J. A. Brodie, Esq., C.E.     | 10          | 1                | 10                     | 84  | 1075           | 42·34 | 207                              | ..                               |
| D Garston (Grassendale Park) . . . . .        | Miss E. C. Abraham           | 5           | 1                | 0                      | 35  | 915            | 36·01 | 193                              | 154                              |
| D Aigburth (Holmfield) . . . . .              | Miss Maxwell                 | 5           | 1                | 0                      | 100 | 923            | 36·33 | 210                              | 166                              |
| D Aigburth (Beech Lawn) . . . . .             | T. H. Edwards, Esq.          | 8           | 1                | 0                      | 150 | 880            | 34·63 | 198                              | 157                              |
| D Woolton (Roseleigh Gardens) . . . . .       | Mr. J. Stoney                | 8           | 1                | 0                      | 184 | 1038           | 40·87 | 221                              | 191                              |
| D Warrington (Howley Yard) . . . . .          | A. M. Ker, Esq.              | 10          | 0                | 9                      | 26  | 785            | 30·92 | 179                              | 143                              |
| D Warrington (Central Station) . . . . .      | Great Central Rly. Co.       | 9           | 3                | 6                      | 59  | 974            | 38·36 | 182                              | ..                               |
| Liverpool (Monument Place) . . . . .          | J. A. Brodie, Esq., C.E.     | 5           | 1                | 3                      | 126 | 890            | 35·02 | 200                              | ..                               |
| Liverpool (Monument Place) (R) . . . . .      | J. A. Brodie, Esq., C.E.     | 10          | 4                | 6                      | 129 | 868            | 34·17 | 200                              | 152                              |
| Liverpool (Smithdown Road) . . . . .          | J. A. Brodie, Esq., C.E.     | 10          | 0                | 9                      | 135 | 921            | 36·27 | 211                              | ..                               |
| Liverpool (Rathbone Road) . . . . .           | J. A. Brodie, Esq., C.E.     | 10          | 1                | 0                      | 199 | 1057           | 41·61 | 199                              | ..                               |
| Liverpool (Lark Lane) . . . . .               | J. A. Brodie, Esq., C.E.     | 10          | 10               | 8                      | 101 | 932            | 38·65 | 203                              | ..                               |
| Liverpool (Newsham Park) . . . . .            | J. A. Brodie, Esq., C.E.     | 10          | 1                | 0                      | 140 | 1040           | 40·95 | 208                              | ..                               |
| Liverpool (Huskisson Station) . . . . .       | Great Central Rly. Co.       | 9           | 3                | 6                      | 42  | 987            | 38·85 | 202                              | ..                               |
| Liverpool (Breeze Lane) . . . . .             | J. A. Brodie, Esq., C.E.     | 5           | 0                | 9                      | 135 | 1045           | 41·14 | 224                              | ..                               |

## DIVISION VIII.—NORTH-WESTERN COUNTIES—(con.).

| STATIONS.                                     | AUTHORITIES.                               | Rain Gauge. |                  |                       | Depth of Rain. |      | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|--|-------------|------------------|-----------------------|----------------|------|--|--|
|   |  | Diam.       | Height<br>Ground | above<br>Sea<br>Level | 1920           |      |  |  |
| SOUTH LANCASHIRE—(con.).                      |  | in.         | ft.              | in                    | ft.            | mm.  | in.                                    |  |
| 2.—MERSEY, LOWER—(con.).                      |  |             |                  |                       |                |      |  |  |
| d St. Helen's (Eccleston Hill) . . . . .      | A. W. Bradley, Esq. . . . .                | 8           | 2                | 9                     | 268            | 998  | 39·31                                  | 205 156                                |
| d Earlestown (Newton Cemetery) . . . . .      | T. E. Clough, Esq. . . . .                 | 5           | 1                | 0                     | 75             | 1011 | 39·80                                  | .. 144                                 |
| d Leigh (Leesrigg) . . . . .                  | Maj. T. Hunter, V.D., C.E. . . . .         | 5           | 1                | 0                     | 71             | 892  | 35·13                                  | 214 156                                |
| 3.—MERSEY—Irwell. 299 sq. mi.                 |  |             |                  |                       |                |      |  |  |
| d Urmston (Sew. Wks., Davyhulme) . . . . .    | G. F. Walter, Esq. . . . .                 | 8           | 2                | 2                     | 72             | 961  | 37·83                                  | .. ..                                  |
| d Manchester (Godlee Observ'y) . . . . .      | W. C. Jenkins, Esq. . . . .                | 8           | 1                | 3                     | 140            | 1022 | 40·22                                  | 216 161                                |
| Manchester (Piccadilly) . . . . .             | Great Central Rly. Co. . . . .             | 9           | 40               | 0                     | 194            | 982  | 38·68                                  | 220 ..                                 |
| Manchester (Fairfield) . . . . .              | Great Central Rly. Co. . . . .             | 9           | 6                | 0                     | 312            | 1030 | 40·53                                  | 209 ..                                 |
| d Manchester (Oldham Road) . . . . .          | Dr. J. Niven . . . . .                     | 5           | 1                | 0                     | 191            | 1056 | 41·59                                  | 217 160                                |
| d Manchester (Whitworth Park) . . . . .       | Manchester University . . . . .            | 8           | 1                | 5                     | 126            | 992  | 39·05                                  | 190 157                                |
| d Ashton-und.-Lyne (Knott H. Res.) . . . . .  | G. H. Raddin, Esq., C.E. . . . .           | 8           | 1                | 0                     | 605            | 1201 | 47·30                                  | 213 182                                |
| d Prestwich Sewage Works . . . . .            | S. H. Morgan, Esq., C.E. . . . .           | 8           | 1                | 0                     | 151            | 1088 | 42·82                                  | 224 178                                |
| Prestwich Reservoir . . . . .                 | Messrs. G. H. Hill & Sons CE . . . . .     | 12          | 2                | 0                     | 357            | 1031 | 40·59                                  | .. ..                                  |
| d Prestwich (Heaton Park) . . . . .           | Manchester Corporation . . . . .           | 8           | 1                | 0                     | 312            | 1142 | 44·94                                  | 211 174                                |
| d Oldham Gas Works . . . . .                  | Ernest Parry, Esq., C.E. . . . .           | 5           | 3                | 8                     | 621            | 1129 | 44·45                                  | 220 168                                |
| Oldham (Honeywell Lane) . . . . .             | Great Central Rly. Co. . . . .             | 8           | 3                | 6                     | 553            | 1161 | 45·71                                  | 226 ..                                 |
| Oldham (Brushes Clough) <i>old g.</i> . . . . | C. J. Batley, Esq., C.E. . . . .           | 5           | 4                | 0                     | 930            | 1328 | 52·28                                  | 229 189                                |
| Oldham (Brushes Clough) <i>new g.</i> . . . . | C. J. Batley, Esq., C.E. . . . .           | 5           | 5                | 0                     | 955            | 1332 | 52·43                                  | 228 181                                |
| d Bolton (Queen's Park) . . . . .             | T. Midgley, Esq. . . . .                   | 5           | 1                | 0                     | 342            | 1255 | 49·39                                  | 228 172                                |
| d Bolton (Heaton Reservoir) . . . . .         | J. K. Swales, Esq., C.E. . . . .           | 5           | 1                | 0                     | 500            | 1237 | 48·69                                  | 240 178                                |
| d Bolton (Bloomfield, Heaton) . . . . .       | Mrs. F. Taylor, J.P. . . . .               | 5           | 1                | 0                     | 530            | 1165 | 45·86                                  | 260 182                                |
| d Bolton (Smithills Hall) . . . . .           | Col. R. H. Ainsworth . . . . .             | 8           | 1                | 2                     | 510            | 1284 | 50·54                                  | 178 170                                |
| Bolton (Smithills Moor) . . . . .             | Col. R. H. Ainsworth . . . . .             | 8           | 1                | 2                     | 1375           | 1517 | 59·73                                  | .. ..                                  |
| d Bury (Parsons Lane) . . . . .               | R. B. Rigby, Esq. . . . .                  | 8           | 9                | 8                     | 316            | 1278 | 50·31                                  | 220 182                                |
| d New Hey (Sewage Works) . . . . .            | Mr. J. B. Ogden . . . . .                  | 5           | 1                | 0                     | 514            | 1300 | 51·17                                  | 211 170                                |
| Millnrow (Butterworth Hall) . . . . .         | C. J. Batley, Esq., C.E. . . . .           | 5           | 1                | 0                     | 512            | 1357 | 53·41                                  | 217 183                                |
| Millnrow (Piethorne, Kitcliffe) . . . . .     | C. J. Batley, Esq., C.E. . . . .           | 5           | 4                | 6                     | 769            | 1330 | 52·36                                  | 220 173                                |
| d Millnrow (Piethorne, Coldgreave) . . . . .  | C. J. Batley, Esq., C.E. . . . .           | 5           | 4                | 6                     | 894            | 1272 | 50·07                                  | 222 179                                |
| Millnrow (Piethorne, Norman Hill) . . . . .   | C. J. Batley, Esq., C.E. . . . .           | 5           | 4                | 6                     | 1076           | 1229 | 48·38                                  | 222 178                                |
| Millnrow (Piethorne, Rooden Res) . . . . .    | C. J. Batley, Esq., C.E. . . . .           | 5           | 4                | 6                     | 1131           | 1137 | 44·78                                  | 222 175                                |
| d Rochdale (Roch Mills Sew. Wks.) . . . . .   | H. Yarwood, Esq., C.E. . . . .             | 8           | 1                | 1                     | 363            | 1313 | 51·68                                  | 236 193                                |
| d Rochdale (Broadfield Pk. Obsy.) . . . . .   | Dr. A. G. Anderson . . . . .               | 8           | 0                | 6                     | 472            | 1320 | 51·95                                  | 256 191                                |
| d Rochdale (Fieldhead Yard) . . . . .         | H. Yarwood, Esq., C.E. . . . .             | 8           | 12               | 0                     | 484            | 1389 | 54·68                                  | 220 175                                |
| d Rochdale (Ashworth Moor Res.) . . . . .     | J. S. Diggle, Esq., C.E. . . . .           | 5           | 1                | 2                     | 956            | 1300 | 51·16                                  | 216 183                                |
| d Bury (Gin Hall) . . . . .                   | No. 1 J. Woodhead Smith, Esq. CE . . . . . | 8           | 1                | 0                     | 475            | 1272 | 50·10                                  | 225 187                                |
| d Bury (Gin Hall) . . . . .                   | No. 2 J. Woodhead Smith, Esq. CE . . . . . | 8           | 1                | 0                     | 475            | 1341 | 52·79                                  | 225 187                                |
| d Bolton (Belmont Reservoir) . . . . .        | J. K. Swales, Esq., C.E. . . . .           | 5           | 1                | 0                     | 800            | 1444 | 56·85                                  | 241 187                                |
| d Rochdale (Hamer Pasture Res.) . . . . .     | H. A. Braddock, Esq. . . . .               | 5           | 1                | 0                     | 760            | 1389 | 54·70                                  | 210 178                                |
| d Rochdale (Naden Filters) . . . . .          | J. S. Diggle, Esq., C.E. . . . .           | 5           | 1                | 8                     | 761            | 1298 | 51·10                                  | 209 177                                |
| M Norden (Higher Red Lumb) . . . . .          | J. S. Diggle, Esq., C.E. . . . .           | 5           | 1                | 2                     | 1125           | 1310 | 51·56                                  | .. ..                                  |
| w Norden (Far Knowl Farm) . . . . .           | J. S. Diggle, Esq., C.E. . . . .           | 5           | 0                | 10                    | ..             | 1437 | 56·57                                  | .. ..                                  |
| w Rochdale (Naden Dean) <i>old g.</i> . . . . | J. S. Diggle, Esq., C.E. . . . .           | 5           | 1                | 4                     | 948            | 1184 | 46·62                                  | .. ..                                  |
| w Rochdale (Naden Dean) <i>new g.</i> . . . . | J. S. Diggle, Esq., C.E. . . . .           | 5           | 1                | 4                     | 948            | 1296 | 51·01                                  | .. ..                                  |
| M Ramsbottom (Killgate Brook) . . . . .       | J. S. Diggle, Esq., C.E. . . . .           | 5           | 1                | 0                     | 977            | 1388 | 54·66                                  | .. ..                                  |
| M Ramsbottom (Cheesden Barn) . . . . .        | J. S. Diggle, Esq., C.E. . . . .           | 5           | 1                | 0                     | 997            | 1344 | 52·91                                  | .. ..                                  |
| d Edenfield (Scout Moor Res.) No. 1 . . . . . | J. Woodhead Smith, Esq. CE . . . . .       | 8           | 1                | 0                     | 1275           | 1175 | 46·27                                  | 231 181                                |
| d Edenfield (Scout Moor Res.) No. 2 . . . . . | J. Woodhead Smith, Esq. CE . . . . .       | 8           | 1                | 0                     | 1275           | 1177 | 46·33                                  | 231 184                                |
| d Rochdale (Spring Mill Whitworth) . . . . .  | H. A. Braddock, Esq. . . . .               | 5           | 1                | 7                     | 720            | 1510 | 59·44                                  | 223 194                                |
| d Rochdale (Cowm, Whitworth) . . . . .        | H. A. Braddock, Esq. . . . .               | 5           | 1                | 7                     | 762            | 1535 | 60·44                                  | 219 203                                |
| d Entwistle Reservoir . . . . .               | J. K. Swales, Esq., C.E. . . . .           | 5           | 1                | 0                     | 700            | 1437 | 56·57                                  | 230 200                                |
| Littleborough (Hollingworth L.) . . . . .     | Rochdale Canal Co.* . . . . .              | 8           | 1                | 0                     | 600            | 1100 | 43·31                                  | .. ..                                  |
| Littleborough (Windy Bank) . . . . .          | Rochdale Canal Co. . . . .                 | 8           | 2                | 0                     | 605            | 1216 | 47·88                                  | .. ..                                  |
| Littleborough (Blackstone Edge) . . . . .     | Rochdale Canal Co. . . . .                 | 8           | 2                | 0                     | 1225           | 1053 | 41·46                                  | .. ..                                  |
| Littleborough (Canal Summit) . . . . .        | Rochdale Canal Co. . . . .                 | 8           | 2                | 0                     | 700            | 1089 | 42·87                                  | .. ..                                  |
| Littleborough (Chelburn) . . . . .            | Rochdale Canal Co. . . . .                 | 8           | 2                | 0                     | 800            | 1212 | 47·72                                  | .. ..                                  |
| Littleborough (Byron Edge Drain) . . . . .    | Rochdale Canal Co. . . . .                 | 8           | 1                | 5                     | 1250           | 1131 | 44·53                                  | .. ..                                  |
| Littleborough (Lenches) . . . . .             | Rochdale Canal Co. . . . .                 | 8           | 2                | 0                     | 806            | 1218 | 47·96                                  | .. ..                                  |
| Walsden (Calf Lee) . . . . .                  | Rochdale Canal Co. . . . .                 | 10          | 1                | 6                     | 960            | 1094 | 43·06                                  | .. ..                                  |
| Walsden (Warland Drain) . . . . .             | Rochdale Canal Co. . . . .                 | 8           | 1                | 5                     | 1250           | 1238 | 48·74                                  | .. ..                                  |
| Walsden (Whiteholme Drain) . . . . .          | Rochdale Canal Co. . . . .                 | 8           | 1                | 5                     | 1250           | 1260 | 49·61                                  | .. ..                                  |
| Walsden (Rishworth Drain) . . . . .           | Rochdale Canal Co. . . . .                 | 8           | 1                | 5                     | 1200           | 1098 | 43·24                                  | .. ..                                  |

\* Returns supplied by W. A. M'Grath, Esq., M.B.E.



## DIVISION VIII.—NORTH-WESTERN COUNTIES—(con.).

| STATIONS.                               | AUTHORITIES.                     | Rain Gauge. |                  |                        |      | Depth of Rain. |       | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|---|----------------------------------|-------------|------------------|------------------------|------|----------------|-------|-------------------------------------|-------------------------------------|
|   |                                  | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |       |                                     |                                     |
| SOUTH LANCASHIRE—(con.).                |                                  | in.         | ft.              | in.                    | ft.  | mm.            | in.   |                                     |                                     |
| 3.—MERSEY—Irwell—(con.).                |                                  |             |                  |                        |      |                |       |                                     |                                     |
| D Haslingden(HoldenWood) No.1           | J. WoodheadSmith, Esq., CE       | 8           | 1                | 0                      | 670  | 1488           | 58·59 | 229                                 | 205                                 |
| D Haslingden(HoldenWood) No.2           | J. WoodheadSmith, Esq., CE       | 8           | 1                | 0                      | 670  | 1521           | 59·87 | 229                                 | 200                                 |
| D Haslingden(Calf Hey) ... No.1         | J. WoodheadSmith, Esq., CE       | 8           | 1                | 0                      | 800  | 1462           | 57·54 | 229                                 | 203                                 |
| D Haslingden(Calf Hey) ... No.2         | J. WoodheadSmith, Esq., CE       | 8           | 1                | 0                      | 800  | 1353           | 53·28 | 229                                 | 199                                 |
| D Rawtenstall Cemetery                  | J. Johnson, Esq.                 | 8           | 1                | 0                      | 572  | 1386           | 54·55 | ..                                  | 166                                 |
| D Rawtenstall(Cloughbottom) No1         | J. WoodheadSmith, Esq., CE       | 8           | 1                | 0                      | 1025 | 1342           | 52·84 | 231                                 | 209                                 |
| D Rawtenstall(Cloughbottom) No2         | J. WoodheadSmith, Esq., CE       | 8           | 1                | 0                      | 1025 | 1266           | 49·85 | 231                                 | 205                                 |
| D Rawtenstall(Hapton Res.) No.1         | J. WoodheadSmith, Esq., CE       | 8           | 1                | 0                      | 930  | 1346           | 52·99 | 246                                 | 206                                 |
| D Rawtenstall(Hapton Res.) No.2         | J. WoodheadSmith, Esq., CE       | 8           | 1                | 0                      | 930  | 1417           | 55·80 | 246                                 | 206                                 |
| 4.—MERSEY, UPPER. 45 sq. mi.            |                                  |             |                  |                        |      |                |       |                                     |                                     |
| D Didsbury (Linden Road)                | L. G. King, Esq.                 | 8           | 1                | 6                      | 110  | 957            | 37·67 | 223                                 | 157                                 |
| D Stockport (Heaton Mersey)             | W. B. Leigh, Esq.                | 5           | 1                | 0                      | 218  | 939            | 36·98 | 212                                 | 160                                 |
| D Withington (Town Hall)                | (R) O. Hellawell, Esq., C.E.     | 8           | 4                | 0                      | 121  | 902            | 35·51 | 185                                 | 156                                 |
| D Chorlton-cum-Hardy Sew. Works         | G. F. Walter, Esq.               | 8           | 4                | 0                      | 78   | 960            | 37·79 | 230                                 | 165                                 |
| D Chorlton-cum-Hardy                    | J. H. Casartelli, Esq.           | 5           | 2                | 0                      | 75   | 924            | 36·36 | 205                                 | 153                                 |
| D Fallowfield (Platt Field Park)        | Manchester Corporation           | 8           | 3                | 3                      | 124  | 937            | 36·88 | 211                                 | 154                                 |
| D Denton Reservoir                      | Messrs. G. H. Hill & Sons, C.E.  | 12          | 2                | 0                      | 324  | 898            | 35·36 | ..                                  | ..                                  |
| D Gorton Reservoir                      | Messrs. G. H. Hill & Sons, C.E.  | 12          | 2                | 0                      | 263  | 941            | 37·05 | ..                                  | ..                                  |
| D Ashton-u-Lyne(HenriettaStYd)          | G. H. Raddin, Esq., C.E.         | 7           | 1                | 0                      | 394  | 1141           | 44·93 | 218                                 | 172                                 |
| D Ashton-u-Lyne (Waterhouses)           | Great Central Rly. Co.           | 9           | 3                | 6                      | 345  | 1027           | 40·42 | 217                                 | ..                                  |
| D Lower Swineshaw Reservoir             | G. H. Raddin, Esq., C.E.         | 8           | 1                | 6                      | 886  | 1251           | 49·25 | 201                                 | 174                                 |
| D Swineshaw Moor                        | G. H. Raddin, Esq., C.E.         | 5           | 1                | 0                      | 1340 | 1421           | 55·95 | ..                                  | ..                                  |
| D Mossley (Manor House Yard)            | G. H. Raddin, Esq., C.E.         | 5           | 1                | 0                      | 636  | 1271           | 50·04 | 209                                 | 183                                 |
| CENTRAL LANCASHIRE. (Area, 536 sq. mi.) |                                  |             |                  |                        |      |                |       |                                     |                                     |
| 1.—RIBBLE & C. 326 sq. mi.              |                                  |             |                  |                        |      |                |       |                                     |                                     |
| D Rivington (Higher Hill)               | Col. J. R. Davidson, C.E.        | 8           | 1                | 4                      | 733  | 1081           | 42·56 | ..                                  | ..                                  |
| D Haslingden(MitchellsHo.Res.)          | A. J. Harrison, Esq.             | 5           | 1                | 6                      | 990  | 1267           | 49·87 | ..                                  | 187                                 |
| D Darwen (Sunnyhurst Hey Res.)          | E. Marsden, Esq., C.E.           | 8           | 1                | 8                      | 915  | 1275           | 50·21 | 227                                 | 187                                 |
| D Darwen (Earnsdale Reservoir)          | E. Marsden, Esq., C.E.           | 8           | 1                | 8                      | 705  | 1295           | 51·00 | 227                                 | 189                                 |
| D Darwen Sewage Works                   | E. Marsden, Esq., C.E.           | 5           | 1                | 6                      | 460  | 1203           | 47·35 | 224                                 | 179                                 |
| D Darwen (Bold Venture Park)            | Dr. F. G. Haworth                | 8           | 1                | 1                      | 722  | 1424           | 56·08 | 230                                 | 186                                 |
| D Darwen (Hoddlesden)                   | No. 1 A. T. Gooseman, Esq., C.E. | 8           | 1                | 6                      | 680  | 1086           | 42·74 | 222                                 | 171                                 |
| D Darwen (Hoddlesden)                   | No. 2 A. T. Gooseman, Esq., C.E. | 8           | 1                | 0                      | 675  | 1101           | 43·36 | 222                                 | 170                                 |
| D Darwen (Daisy Green)                  | No. 1 A. T. Gooseman, Esq., C.E. | 8           | 1                | 6                      | 969  | 1141           | 44·91 | 222                                 | 173                                 |
| D Darwen (Daisy Green)                  | No. 2 A. T. Gooseman, Esq., C.E. | 8           | 1                | 0                      | 969  | 1160           | 45·66 | 222                                 | 176                                 |
| D Darwen (Pickup Bank)                  | No. 1 A. T. Gooseman, Esq., C.E. | 8           | 1                | 6                      | 720  | 1079           | 42·48 | 222                                 | 170                                 |
| D Darwen (Pickup Bank)                  | No. 2 A. T. Gooseman, Esq., C.E. | 8           | 1                | 0                      | 720  | 1112           | 43·79 | 222                                 | 172                                 |
| D Brindle (Whiteholme)                  | Victor H. Gatty, Esq.            | 5           | 1                | 8                      | 315  | 1020           | 40·14 | 214                                 | 183                                 |
| D Blackburn (Guide Reservoir)           | A. T. Gooseman, Esq., C.E.       | 8           | 1                | 6                      | 610  | 1130           | 44·49 | 224                                 | 189                                 |
| D Blackburn (Witton)                    | A. T. Gooseman, Esq., C.E.       | 8           | 1                | 6                      | 315  | 1174           | 46·24 | 217                                 | 188                                 |
| D Blackburn Fever Hospital              | A. T. Gooseman, Esq., C.E.       | 6           | 1                | 6                      | 570  | 1099           | 43·27 | 239                                 | 193                                 |
| D Blackburn (Pumping Station)           | A. T. Gooseman, Esq., C.E.       | 8           | 1                | 6                      | 600  | 1118           | 44·01 | 221                                 | 187                                 |
| D Accrington (Milnshaw Park)            | Mr. J. W. Terry                  | 5           | 1                | 6                      | 464  | 1067           | 42·00 | 211                                 | ..                                  |
| D Hutton(Lancs.C.C.Hortic.Stat.)        | J. Gillett, Esq.                 | 5           | 1                | 0                      | 82   | 916            | 36·06 | 212                                 | 164                                 |
| D Higher Walton(Bannister Hall)         | A. A. Gatty, Esq.                | 5           | 0                | 7                      | 75   | 962            | 37·88 | ..                                  | ..                                  |
| D Preston (Corporation Offices)         | J. H. Smethurst, Esq., C.E.      | 8           | 18               | 7                      | 148  | 997            | 39·24 | 228                                 | 178                                 |
| D Samlesbury Sewage Works               | A. T. Gooseman, Esq., C.E.       | 8           | 1                | 6                      | 240  | 1047           | 41·23 | 218                                 | 182                                 |
| D Rishton Reservoir                     | Leeds & Liverpool Canal Co.      | 10          | 2                | 0                      | 467  | 917            | 36·12 | ..                                  | ..                                  |
| D Causeway Side (Burnley W.W.)          | S. Rawlinson, Esq.               | 8           | 2                | 0                      | 1116 | 1282           | 50·46 | ..                                  | ..                                  |
| D Shedding (Burnley W. W.)              | S. Rawlinson, Esq.               | 8           | 2                | 0                      | 960  | 1203           | 47·35 | ..                                  | ..                                  |
| D CantCloughS.Side(BurnleyWW)           | S. Rawlinson, Esq.               | 8           | 2                | 0                      | 900  | 1235           | 48·61 | 250                                 | 193                                 |
| D CantCloughN.Side(BurnleyWW)           | S. Rawlinson, Esq.               | 8           | 2                | 0                      | 900  | 1103           | 43·44 | 250                                 | 189                                 |
| D RamsCloughHead(BurnleyWW)             | S. Rawlinson, Esq.               | 8           | 2                | 0                      | 1260 | 1205           | 47·44 | ..                                  | ..                                  |
| D Huncoat (Burnley Road Res.)           | A. J. Harrison, Esq.             | 9           | 1                | 6                      | 620  | 1283           | 50·73 | 230                                 | 176                                 |
| D Wilpshire (Brooklyn Road)             | H. W. Apperley, Esq.             | 5           | 1                | 0                      | 408  | 1071           | 42·18 | 236                                 | 182                                 |
| D Great Harwood(Parsonage Res.)         | A. T. Gooseman, Esq., C.E.       | 8           | 1                | 0                      | 631  | 1109           | 43·66 | 222                                 | 212                                 |
| D Great Harwood (Dean Clough)           | A. J. Harrison, Esq.             | 12          | 1                | 6                      | 540  | 1399           | 55·08 | 235                                 | 207                                 |
| D Burnley (Queen's Park)                | Dr. T. Holt                      | 8           | 1                | 0                      | 459  | 1090           | 42·91 | 241                                 | 179                                 |
| D Burnley (Yorkshire Street)            | S. Rawlinson, Esq.               | 8           | 30               | 0                      | 420  | 954            | 37·54 | 236                                 | 173                                 |
| D Burnley (Swinden) Upper g.            | S. Rawlinson, Esq.               | 8           | 12               | 0                      | 820  | 1259           | 49·57 | 254                                 | 195                                 |
| D Burnley (Swinden) Lower g.            | S. Rawlinson, Esq.               | 8           | 2                | 0                      | 745  | 1273           | 50·13 | 254                                 | 207                                 |

## DIVISION VIII.—NORTH-WESTERN COUNTIES—(con.).

| STATIONS.                             | AUTHORITIES.                  | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---------------------------------------|-------------------------------|-------------|------------------|------------------------|------------------------|--|--|
|                                       |                               | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |
| CENTRAL LANCASHIRE—(con.).            |                               | in.         | ft.              | in.                    | ft.                    | mm.                                    | in.                                    |
| 1.—RIBBLE & C.—(con.).                |                               |             |                  |                        |                        |  |  |
| Burnley (Extwistle Moor Top)          | S. Rawlinson, Esq. ....       | 8           | 2                | 0                      | 1310.                  | 1319                                   | 51·93                                  |
| D Burnley (Gawthorpe Hall).....       | Lord Shuttleworth .....       | 8           | 0                | 9                      | 316                    | 1082                                   | 42·61                                  |
| D Burnley (Huntroyde) .....           | N. G. Howsin, Esq. ....       | 5           | 1                | 0                      | 423                    | 1122                                   | 44·19                                  |
| Alston Reservoir .....                | J. H. Smethurst, Esq., C.E. . | 8           | 1                | 2                      | 320                    | 1034                                   | 40·69                                  |
| D Nelson (Coldwell Res.) . No. 1      | Smith Whitehead, Esq., C.E. . | 5           | 1                | 0                      | 950                    | 1069                                   | 42·10                                  |
| D Nelson (Coldwell Res.) . No. 2      | Smith Whitehead, Esq., C.E. . | 5           | 1                | 0                      | 960                    | 1273                                   | 50·12                                  |
| D Nelson (Victoria Park) .....        | Smith Whitehead, Esq., C.E. . | 5           | 1                | 0                      | 360                    | 1190                                   | 46·83                                  |
| D Stonyhurst College .....            | Rev. A. L. Cortie, S.J. ....  | 8           | 1                | 10                     | 377                    | 1164                                   | 45·82                                  |
| M Stonyhurst College .....            | Rev. A. L. Cortie, S.J. ....  | 11          | 1                | 0                      | 376                    | 1167                                   | 45·94                                  |
| M Knowle Green (Preston W. W.)        | J. H. Smethurst, Esq., C.E. . | 8           | 1                | 2                      | 400                    | 1058                                   | 41·66                                  |
| M Loud Scales (Preston W. W.)         | J. H. Smethurst, Esq., C.E. . | 8           | 1                | 2                      | 400                    | 1138                                   | 44·82                                  |
| M Spade Mill (Preston W. W.)          | J. H. Smethurst, Esq., C.E. . | 8           | 1                | 2                      | 400                    | 1107                                   | 43·58                                  |
| M Jeffrey Hill (Preston W. W.)        | J. H. Smethurst, Esq., C.E. . | 8           | 1                | 2                      | 900                    | 1180                                   | 46·47                                  |
| W Sabden (Churn Clough Res.)          | R. Radcliffe, Esq., C.E. .... | 5           | 0                | 8                      | 840                    | 1150                                   | 45·26                                  |
| W Sabden (Stainscomb) .....           | R. Radcliffe, Esq., C.E. .... | 5           | 0                | 8                      | 1070                   | 1186                                   | 46·69                                  |
| W Newchurch (Cock Dole) .....         | R. Radcliffe, Esq., C.E. .... | 5           | 0                | 8                      | 1090                   | 1261                                   | 49·65                                  |
| W Sabden (Spence Moor) .....          | R. Radcliffe, Esq., C.E. .... | 8           | 1                | 0                      | 1200                   | 1051                                   | 41·37 ?                                |
| D Barley (Ogden Reservoir)....        | Smith Whitehead, Esq., C.E. . | 8           | 2                | 0                      | 950                    | 1205                                   | 47·43                                  |
| D Colne (The Rectory) .....           | Rev. Dr. S. P. Duval ....     | 5           | 1                | 4                      | 538                    | 1160                                   | 45·66                                  |
| D Colne (Cemetery Grounds) .(R)       | T. H. Hartley, Esq. ....      | 8           | 2                | 11                     | 619                    | 876                                    | 34·48                                  |
| Barrowford Reservoir.....             | Leeds & Liverpool Canal Co. . | 8           | 1                | 0                      | 473                    | 1131                                   | 44·54                                  |
| Foulridge (Upper Reservoir) ..        | Leeds & Liverpool Canal Co. . | 8           | 1                | 0                      | 582                    | 1118                                   | 44·01                                  |
| Clitheroe (Downham Hall) ..           | R. C. Assheton, Esq. ....     | 10          | 1                | 6                      | 464                    | 1180                                   | 46·45                                  |
| 2.—RIBBLE—Douglas. 156 sq. mi.        |                               |             |                  |                        |                        |  |  |
| D Wigan WW (Billinge Higher End)      | R. B. Donald, Esq., C.E....   | 12          | 3                | 6                      | 374                    | 1146                                   | 45·12                                  |
| D Orrell (Upholland Gram. Sch.)       | C. H. Cox, Esq. ....          | 5           | 1                | 0                      | 320                    | 1155                                   | 45·48                                  |
| D Wigan W. W. (Worthington) ..        | R. B. Donald, Esq., C.E....   | 8           | 1                | 6                      | 225                    | 1154                                   | 45·42                                  |
| D Horwich (Lower Rivington) ..        | Col. J. R. Davidson, C.E. .   | 8           | 1                | 0                      | 440                    | 1180                                   | 46·46                                  |
| D Horwich (Lower Knoll) .....         | Col. J. R. Davidson, C.E. .   | 8           | 1                | 4                      | 742                    | 1158                                   | 45·60                                  |
| Rivington (Brown Hill) .....          | Col. J. R. Davidson, C.E. .   | 8           | 1                | 4                      | 843                    | 1144                                   | 45·02                                  |
| D Rivington (Stoneshouse) No. 1       | Col. J. R. Davidson, C.E. .   | 8           | 1                | 4                      | 843                    | 1173                                   | 46·17                                  |
| Rivington (Stoneshouse) No. 2         | Col. J. R. Davidson, C.E. .   | 8           | 1                | 4                      | 623                    | 1083                                   | 42·64                                  |
| Rivington (Hurst Hill) .....          | Col. J. R. Davidson, C.E. .   | 8           | 1                | 10                     | 1029                   | 1178                                   | 46·36                                  |
| Rivington (Great Hill) .....          | Col. J. R. Davidson, C.E. .   | 8           | 1                | 8                      | 1240                   | 1277                                   | 50·28                                  |
| Rivington (Coppice Stile) .....       | Col. J. R. Davidson, C.E. .   | 8           | 1                | 8                      | 879                    | 1056                                   | 41·57                                  |
| Rivington (Gamekeeper's) .....        | Col. J. R. Davidson, C.E. .   | 8           | 0                | 8                      | 850                    | 1269                                   | 49·96                                  |
| D Leyland (Worden Hall) .....         | H. Nowell flarington, Esq. .  | 5           | 1                | 0                      | 125                    | 1014                                   | 39·93                                  |
| M Leyland (Worden Hall) .....         | H. Nowell flarington, Esq. .  | 5           | 1                | 0                      | 125                    | 985                                    | 38·79                                  |
| D Bamber Bridge (Cuerden Hall)        | R. A. Tatton, Esq. ....       | 5           | 1                | 0                      | 230                    | 999                                    | 39·32                                  |
| 3.—COAST STREAMS. 52 sq. mi.          |                               |             |                  |                        |                        |  |  |
| D Scarisbrick (Pinfold Cottage) ..    | Mrs. Johnson .....            | 5           | 1                | 0                      | 69                     | 863                                    | 33·96                                  |
| D Birkdale (Westcliffe Road) ....     | Percy W. Hoyle, Esq. ....     | 5           | 0                | 6                      | 35                     | 887                                    | 34·93                                  |
| M Birkdale .....                      | J. Baxendell, Esq. ....       | 5           | 1                | 0                      | 27                     | 902                                    | 35·50                                  |
| D Southport (Hesketh Park) ....       | J. Baxendell, Esq. ....       | 5           | 1                | 0                      | 38                     | 862                                    | 33·96                                  |
| D Southport (Hesketh Park) .....      | J. Baxendell, Esq. ....       | 8           | 1                | 0                      | 38                     | 866                                    | 34·08                                  |
| D Southport (Hesketh Park) .(R)       | J. Baxendell, Esq. ....       | 11          | 1                | 6                      | 39                     | 865                                    | 34·04                                  |
| Southport (Hesketh Park) ....         | J. Baxendell, Esq. ....       | 5           | 16               | 0*                     | 66                     | 818                                    | 32·19                                  |
| Southport (Lord Street Station)       | Great Central Rly. Co.....    | 9           | 3                | 6                      | 21                     | 837                                    | 32·96                                  |
| D Southport (Forest Road) .....       | J. H. Bonny, Esq. ....        | 5           | 1                | 6                      | 25                     | 881                                    | 34·70                                  |
| 4.—OUSE—Aire. 2 sq. mi.               |                               |             |                  |                        |                        |  |  |
| D Worthdale (Watersheddes Res.)       | M. R. Barnett, Esq., C.E....  | 5           | 1                | 0                      | 1115                   | 1232                                   | 48·49                                  |
| Foulridge (Canal Office) .....        | Leeds & Liverpool Canal Co. . | 8           | 1                | 0                      | 497                    | 1355                                   | 53·35                                  |
| Foulridge (Cragg Nook Hill) ..        | Leeds & Liverpool Canal Co. . | 8           | 1                | 0                      | 690                    | 1184                                   | 46·61                                  |
| NORTH LANCASHIRE. (Area, 609 sq. mi.) |                               |             |                  |                        |                        |  |  |
| 1.—DUDDON & C. 77 sq. mi.             |                               |             |                  |                        |                        |  |  |
| D Barrow-in-Furness (Gas Works)F.     | Chadderton, Esq. ....         | 11          | 1                | 6                      | 36                     | 978                                    | 38·52                                  |
| D Barrow-in-Furness (Sewage Wks)W.    | C. Persey, Esq., C.E. ....    | 5           | 1                | 0                      | 21                     | 1162                                   | 45·75                                  |
| D Urswick School House .....          | J. Dobson, Esq.....           | 5           | 1                | 6                      | 130                    | 1224                                   | 48·20                                  |

\* Gauge on roof, and protected by Nipher Shield.

## DIVISION VIII.—NORTH-WESTERN COUNTIES—(con.).

| STATIONS.                           | AUTHORITIES.                 | Rain Gauge. |                  |                        | Depth of Rain. |      | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |     |
|-------------------------------------|------------------------------|-------------|------------------|------------------------|----------------|------|-------------------------------------|-------------------------------------|-----|
|                                     |                              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |      |                                     |                                     |     |
| NORTH LANCASHIRE—(con.).            |                              | in.         | ft.              | in.                    | ft.            | mm.  | in.                                 |                                     |     |
| 1.—DUDDON & C.—(con.).              |                              |             |                  |                        |                |      |                                     |                                     |     |
| D Ulpha                             | F. Chadderton, Esq.          | 11          | 1                | 6                      | 251            | 2114 | 83·24                               | 254                                 | 212 |
| D Duddon Valley (Seathwaite Vic)    | Rev. F. K. Berry             | 5           | 1                | 0                      | 348            | 2073 | 81·63                               | 232                                 | 201 |
| D Duddon Val. (Seathwaite Tarn)     | F. Chadderton, Esq.          | 11          | 1                | 6                      | 1221           | 2694 | 106·08                              | ..                                  | ..  |
| 2.—LEVEN & C. 135 sq. mi.           |                              |             |                  |                        |                |      |                                     |                                     |     |
| D Cartmel (Holker Hall)             | Lord Richard Cavendish       | 5           | 0                | 9                      | 85             | 1286 | 50·61                               | 254                                 | 193 |
| D Ulverston (Poaka Beck)            | F. Chadderton, Esq.          | 11          | 1                | 6                      | 512            | 1488 | 58·58                               | 223                                 | 195 |
| D Cartmel (Aynsome)                 | J. Stewart Remington, Esq.   | 8           | 1                | 8                      | 132            | 1216 | 47·87                               | 190                                 | 159 |
| D Rusland Hall                      | Mrs. Archibald               | 5           | 14               | 0                      | 45             | 1249 | 49·17                               | 232                                 | 171 |
| d Greenodd (Pennybridge School)     | W. White, Esq.               | 5           | 1                | 0                      | 118            | 1436 | 56·52                               | 215                                 | 187 |
| D Coniston (Water Park)             | A. P. Brydson, Esq.          | 8           | 1                | 6                      | 160            | 1764 | 69·44                               | 233                                 | ..  |
| D Coniston (Holywath)               | Mrs. Barratt                 | 8           | 0                | 9                      | 200            | 2665 | 104·93                              | 229                                 | 199 |
| D Coniston Park                     | Miss C. Marshall             | 5           | 1                | 2                      | 305            | 2442 | 96·15                               | 219                                 | ..  |
| D Hawkshead (Tower Bank Sawrey)     | Miss Alcock-Beck             | 5           | 2                | 0                      | 342            | 1928 | 75·92                               | 246                                 | 194 |
| D Hawkshead School                  | J. Lowe Handley, Esq.        | 5           | 0                | 7                      | 214            | 2050 | 80·70                               | ..                                  | ..  |
| D Hawkshead (Esthwaite Lodge)       | W. L. Turner, Esq.           | 5           | 0                | 6                      | 224            | 2210 | 87·00                               | 248                                 | 207 |
| M Hawkshead (Black Fell)            | Miss C. Marshall             | 5           | 1                | 6                      | 1055           | 2159 | 84·99                               | ..                                  | ..  |
| D Ambleside (Skelwith Fold)         | Miss C. Marshall             | 5           | 1                | 0                      | 333            | 2354 | 92·66                               | 233                                 | 201 |
| M Ambleside (Skelwith Fold)         | Miss C. Marshall             | 5           | 1                | 0                      | 333            | 2361 | 92·95                               | ..                                  | ..  |
| 3.—KENT & C. 45 sq. mi.             |                              |             |                  |                        |                |      |                                     |                                     |     |
| D Heysham Harbour                   | Midland Railway Co.          | 5           | 1                | 6                      | 27             | 926  | 36·44                               | 211                                 | 167 |
| D Morecambe                         | Mr. T. B. Lamb               | 8           | 1                | 0                      | 24             | 930  | 36·62                               | 217                                 | 170 |
| D Yealand Conyers (Beechfield)      | Mrs. Roper                   | 5           | 1                | 0                      | 250            | 1032 | 40·63                               | 212                                 | 166 |
| D Yealand Conyers (Morecambe Lo.)   | J. Rawlinson Ford, Esq.      | 5           | 1                | 0                      | 278            | 1307 | 51·44                               | 226                                 | 190 |
| D Silverdale (Bleasdale House)      | Neville Holden, Esq.         | 8           | 1                | 0                      | 160            | 1170 | 46·08                               | ..                                  | ..  |
| D Grange-over-Sands (Eden Mount)    | Miss K. F. Brothers          | 5           | 1                | 6                      | 280            | 1250 | 49·22                               | 256                                 | ..  |
| D Grange-over-Sands (Nutwood)       | Miss S. M. Arkwright         | 5           | 1                | 0                      | ..             | 1233 | 48·56                               | 218                                 | 189 |
| D Grange-over-Sands (Holmcroft)     | Robert Rhodes, Esq.          | 5           | 2                | 4                      | 330            | 1399 | 55·08                               | 231                                 | 189 |
| D Lindale (Ellerhow)                | H. P. Gnosspelius, Esq.      | 5           | 1                | 2                      | 360            | 1445 | 56·88                               | 231                                 | 191 |
| D Cartmel Fell (The Schoolhouse)    | R. J. Cragghill, Esq.        | 5           | 5                | 0                      | 220            | 1650 | 64·98                               | 236                                 | 194 |
| 4.—LUNE. 135 sq. mi.                |                              |             |                  |                        |                |      |                                     |                                     |     |
| D Hampson-in-Ellel                  | W. G. Welch, Esq.            | 5           | 1                | 0                      | 145            | 1012 | 39·83                               | 225                                 | 176 |
| D Lancaster (Bailrigg Gardens)      | H. L. Storey, Esq.           | 5           | 1                | 3                      | 200            | 1080 | 42·53                               | 230                                 | 182 |
| D Quernmore (Brow Top)              | F. Hill, Esq., C.E.          | 8           | 1                | 0                      | 552            | 1239 | 48·77                               | 221                                 | 199 |
| D Bowland Forest (Higher Salter)    | J. T. Sanderson, Esq.        | 5           | 1                | 0                      | 1014           | 1103 | 43·44 ?                             | ..                                  | ..  |
| D Bowland Forest (Whiteray)         | J. T. Sanderson, Esq.        | 5           | 1                | 0                      | 1139           | 1715 | 67·57                               | ..                                  | ..  |
| D Bowland Forest (Lower Salter)     | J. T. Sanderson, Esq.        | 5           | 1                | 0                      | 575            | 1530 | 60·22                               | ..                                  | ..  |
| D Lancaster (Strathspey)            | A. B. S. Welch, Esq.         | 5           | 1                | 0                      | 87             | 1068 | 42·05                               | 236                                 | 193 |
| D Lancaster (Blea Tarn Res.)        | F. Hill, Esq., C.E.          | 8           | 1                | 0                      | 330            | 988  | 38·90                               | 238                                 | 178 |
| D Lancaster (Greg Observatory)      | Neville Holden, Esq.         | 8           | 1                | 0                      | 312            | 1165 | 45·87                               | 230                                 | 187 |
| D Lancaster (Robert Street)         | F. Hill, Esq., C.E.          | 8           | 1                | 0                      | 62             | 1171 | 46·11                               | 232                                 | 193 |
| D Lancaster (Lune Aqueduct)         | T. H. Thurston, Esq., C.E.   | 8           | 3                | 0                      | 74             | 1076 | 42·38                               | 218                                 | 188 |
| D Caton (Escowbeck)                 | Neville Holden, Esq.         | ..          | ..               | ..                     | 158            | 1365 | 53·75                               | ..                                  | ..  |
| D Caton (School House)              | W. Shaw, Esq.                | 5           | 1                | 0                      | 170            | 1282 | 50·49                               | 233                                 | 186 |
| D Halton Park                       | Late J. G. Wright, Esq.      | 5           | 1                | 1                      | 434            | 1195 | 47·05                               | 208                                 | 185 |
| D Wennington (Tatham Rectory)       | Rev. A. S. Roberts           | 5           | 1                | 3                      | 150            | 1166 | 45·89                               | 189                                 | 172 |
| D Leck Vicarage                     | Rev. J. Turner               | 5           | 1                | 1                      | 400            | 1171 | 46·09                               | 235                                 | 185 |
| 5.—WYRE & C. 213 sq. mi.            |                              |             |                  |                        |                |      |                                     |                                     |     |
| D St. Anne's-on-Sea                 | Mr. W. E. Procter            | 5           | 1                | 0                      | 25             | 837  | 32·96                               | 197                                 | 167 |
| D St. Anne's-on-Sea (Lawrence Ho.)  | C. G. D. Hoare, Esq.         | 5           | 1                | 0                      | 25             | 860  | 33·85                               | 185                                 | 155 |
| D Weeton Reservoir                  | No. 1 J. Cook, Esq., C.E.    | 5           | 1                | 0                      | 133            | 986  | 38·82                               | 197                                 | 175 |
| D Weeton Reservoir                  | No. 2 J. Cook, Esq., C.E.    | 5           | 1                | 0                      | 150            | 845  | 33·27                               | 192                                 | 160 |
| D Weeton Reservoir                  | No. 3 J. Cook, Esq., C.E.    | 5           | 1                | 0                      | 108            | 962  | 37·89                               | 199                                 | 167 |
| D Blackpool (Met. Observatory)      | E. W. Rees Jones, Esq., M.D. | 5           | 1                | 0                      | 67             | 935  | 36·81                               | 222                                 | 167 |
| D Broughton (Newsham House)         | W. B. S. Smith, Esq.         | 5           | 1                | 0                      | 101            | 1000 | 39·37                               | 214                                 | 177 |
| D Kirkham (Elswick Lodge)           | L. G. King, Esq.             | 5           | 1                | 4                      | 52             | 1001 | 39·41                               | 248                                 | 175 |
| D Poulton-le-Fylde (Singleton Pk.)  | Mrs. Miller                  | 8           | 1                | 6                      | 50             | 1177 | 46·35                               | 225                                 | 176 |
| D St. Michael's-on-Wyre (Rose Cot.) | J. Moss, Esq.                | 5           | 1                | 0                      | 27             | 929  | 36·58                               | 223                                 | 174 |
| D St. Michael's-on-Wyre Vicarage    | Ven. Archdeacon Hornby       | 5           | 1                | 0                      | 26             | 947  | 37·30                               | 217                                 | 171 |
| D Fleetwood                         | (R) E. Frobisher, Esq.       | 8           | 1                | 8                      | 29             | 923  | 36·34                               | 216                                 | 169 |
| M Garstang (Holme Ho., Bleasdale)   | A. Wilson, Esq.              | 5           | 1                | 0                      | 650            | 1489 | 58·63                               | ..                                  | ..  |

## DIVISION VIII.—NORTH-WESTERN COUNTIES—(con.).

| STATIONS.                                  | AUTHORITIES.                  | Rain Gauge. |                  |                        | Depth of Rain. |      | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |     |
|--|-------------------------------|-------------|------------------|------------------------|----------------|------|-------------------------------------|-------------------------------------|-----|
|  |                               | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |      |                                     |                                     |     |
| NORTH LANCASHIRE—(con.).                   |                               | in.         | ft.              | in.                    | ft.            | mm.  | in.                                 |                                     |     |
| 5.—WYRE & C.—(con.).                       |                               |             |                  |                        |                |      |                                     |                                     |     |
| M Garstang (Fairsnape Fell) . . . . .      | A. Wilson, Esq. . . . .       | 5           | 1                | 0                      | 1630           | 1874 | 73·76                               | ..                                  | ..  |
| D Garstang (Barnacre Reservoir) . . . . .  | J. Cook, Esq., C.E. . . . .   | 5           | 1                | 0                      | 616            | 1266 | 49·83                               | 237                                 | 196 |
| D Garstang (Grizedale Reservoir) . . . . . | J. Cook, Esq., C.E. . . . .   | 5           | 1                | 0                      | 517            | 1235 | 48·63                               | 234                                 | 192 |
| Garstang (Calder Intake) . . . . .         | J. Cook, Esq., C.E. . . . .   | 5           | 1                | 0                      | 632            | 1226 | 48·25                               | ..                                  | ..  |
| Garstang (Grizedale Intake) . . . . .      | J. Cook, Esq., C.E. . . . .   | 5           | 1                | 0                      | 644            | 1187 | 46·74                               | ..                                  | ..  |
| D Forton (Low Abbey) . . . . .             | Stephen Simpson, Esq. . . . . | 5           | 1                | 6                      | 80             | 1031 | 40·58                               | 232                                 | 182 |
| Wyresdale (Abbeystead Res.) . . . . .      | F. Hill, Esq., C.E. . . . .   | 8           | 1                | 0                      | 366            | 1361 | 53·57                               | 229                                 | 204 |
| D Wyresdale (Abbeystead Gdns) . . . . .    | Mr. M. Campbell . . . . .     | 8           | 1                | 3                      | 440            | 1324 | 52·13                               | 229                                 | 185 |
| M Quernmore (Old Gauge Basin) . . . . .    | F. Hill, Esq., C.E. . . . .   | 8           | 1                | 0                      | 963            | 1332 | 52·45                               | ..                                  | ..  |
| M Wyresdale (Wardstone) . . . . .          | F. Hill, Esq., C.E. . . . .   | 8           | 1                | 0                      | 1440           | 1711 | 67·35                               | ..                                  | ..  |

## 6.—INSULAR. 4 sq. mi.

## DIVISION IX.—YORKSHIRE.

## WEST RIDING. (Area, 2791 sq. mi.)

## 1.—LUNE. 178 sq. mi.

|                                       |                             |   |      |     |      |       |     |     |
|---------------------------------------|-----------------------------|---|------|-----|------|-------|-----|-----|
| Austwick (Leigh House) . . . . .      | R. Stockdale, Esq. . . . .  | 5 | 1 0  | 500 | 1149 | 45·23 | ..  | ..  |
| D High Bentham (Inglefield) . . . . . | Mr. Bryan Holmes . . . . .  | 5 | 1 0  | 412 | 1051 | 41·39 | 225 | 190 |
| D Ingleton (Kingsdale Head) . . . . . | Mr. L. Pye . . . . .        | 5 | 0 10 | 994 | 2166 | 85·26 | 217 | 200 |
| D Sedbergh (Akay) . . . . .           | C. E. Taylor, Esq. . . . .  | 5 | 1 0  | 400 | 1630 | 64·18 | 230 | 202 |
| D Sedbergh (Bynac) . . . . .          | Mrs. B. Wilson . . . . .    | 5 | 1 0  | 480 | 1662 | 65·43 | 234 | 202 |
| D Sedbergh (Havera Bank) . . . . .    | Albert Wilson, Esq. . . . . | 5 | 1 0  | 485 | 1654 | 65·11 | 247 | 202 |
| D Sedbergh (Howgill School) . . . . . | W. Woodhead, Esq. . . . .   | 5 | 1 0  | 550 | 1641 | 64·62 | 228 | 201 |

## 2.—RIBBLE. 225 sq. mi.

|   |                                     |   |     |      |      |       |     |     |
|---|-------------------------------------|---|-----|------|------|-------|-----|-----|
| D Colne (Laneshaw Reservoir) . . . . .      | J. F. Bedford, Esq., C.E. . . . .   | 5 | 1 0 | 842  | 1002 | 39·46 | 210 | 177 |
| D Barnoldswick (Rainhall Road) . . . . .    | Asa Burniston, Esq. . . . .         | 5 | 1 2 | 549  | 1088 | 42·83 | 212 | 180 |
| D Barnoldswick (Greenberfield L.) . . . . . | Leeds & L'pool Canal Co. . . . .    | 8 | 1 0 | 488  | 1324 | 52·13 | ..  | ..  |
| Slaidburn (Knowlmere Manor) . . . . .       | W. Peel, Esq. . . . .               | 5 | 1 0 | 417  | 1435 | 56·48 | ..  | ..  |
| Slaidburn (Thorneyholme) . . . . .          | R. A. Tatton, Esq. . . . .          | 5 | 1 6 | 380  | 1616 | 63·61 | ..  | ..  |
| M Slaidburn (Hareden Brook) . . . . .       | J. H. Smethurst, Esq., C.E. . . . . | 8 | 1 2 | 540  | 1853 | 72·95 | ..  | ..  |
| M Slaidburn (Langden Brook) . . . . .       | J. H. Smethurst, Esq., C.E. . . . . | 8 | 1 2 | 556  | 1842 | 72·50 | ..  | ..  |
| Slaidburn (Dunsop House) . . . . .          | A. T. Gooseman, Esq., C.E. . . . .  | 8 | 1 6 | 450  | 1651 | 65·01 | 207 | 191 |
| M Slaidburn (Middle Knoll) . . . . .        | A. T. Gooseman, Esq., C.E. . . . .  | 8 | 2 6 | 1298 | 1460 | 57·48 | ..  | ..  |
| Slaidburn (Brennand) . . . . .              | A. T. Gooseman, Esq., C.E. . . . .  | 8 | 1 0 | 820  | 1713 | 67·45 | 205 | 194 |
| Slaidburn (Whitendale) . . . . .            | A. T. Gooseman, Esq., C.E. . . . .  | 8 | 1 0 | 830  | 1781 | 70·11 | 208 | 201 |
| M Slaidburn (Cabin Hill) . . . . .          | A. T. Gooseman, Esq., C.E. . . . .  | 8 | 3 1 | 1559 | 1498 | 58·96 | ..  | ..  |
| M Slaidburn (Baxton Fell) . . . . .         | A. T. Gooseman, Esq., C.E. . . . .  | 8 | 2 6 | 1540 | 1518 | 59·76 | ..  | ..  |
| D Settle (Gas Works) . . . . .              | J. W. Shepherd, Esq. . . . .        | 8 | 1 2 | 450  | 1293 | 50·89 | 216 | 189 |
| D Settle (Giggleswick School) . . . . .     | A. Russell, Esq. . . . .            | 8 | 1 0 | 500  | 1209 | 47·59 | 230 | 184 |
| D Horton-in-Ribblesdale . . . . .           | Nathaniel Hunt, Esq. . . . .        | 5 | 1 0 | 800  | 1388 | 54·66 | 227 | 204 |

## 3.—MERSEY—Irwell. 2 sq. mi.

## 4.—MERSEY, UPPER. 35 sq. mi.

|   |                                      |   |     |      |      |       |     |     |
|---|--------------------------------------|---|-----|------|------|-------|-----|-----|
| Greenfield (Upperwood Moor) . . . . .     | G. H. Raddin, Esq., C.E. . . . .     | 5 | 1 0 | 1518 | 1477 | 58·14 | ..  | ..  |
| D Greenfield (Chew Mount) . . . . .       | G. H. Raddin, Esq., C.E. . . . .     | 5 | 1 0 | 1578 | 1528 | 60·15 | 221 | 201 |
| Greenfield (Chew Reservoir) . . . . .     | G. H. Raddin, Esq., C.E. . . . .     | 5 | 1 0 | 1648 | 1538 | 60·55 | ..  | ..  |
| D Greenfield (Yeoman Hey) . . . . .       | G. H. Raddin, Esq., C.E. . . . .     | 5 | 1 0 | 759  | 1537 | 60·51 | 207 | 186 |
| Greenfield (Ashway Moss) . . . . .        | G. H. Raddin, Esq., C.E. . . . .     | 5 | 1 0 | 1581 | 1167 | 45·96 | ..  | ..  |
| Greenfield (Birchen Clough) . . . . .     | G. H. Raddin, Esq., C.E. . . . .     | 5 | 1 0 | 1018 | 1575 | 62·02 | ..  | ..  |
| M Saddleworth Station . . . . .           | E. H. d'E. Darby, Esq., C.E. . . . . | 5 | 4 2 | 630  | 1224 | 48·20 | ..  | ..  |
| Oldham (Strinesdale) . . . . .            | C. J. Batley, Esq., C.E. . . . .     | 5 | 4 0 | 815  | 1173 | 46·19 | 227 | 172 |
| D Standedge (Cas Shaw Broadh'd) . . . . . | C. J. Batley, Esq., C.E. . . . .     | 8 | 4 6 | 875  | 1368 | 53·85 | 232 | 190 |
| Standedge (Cas Shaw Cudworth) . . . . .   | C. J. Batley, Esq., C.E. . . . .     | 5 | 4 6 | 1410 | 1030 | 40·55 | 232 | 169 |
| M Standedge (Redbrook Res.) . . . . .     | E. H. d'E. Darby, Esq., C.E. . . . . | 8 | 1 0 | 1150 | 1418 | 55·81 | ..  | ..  |
| D Denshaw (Ox Hey) . . . . .              | C. J. Batley, Esq., C.E. . . . .     | 8 | 4 6 | 1030 | 1417 | 55·77 | 234 | 187 |
| D Denshaw (New Year's Bridge) . . . . .   | C. J. Batley, Esq., C.E. . . . .     | 8 | 4 0 | 1012 | 1267 | 49·89 | 234 | 185 |
| D Denshaw (Ready Con Dean) . . . . .      | C. J. Batley, Esq., C.E. . . . .     | 8 | 4 0 | 1414 | 1329 | 52·32 | 234 | 183 |

## DIVISION IX.—YORKSHIRE—(con.).

| STATIONS.   | AUTHORITIES. | Rain Gauge. |                  |                        | Depth of Rain. |      | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |     |
|---|--------------|-------------|------------------|------------------------|----------------|------|-------------------------------------|-------------------------------------|-----|
|   |              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |      |                                     |                                     |     |
| WEST RIDING—(con.).   |              | in.         | ft.              | in.                    | ft.            | mm.  | in.                                 |                                     |     |
| <b>5.—TRENT—Derwent. 7 sq. mi.</b>                                  |              |             |                  |                        |                |      |                                     |                                     |     |
| Derwent Dale (Abbey Brook) 65 S. B. Winsor, Esq., C.E. . .          |              | 5           | 1                | 0                      | 825            | 1276 | 50·24                               | ..                                  | ..  |
| Derwent Dale (Howden Cl'gh) 64 S. B. Winsor, Esq., C.E. . .         |              | 5           | 1                | 0                      | 1030           | 1281 | 50·42                               | ..                                  | ..  |
| Derwent Dale (Howden Ho.) 19 S. B. Winsor, Esq., C.E. . .           |              | 8           | 1                | 0                      | 890            | 1259 | 49·57                               | ..                                  | ..  |
| Derwent Dale (Sandy Lee) No. 7 S. B. Winsor, Esq., C.E. . .         |              | 5           | 1                | 0                      | 1340           | 1326 | 52·22                               | ..                                  | ..  |
| <b>6.—TRENT—Left Bank Tributaries. 143 sq. mi.</b>                  |              |             |                  |                        |                |      |                                     |                                     |     |
| D Woodsetts Grange (Old Vic.) . . H. P. Marsh, Esq. . . . .         |              | 5           | 1                | 0                      | 245            | 689  | 27·13                               | 205                                 | 138 |
| D Doncaster (Carr House Hosp.) . Dr. D. L. Anderson . . . . .       |              | 5           | 1                | 1                      | 42             | 633  | 24·92                               | 173                                 | 122 |
| <b>7.—OUSE—Don. 564 sq. mi.</b>                                     |              |             |                  |                        |                |      |                                     |                                     |     |
| D Sheffield (Stumperlow Hall) . . . J. Dixon, Esq. . . . .          |              | 5           | 1                | 0                      | 730            | 1007 | 39·63                               | 208                                 | 158 |
| D Sheffield (Stumperlow Hall) . . . J. Dixon, Esq. . . . .          |              | 5           | 1                | 0                      | 770            | 1020 | 40·14                               | 208                                 | 159 |
| D Sheffield W.W. (Redmires Res.) L. S. M. Marsh, Esq., C.E. . .     |              | 10          | 5                | 0                      | 1110           | 1077 | 42·42                               | 228                                 | 160 |
| Sheffield W.W. (Redmires Res.) . . L. S. M. Marsh, Esq., C.E. . .   |              | 8           | 4                | 0                      | 1110           | 1071 | 42·16                               | ..                                  | ..  |
| D Sheffield W.W. (Rivelin) . . . (R) L. S. M. Marsh, Esq., C.E. . . |              | 10          | 4                | 0                      | 564            | 922  | 36·31                               | 219                                 | 147 |
| Sheffield W.W. (Rivelin) . . . . . L. S. M. Marsh, Esq., C.E. . .   |              | 8           | 4                | 0                      | 564            | 907  | 35·71                               | ..                                  | ..  |
| D Sheffield W.W. (Crookes) . . . (R) L. S. M. Marsh, Esq., C.E. . . |              | 10          | 2                | 0                      | 629            | 832  | 32·76                               | 196                                 | 148 |
| Sheffield W.W. (Crookes) . . . . . L. S. M. Marsh, Esq., C.E. . .   |              | 8           | 2                | 0                      | 629            | 835  | 32·89                               | ..                                  | ..  |
| D Sheffield (Weston Park) . . . . . E. Howarth, Esq. . . . .        |              | 8           | 1                | 0                      | 428            | 858  | 33·78                               | 190                                 | 145 |
| D Darnall (High Hazels Museum) . E. Howarth, Esq. . . . .           |              | 8           | 1                | 0                      | 285            | 741  | 29·17                               | 178                                 | 129 |
| Sheffield (Victoria Station) . . . Great Central Rly Co. . . .      |              | 9           | 3                | 6                      | 188            | 712  | 28·03                               | 178                                 | ..  |
| Loxley Valley (Broadcar) . . . . . L. S. M. Marsh, Esq., C.E. . .   |              | 5           | 1                | 0                      | 1004           | 1240 | 48·81                               | ..                                  | ..  |
| Loxley V. (Oaks Fm. Damflask) L. S. M. Marsh, Esq., C.E. . .        |              | 5           | 1                | 0                      | 650            | 1016 | 40·01                               | ..                                  | ..  |
| Loxley V. (Loftshaw, Strines) . . L. S. M. Marsh, Esq., C.E. . .    |              | 5           | 1                | 0                      | 1011           | 1183 | 46·56                               | ..                                  | ..  |
| D Loxley V. (Dale Dike Res.) . . (R) L. S. M. Marsh, Esq., C.E. . . |              | 10          | 3                | 0                      | 715            | 1141 | 44·92                               | 227                                 | 173 |
| Loxley V. (Dale Dike Res.) . . . L. S. M. Marsh, Esq., C.E. . .     |              | 8           | 3                | 0                      | 715            | 1138 | 44·80                               | ..                                  | ..  |
| Loxley V. (Thornseat) . . . . . L. S. M. Marsh, Esq., C.E. . .      |              | 5           | 1                | 0                      | 1326           | 1198 | 47·17                               | ..                                  | ..  |
| Loxley V. (Rocher Flat) . . . . . L. S. M. Marsh, Esq., C.E. . .    |              | 5           | 1                | 0                      | 1106           | 1127 | 44·37                               | ..                                  | ..  |
| Loxley V. (Mortimer House) . . . L. S. M. Marsh, Esq., C.E. . .     |              | 5           | 1                | 0                      | 1036           | 1207 | 47·54                               | ..                                  | ..  |
| D Rotherham (Ulley Reservoir) . . T. P. Collinge, Esq., C.E. . .    |              | 5           | 1                | 0                      | 184            | 612  | 24·11                               | ..                                  | ..  |
| Sheffield (Tinsley Locks) . . . . Great Central Rly. Co. . . .      |              | 9           | ..               | ..                     | 117            | 646  | 25·45                               | 166                                 | ..  |
| D Wincobank (Sewage Works) (R) J. Haworth, Esq. . . . .             |              | 8           | 2                | 0                      | 99             | 698  | 27·46                               | 165                                 | 116 |
| D Rotherham (Sitwell Vale) . . . . Mr. G. Howard . . . . .          |              | 5           | 1                | 0                      | 300            | 734  | 28·90                               | 172                                 | 121 |
| D Rotherham (Moorgate Grange) F. M. Watson, Esq. . . . .            |              | 5           | 1                | 0                      | 262            | 687  | 27·04                               | 180                                 | 135 |
| D Rotherham (Aldwarke Sew. Wk.) James H. Kershaw, Esq. . .          |              | 5           | 1                | 4                      | 71             | 758  | 29·84                               | 156                                 | 136 |
| D Rotherham (Thrybergh) . . . . . F. O. Kirby, Esq., C.E. . .       |              | 8           | 1                | 0                      | 184            | 686  | 26·99                               | 176                                 | 121 |
| D Chapeltown (Potter Hill) . . . . Mr. C. W. Frost . . . . .        |              | 8           | 5                | 0                      | 583            | 782  | 30·78                               | 165                                 | 124 |
| D Conisborough (Firsby Res.) . . . F. O. Kirby, Esq., C.E. . .      |              | 8           | 1                | 4                      | 189            | 691  | 27·22                               | 169                                 | 111 |
| D Wentworth Woodhouse . . . . . Mr. A. Third . . . . .              |              | 5           | 0                | 10                     | 360            | 822  | 32·37                               | 171                                 | 133 |
| D Mexborough . . . . . G. Fenwick Carter, Esq. C.E. . .             |              | 5           | 1                | 6                      | 77             | 674  | 26·52                               | 213                                 | 129 |
| Wortley . . . . . Great Central Rly. Co. . . .                      |              | 9           | 3                | 6                      | 548            | 872  | 34·32                               | 171                                 | ..  |
| Wortley (Service Reservoir) . . J. R. Fox, Esq., C.E. . . .         |              | 5           | 1                | 0                      | 700            | 913  | 35·93                               | 197                                 | ..  |
| Elsecar . . . . . Great Central Rly. Co. . . .                      |              | 9           | 3                | 6                      | 181            | 683  | 26·88                               | 172                                 | ..  |
| D Little Don Val. (Underbank Rs.) L. S. M. Marsh, Esq., C.E. . .    |              | 8           | 1                | 6                      | 604            | 1072 | 42·22                               | 239                                 | 170 |
| Little Don Val. (Brockholes) . . L. S. M. Marsh, Esq., C.E. . .     |              | 5           | 1                | 6                      | 934            | 1063 | 41·83                               | ..                                  | ..  |
| Little Don Val. (Sheep House) . . L. S. M. Marsh, Esq., C.E. . .    |              | 5           | 1                | 6                      | 974            | 1043 | 41·08                               | ..                                  | ..  |
| D Little Don Val. (Bridge Lane) . . L. S. M. Marsh, Esq., C.E. . .  |              | 8           | 4                | 9                      | 761            | 1126 | 44·33                               | 227                                 | 174 |
| Langsett Moor (Catcleugh) . . . L. S. M. Marsh, Esq., C.E. . .      |              | 8           | 1                | 6                      | 1516           | 1433 | 56·41                               | ..                                  | ..  |
| Langsett Moor (Mickleden) . . . L. S. M. Marsh, Esq., C.E. . .      |              | 5           | 1                | 6                      | 1217           | 1400 | 55·13                               | ..                                  | ..  |
| D Langsett Moor (Up. Midhope) . . L. S. M. Marsh, Esq., C.E. . .    |              | 8           | 1                | 6                      | 925            | 1280 | 50·41                               | 224                                 | 170 |
| Langsett Moor (Midhope) . . . . J. R. Fox, Esq., C.E. . . .         |              | 8           | 1                | 0                      | 830            | 973  | 38·31                               | 203                                 | ..  |
| D Langsett Moor (Flouch Road) . . L. S. M. Marsh, Esq., C.E. . .    |              | 8           | 4                | 3                      | 960            | 1280 | 50·39                               | 226                                 | 170 |
| Langsett Moor (Fiddlers Green) L. S. M. Marsh, Esq., C.E. . .       |              | 8           | 1                | 6                      | 1493           | 1480 | 58·28                               | ..                                  | ..  |
| Langsett Moor (Border Hill) . . . L. S. M. Marsh, Esq., C.E. . .    |              | 5           | 1                | 6                      | 1148           | 1371 | 53·96                               | ..                                  | ..  |
| D Langsett Moor (Swinden Lodge) L. S. M. Marsh, Esq., C.E. . .      |              | 8           | 1                | 6                      | 1037           | 1267 | 49·88                               | 218                                 | 181 |
| D Wath-upon-Dearne (Chapel St.) Late Dr. F. J. Burman . . .         |              | 8           | 2                | 2                      | 188            | 709  | 27·92                               | 179                                 | 129 |
| D Bolton-upon-Dearne . . . . . T. Washington, Esq. . . . .          |              | 5           | 1                | 0                      | 130            | 700  | 27·58                               | 167                                 | 126 |
| Worsborough . . . . . Great Central Rly. Co. . . .                  |              | 9           | 3                | 6                      | 225            | 804  | 31·67                               | 200                                 | ..  |
| Doncaster (Hexthorpe Hall) . . H. Morris, Esq. . . . .              |              | 5           | 3                | 0                      | 30             | 690  | 27·18                               | ..                                  | 129 |
| D Doncaster (Littlemoor Terrace) Edgar Smith, Esq., . . . .         |              | 5           | 1                | 6                      | 50             | 679  | 26·73                               | 171                                 | 125 |
| Doncaster . . . . . Great Central Rly. Co. . . .                    |              | 9           | 3                | 6                      | 32             | 562  | 22·12                               | ..                                  | ..  |
| D Doncaster (Pumping Station) . . F. O. Kirby, Esq., C.E. . .       |              | 5           | 1                | 6                      | 30             | 651  | 25·62                               | 171                                 | 127 |
| D Doncaster (Avenue Road) . . . M. H. Stiles, Esq. . . . .          |              | 5           | 4                | 0                      | 62             | 737  | 29·00                               | 178                                 | 127 |
| Dunford Bridge Station . . . . . Great Central Rly. Co. . . .       |              | 9           | 3                | 6                      | 954            | 1268 | 49·93                               | 198                                 | ..  |

## DIVISION IX.—YORKSHIRE—(con.).

| STATIONS.                                 | AUTHORITIES.                        | Rain Gauge. |                  |                        |      | Depth of Rain. |         | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|-------------------------------------|-------------|------------------|------------------------|------|----------------|---------|--|--|
|   |                                     | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |         |  |  |
| WEST RIDING—(con.).                       |                                     | in.         | ft.              | in.                    | ft.  | mm.            | in.     |  |  |
| 7.—OUSE—Don—(con.).                       |                                     |             |                  |                        |      |                |         |  |  |
| D Dunford Bridge Reservoir.....           | H. Dearden, Esq., C.E.....          | 12          | 2                | 0                      | 1111 | 1589           | 62·57   | 218                                    | 186                                    |
| Penistone .....                           | Great Central Rly. Co. ....         | 9           | 3                | 6                      | 717  | 806            | 31·75 ? | 161                                    | ..                                     |
| Penistone (Hazehead) .....                | Great Central Rly. Co. ....         | 9           | 3                | 9                      | 868  | 1284           | 50·53   | 184                                    | ..                                     |
| Penistone (Ingbirchworth Res.) ..         | J. R. Fox, Esq., C.E. ....          | 8           | 1                | 0                      | 853  | 1029           | 40·52   | 205                                    | ..                                     |
| Barnsley (Jordan Hill) .....              | J. R. Fox, Esq., C.E. ....          | 8           | 1                | 3                      | 460  | 774            | 30·47   | ..                                     | ..                                     |
| Barnsley .....                            | Great Central Rly. Co. ....         | 9           | 3                | 6                      | 317  | 674            | 26·55   | 177                                    | ..                                     |
| D Cawthorne (Cannon Hall) .....           | Capt. J. H. Pardoe .....            | 5           | 0                | 11                     | 418  | 915            | 36·01   | 174                                    | 149                                    |
| D Brodsworth Hall Gardens .....           | Mr. F. W. Lamer .....               | 5           | 1                | 6                      | 175  | 674            | 26·54   | 151                                    | 113                                    |
| D Kirk Bramwith .....                     | H. A. Brundell, Esq., C.E. ....     | 5           | 1                | 0                      | 17   | 728            | 28·67   | 147                                    | 126                                    |
| D Hemsworth Collieries .....              | H. Howe, Esq. ....                  | 5           | 1                | 3                      | 246  | 710            | 27·96   | 186                                    | 131                                    |
| D Badsworth (Rogerthorpe Man.) ..         | Lt.-Col. W. J. F. Ramsden ..        | 8           | 1                | 2                      | 150  | 700            | 27·56   | 212                                    | 135                                    |
| D Ackworth School .....                   | E. Priestman, Esq. ....             | 8           | 1                | 0                      | 125  | 696            | 27·39   | 191                                    | 119                                    |
| D Ackworth (Hillthorpe) .....             | Mrs. F. Hatchard .....              | 5           | 1                | 3                      | 175  | 671            | 26·41   | 170                                    | 136                                    |
| D Womersley Park .....                    | The Countess of Rosse .....         | 8           | 0                | 8                      | 50   | 672            | 26·44   | 161                                    | 124                                    |
| D Goole .....                             | F. Hinchliffe, Esq. ....            | 5           | 2                | 0                      | 18   | 714            | 28·09   | 161                                    | 127                                    |
| 8.—OUSE—Aire—Calder. 361 sq. mi.          |                                     |             |                  |                        |      |                |         |  |  |
| D Holmbridge (Yateholme Res.) ..          | J. C. Barrowclough, Esq., C.E. .... | 5           | 1                | 0                      | 1009 | 1682           | 66·23   | 227                                    | 198                                    |
| D Holmbridge (Yateholme Farm) ..          | J. C. Barrowclough, Esq., C.E. .... | 5           | 1                | 0                      | 861  | 1619           | 63·76   | 224                                    | 188                                    |
| D Holmbridge (Holme Styes Res.) ..        | Messrs. Mallinson & Son, CE ..      | 7           | 2                | 0                      | 830  | 1331           | 52·40   | ..                                     | ..                                     |
| Holmbridge (Boshaw Whams R.) ..           | Messrs. Mallinson & Son, CE ..      | 5           | 1                | 0                      | 930  | 1377           | 54·20   | ..                                     | ..                                     |
| Holmbridge (Bilberry Res.) .....          | Messrs. Mallinson & Son, CE ..      | 5           | 1                | 0                      | 970  | 1514           | 59·60   | ..                                     | ..                                     |
| Meltham (Harden Moss) .....               | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 2                      | 1212 | 1456           | 57·32   | ..                                     | ..                                     |
| Meltham (Harden Moss) <i>new g.</i> ..    | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 0                      | 1212 | 1437           | 56·56   | ..                                     | ..                                     |
| Wessenden Head .....                      | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 0                      | 1270 | 1272           | 50·10   | ..                                     | ..                                     |
| Wessenden Head <i>new g.</i> .....        | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 0                      | 1200 | 1309           | 51·53   | ..                                     | ..                                     |
| Wessenden (Hollin Bank Moss) ..           | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 0                      | 1280 | 1184           | 46·63   | ..                                     | ..                                     |
| Wessenden (Old Reservoir) .....           | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 0                      | 940  | 1351           | 53·20   | ..                                     | ..                                     |
| Wessenden (Butterley Moss) .....          | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 0                      | 1110 | 1481           | 58·29   | ..                                     | ..                                     |
| Wessenden (Bobus) .....                   | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 0                      | 1200 | 1401           | 55·17   | ..                                     | ..                                     |
| Meltham (Brow Grains) .....               | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 0                      | 900  | 1350           | 53·14   | ..                                     | ..                                     |
| Meltham (Royd Edge) .....                 | C. L. Brook, Esq. ....              | 8           | 1                | 0                      | 585  | 1459           | 57·45   | ..                                     | ..                                     |
| D Meltham (Harewood Lodge) .....          | C. L. Brook, Esq. ....              | 8           | 1                | 0                      | 514  | 1344           | 52·93   | 227                                    | 182                                    |
| Meltham Grange .....                      | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 0                      | 850  | 1314           | 51·73   | ..                                     | ..                                     |
| Marsden .....                             | E. H. d'E. Darby Esq., C.E. ....    | 8           | 2                | 4                      | 692  | 1458           | 57·42   | ..                                     | ..                                     |
| Marsden (Deer Hill) .....                 | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 0                      | 1149 | 1296           | 51·04   | ..                                     | ..                                     |
| Marsden (Deer Hill) <i>new g.</i> .....   | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 0                      | 1149 | 1375           | 54·13   | ..                                     | ..                                     |
| D Slaithwaite (Blackmoorfoot) ..          | J. W. Armitage, Esq., C.E. ....     | 8           | 1                | 0                      | 800  | 1256           | 49·47   | 254                                    | 199                                    |
| D Slaithwaite (Inglewood) .....           | J. Woodhead, Esq. ....              | 5           | 1                | 0                      | 546  | 1289           | 50·75   | 245                                    | 181                                    |
| D Huddersfield (Carr End, Dalton) ..      | Mr. T. Hey .....                    | 8           | 1                | 0                      | 350  | 968            | 38·11   | 218                                    | 153                                    |
| Huddersfield (Bankfield, Golcar) ..       | Miss Sykes .....                    | 5           | 1                | 0                      | 400  | 1234           | 48·58   | 181                                    | ..                                     |
| D Huddersfield (Cemetery) .....           | Mr. J. Firth .....                  | 8           | 1                | 0                      | 410  | 1048           | 41·24   | 211                                    | 165                                    |
| D Huddersfield (Oakes) .....              | S. Morris Bower, Esq. ....          | 5           | 1                | 0                      | 772  | 1057           | 41·60   | 198                                    | 160                                    |
| D Kirkheaton (Kirk Vale) .....            | Miss A. Robson .....                | 8           | 1                | 0                      | 220  | 908            | 35·73   | 205                                    | 149                                    |
| D Rishworth Mr (G. Walden Edge) ..        | C. Clemesha Smith, Esq., C.E. ....  | 5           | 0                | 10                     | 1135 | 1493           | 58·78   | 232                                    | 196                                    |
| w Rishworth (Stott Hall) .....            | C. Clemesha Smith, Esq., C.E. ....  | 5           | 1                | 0                      | 935  | 1333           | 52·48   | ..                                     | ..                                     |
| D Rishworth (Ringstone Res.) .....        | C. Clemesha Smith, Esq., C.E. ....  | 5           | 1                | 0                      | 990  | 1373           | 54·04   | 228                                    | 185                                    |
| w Rishworth Moor (Greystones) ..          | C. Clemesha Smith, Esq., C.E. ....  | 5           | 1                | 0                      | 1175 | 1519           | 59·79   | ..                                     | ..                                     |
| w Soyland Moor (Summit) .....             | C. Clemesha Smith, Esq., C.E. ....  | 5           | 1                | 0                      | 1290 | 1357           | 53·41   | ..                                     | ..                                     |
| D Soyland Moor (Baitings Gate) ..         | C. Clemesha Smith, Esq., C.E. ....  | 5           | 1                | 0                      | 935  | 1514           | 59·62   | 233                                    | 199                                    |
| w Soyland Moor (Manshead) .....           | C. Clemesha Smith, Esq., C.E. ....  | 5           | 1                | 0                      | 1240 | 1444           | 56·87   | ..                                     | ..                                     |
| D Horbury (Addingford Hos.) .....         | J. H. Horsfall, Esq. ....           | 8           | 1                | 6                      | 150  | 706            | 27·78   | 167                                    | 138                                    |
| D Horbury (Highfields) .....              | J. H. Green, Esq. ....              | 5           | 1                | 0                      | 226  | 732            | 28·83   | ..                                     | ..                                     |
| D Mirfield (Cote Wall) .....              | F. P. Mitchell, Esq. ....           | 8           | 1                | 2                      | 200  | 1038           | 40·86   | 190                                    | 157                                    |
| D Wakefield .....                         | W. J. Read, Esq. ....               | 8           | 1                | 0                      | 174  | 716            | 28·21   | 172                                    | 139                                    |
| D Wakefield (Clarence Park) .....         | C. Clemesha Smith, Esq., C.E. ....  | 5           | 1                | 0                      | 124  | 756            | 29·77   | 178                                    | 136                                    |
| D Wakefield (Fieldhead Res.) .....        | C. Clemesha Smith, Esq., C.E. ....  | 5           | 1                | 0                      | 250  | 598            | 23·55   | 175                                    | 117                                    |
| Elland .....                              | P. H. Whitwam, Esq. ....            | 8           | 1                | 0                      | 307  | 1074           | 42·29   | ..                                     | ..                                     |
| D Sowerby Bridge (Millhouse) .....        | F. P. S. Rawson, Esq. ....          | 5           | 0                | 9                      | 340  | 1236           | 48·66   | 226                                    | 178                                    |
| D Sowerby Br. (Haugh End) <i>No. 4</i> .. | J. Selwyn Rawson, Esq. ....         | 5           | 0                | 8                      | 450  | 1233           | 48·54   | 231                                    | 178                                    |
| D Walsden (Ramsden Reservoir) ..          | H. A. Braddock, Esq., C.E. ....     | 8           | 1                | 0                      | 993  | 1563           | 61·55   | 207                                    | 186                                    |
| D Walsden (Ramsden Hill) .....            | H. A. Braddock, Esq., C.E. ....     | 5           | 1                | 0                      | 1326 | 1519           | 59·80   | ..                                     | ..                                     |
| D Todmorden (Fielden Hospital) ..         | Mr. F. Rogers .....                 | 5           | 1                | 0                      | 650  | 1239           | 48·78   | 198                                    | 178                                    |
| D Todmorden (Sourhall Hospital) ..        | Mr. F. Rogers .....                 | 5           | 1                | 0                      | 1020 | 1514           | 59·60   | 239                                    | 194                                    |

## DIVISION IX.—YORKSHIRE—(con.).

| STATIONS.                         | AUTHORITIES.                        | Rain Gauge. |               |                  |      | Depth of Rain. |       | Days with ·01 in. or more. | Days with ·04 in. or more. |
|-----------------------------------|-------------------------------------|-------------|---------------|------------------|------|----------------|-------|----------------------------|----------------------------|
|                                   |                                     | Diam.       | Height Ground | above Sea Level. |      | 1920           |       |                            |                            |
| WEST RIDING—(con.).               |                                     | in.         | ft.           | in.              | ft.  | mm.            | in.   |                            |                            |
| 8.—OUSE—Aire—Calder—(con.).       |                                     |             |               |                  |      |                |       |                            |                            |
| D Halifax (Hall Ings, S. Owrarn)  | Rev. G. E. Aspinall                 | 8           | 0             | 7                | 750  | 808            | 31·80 | 232                        | 153                        |
| D Halifax (Public Library)        | E. Green, Esq.                      | 8           | 1             | 0                | 625  | 1054           | 41·50 | 198                        | 144                        |
| D Batley (Staincliffe Reservoir)  | J. C. Barrowclough, Esq., C.E.      | 5           | 1             | 0                | 492  | 749            | 29·50 | 182                        | 134                        |
| D Ardsley Reservoir               | No. 1 C. Clemesha Smith, Esq., C.E. | 5           | 1             | 2                | 395  | 728            | 28·66 | 191                        | 140                        |
| D Ardsley Reservoir               | No. 2 C. Clemesha Smith, Esq., C.E. | 5           | 1             | 2                | 326  | 737            | 29·03 | 191                        | 137                        |
| D Ardsley (Jaw Hill Filters)      | C. Clemesha Smith, Esq., C.E.       | 5           | 1             | 0                | 315  | 724            | 28·50 | 173                        | 136                        |
| d Castleford School               | S. Gee, Esq.                        | 5           | 1             | 2                | 100  | 678            | 26·69 | ..                         | 122                        |
| M Halifax W.W. (Albert)           | R. J. Hartley, Esq., C.E.           | 5           | 1             | 0                | 795  | 1091           | 42·94 | ..                         | ..                         |
| M Halifax W.W. (Gibbet)           | R. J. Hartley, Esq., C.E.           | 5           | 3             | 9                | 568  | 1104           | 43·48 | ..                         | ..                         |
| M Halifax W.W. (Ramsden Wood)     | R. J. Hartley, Esq., C.E.           | 8           | 1             | 2                | 816  | 1016           | 40·01 | ..                         | ..                         |
| D Hebden Bridge (Falling Royd)    | A. R. Crossley, Esq.                | 4           | 1             | 0                | 479  | 1353           | 53·26 | 220                        | 198                        |
| D Hebden Bridge (Burnside)        | J. Hoyle, Esq.                      | 5           | 1             | 0                | 825  | 1275           | 50·18 | 227                        | 194                        |
| M Halifax W.W. (Castle Carr Lo.)  | R. J. Hartley, Esq., C.E.           | 5           | 0             | 6                | 1060 | 1130           | 44·49 | ..                         | ..                         |
| M Halifax W.W. (Midgley Moor)     | R. J. Hartley, Esq., C.E.           | 8           | 0             | 9                | 1350 | 1188           | 46·77 | ..                         | ..                         |
| M Halifax W.W. (Warley Moor)      | R. J. Hartley, Esq., C.E.           | 8           | 1             | 2                | 1325 | 1144           | 45·03 | ..                         | ..                         |
| M Halifax W.W. (Ogden)            | R. J. Hartley, Esq., C.E.           | 5           | 0             | 10               | 990  | 1168           | 46·00 | ..                         | ..                         |
| M Halifax W.W. (Ovenden Moor)     | R. J. Hartley, Esq., C.E.           | 8           | 1             | 9                | 1375 | 1178           | 46·39 | ..                         | ..                         |
| M Halifax W.W. (Widdop)           | R. J. Hartley, Esq., C.E.           | 5           | 1             | 3                | 1050 | 1265           | 49·80 | ..                         | ..                         |
| M Halifax W.W. (W'ish'w D'n Lo.)  | R. J. Hartley, Esq., C.E.           | 5           | 1             | 0                | 1040 | 1359           | 53·51 | ..                         | ..                         |
| M Halifax W.W. (Walshaw Dean)     | R. J. Hartley, Esq., C.E.           | 8           | 1             | 0                | 1380 | 1266           | 49·83 | ..                         | ..                         |
| 9.—OUSE—Aire. 504 sq. mi.         |                                     |             |               |                  |      |                |       |                            |                            |
| D Pontefract (Tanshelf Drive)     | T. K. Heseltine, Esq.               | 5           | 1             | 0                | 180  | 716            | 28·21 | 172                        | 137                        |
| Pudsey (Fulneck)                  | Miss E. C. Lawford                  | 5           | 1             | 0                | 490  | 931            | 36·65 | ..                         | ..                         |
| D Garforth (Manor Farm)           | A. G. Ruston, Esq.                  | 8           | 1             | 2                | 194  | 728            | 28·66 | 198                        | 123                        |
| Bradford (Grange Rd., Horton)     | Mr. A. E. Chilton                   | 5           | 3             | 0                | 450  | 1026           | 40·39 | 228                        | 164                        |
| Bradford (Queensbury)             | R. J. Foster, Esq.                  | 8           | 2             | 2                | 1050 | 1095           | 43·10 | 208                        | 178                        |
| Bradford (Brayshaw Reservoir)     | L. Mitchell, Esq., C.E.             | 5           | 1             | 0                | 982  | 1006           | 39·61 | 213                        | 160                        |
| D Bradford (Lister Park)          | H. Lander, Esq.                     | 8           | 1             | 0                | 439  | 1001           | 39·42 | 215                        | 158                        |
| Bradford (Thornton Moor Filters)  | L. Mitchell, Esq., C.E.             | 5           | 1             | 0                | 1218 | 1201           | 47·27 | 246                        | 189                        |
| Bradford (Stubden Res.) No. 8A.   | L. Mitchell, Esq., C.E.             | 8           | 1             | 0                | 1075 | 1425           | 56·09 | 251                        | 202                        |
| Bradford (Stubden Res.) No. 8B.   | L. Mitchell, Esq., C.E.             | 8           | 1             | 0                | 1075 | 1357           | 53·41 | 251                        | 193                        |
| Bradford (Stubden Res.) No. 8     | L. Mitchell, Esq., C.E.             | 5           | 1             | 0                | 1071 | 1324           | 52·13 | 251                        | 189                        |
| M Bradford (Nan Scar, Oxenhope)   | L. Mitchell, Esq., C.E.             | 5           | 1             | 0                | 1101 | 1300           | 51·18 | ..                         | ..                         |
| M Bradford (Stairs Top, Oxenhope) | L. Mitchell, Esq., C.E.             | 5           | 1             | 0                | 1401 | 1289           | 50·74 | ..                         | ..                         |
| Bradford (Leeming Reservoir)      | L. Mitchell, Esq., C.E.             | 5           | 1             | 0                | 850  | 1018           | 40·08 | 236                        | 183                        |
| Bradford (Doe Park Reservoir)     | L. Mitchell, Esq., C.E.             | 8           | 1             | 0                | 810  | 1217           | 47·93 | 250                        | 189                        |
| Bradford (Doe Park Reservoir)     | L. Mitchell, Esq., C.E.             | 5           | 1             | 0                | 811  | 1128           | 44·40 | 250                        | 176                        |
| M Bradford (Leeshaw Res.)         | L. Mitchell, Esq., C.E.             | 5           | 1             | 0                | 875  | 1271           | 50·04 | ..                         | ..                         |
| Bradford (Chellow Dean Res.)      | L. Mitchell, Esq., C.E.             | 5           | 1             | 0                | 645  | 1079           | 42·48 | 227                        | 164                        |
| Bradford (Chellow Heights Res.)   | L. Mitchell, Esq., C.E.             | 5           | 1             | 0                | 848  | 1056           | 41·58 | 229                        | 169                        |
| Bradford (Hewenden Res.)          | 6A. L. Mitchell, Esq., C.E.         | 5           | 1             | 0                | 700  | 1167           | 45·93 | 242                        | 190                        |
| Bradford (Hewenden Res.)          | 6L. Mitchell, Esq., C.E.            | 5           | 1             | 0                | 701  | 1136           | 44·71 | 243                        | 189                        |
| Bradford (Heaton Reservoir)       | 5AL. Mitchell, Esq., C.E.           | 8           | 1             | 0                | 530  | 957            | 37·67 | 200                        | 165                        |
| Bradford (Heaton Reservoir)       | 5L. Mitchell, Esq., C.E.            | 5           | 1             | 3                | 531  | 923            | 36·35 | 200                        | 158                        |
| Leeds (Wortley Reservoir)         | C. G. Henzell, Esq., C.E.           | 8           | 0             | 9                | 307  | 790            | 31·10 | 198                        | ..                         |
| Leeds (Knothrop)                  | C. G. Henzell, Esq., C.E.           | 8           | 0             | 9                | 72   | 686            | 26·99 | 155                        | ..                         |
| Leeds (Holbeck W.W. Depôt)        | C. G. Henzell, Esq., C.E.           | 8           | 0             | 9                | 93   | 707            | 27·83 | 216                        | ..                         |
| Leeds (Great George Street)       | C. G. Henzell, Esq., C.E.           | 5           | 0             | 9                | 180  | 707            | 27·82 | 191                        | ..                         |
| D Leeds (Museum)                  | H. Crowther, Esq.                   | 8           | 46            | 0                | 177  | 697            | 27·43 | 195                        | 130                        |
| D Leeds (Kingfisher)              | Greevz Fisher, Esq.                 | 5           | 13            | 6                | 100  | 788            | 31·01 | 175                        | 128                        |
| Leeds (Woodhouse Moor)            | C. G. Henzell, Esq., C.E.           | 8           | 0             | 9                | 307  | 725            | 28·53 | 177                        | ..                         |
| Seacroft (Leeds City Hospital)    | A. E. Pearson, Esq.                 | 8           | 1             | 0                | 236  | 874            | 34·42 | 226                        | 141                        |
| Leeds (Weetwood Res.) No. 1.      | C. G. Henzell, Esq., C.E.           | 8           | 0             | 9                | 328  | 797            | 31·38 | 214                        | ..                         |
| Leeds (Weetwood Res.) No. 2.      | C. G. Henzell, Esq., C.E.           | 8           | 0             | 9                | 328  | 824            | 32·45 | 215                        | ..                         |
| Leeds (Westwood Garth)            | B. K. Gott, Esq.                    | 5           | 0             | 6                | 300  | 840            | 33·05 | 198                        | ..                         |
| Leeds (Gledhow Grove)             | F. J. Kitson, Esq.                  | 5           | 2             | 6                | 285  | 756            | 29·75 | 169                        | ..                         |
| D Leeds (Chapel Allerton Terr.)   | Greevz Fisher, Esq.                 | 5           | ..            | ..               | 400  | 757            | 29·81 | 196                        | 127                        |
| Leeds (Allerton Hill)             | T. Harding Churton, Esq.            | 5           | 0             | 7                | 418  | 746            | 29·36 | ..                         | ..                         |
| Shipley (Cragg End)               | Leeds & Liv'pool Canal Co.          | 8           | 1             | 0                | 304  | 977            | 38·47 | ..                         | ..                         |
| D Shipley (Glenholme)             | M. E. Burton, Esq.                  | 5           | 0             | 9                | 370  | 968            | 38·10 | 210                        | 161                        |
| D Haworth (Harbour Lodge)         | M. R. Barnett, Esq., C.E.           | 8           | 1             | 0                | 1187 | 1385           | 54·54 | 237                        | 192                        |
| D Haworth (Lower Laithe Res.)     | M. R. Barnett, Esq., C.E.           | 5           | 0             | 10               | 772  | 1293           | 50·91 | 247                        | 195                        |
| D Haworth (Lwr Laithe Res.) (R)   | M. R. Barnett, Esq., C.E.           | 6           | 1             | 6                | 772  | 1293           | 50·90 | 246                        | 184                        |

## DIVISION IX.—YORKSHIRE—(con.).

| STATIONS.                             | AUTHORITIES.                  | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more | Days<br>with<br>·04 in.<br>or<br>more. |     |     |
|---------------------------------------|-------------------------------|-------------|------------------|------------------------|------------------------|---------------------------------------|--|-----|-----|
|                                       |                               | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |                                       |  |     |     |
| WEST RIDING—(con.).                   |                               | in.         | ft.              | in.                    | ft.                    | mm.                                   | in.                                    |     |     |
| 9.—OUSE—Aire—(con.).                  |                               |             |                  |                        |                        |                                       |  |     |     |
| d Oakworth (Oldfield Filters) . . .   | M. R. Barnett, Esq., C.E. . . | 5           | 1                | 0                      | 1008                   | 1228                                  | 48·34                                  | 231 | 191 |
| Bingley (Gilstead Filters) . . . .    | L. Mitchell, Esq., C.E. . .   | 5           | 1                | 0                      | 572                    | 854                                   | 33·61                                  | 210 | 153 |
| d Adel (Lawns Wood Cemetery) . . .    | Mr. S. R. Dyson . . . . .     | 5           | 1                | 0                      | 475                    | 1036                                  | 40·77                                  | 254 | 179 |
| d Keighley (The Knowle) . . . . .     | P. Clough, Esq. . . . .       | 5           | 1                | 0                      | 385                    | 1018                                  | 40·02                                  | 212 | 171 |
| Keighley (Victoria Park) . . . . .    | Mr. R. Butterfield . . . . .  | 5           | 1                | 0                      | 304                    | 999                                   | 39·32                                  | 214 | 169 |
| Bingley (Sunnydale Reservoir) . . .   | L. Mitchell, Esq., C.E. . .   | 5           | 1                | 0                      | 825                    | 897                                   | 35·32                                  | 217 | 164 |
| d Salterforth (Barnoldswick W.W.) .   | J. W. Thompson, Esq. . . .    | 8           | 1                | 4                      | 832                    | 1271                                  | 50·04                                  | 224 | 188 |
| d Kelbrook (Higher Burnt Hill Fm.) .  | J. E. Aldersley, Esq. . . .   | 5           | 1                | 0                      | 1050                   | 1140                                  | 44·89                                  | 215 | 190 |
| d Earby (Sewage Works) . . . . .      | J. E. Aldersley, Esq. . . .   | 5           | 1                | 0                      | 425                    | 1204                                  | 47·39                                  | 222 | 181 |
| d Silsden (Bolton Road) . . . . .     | Mr. A. Elder . . . . .        | 5           | 1                | 0                      | 432                    | 808                                   | 31·83                                  | 184 | 147 |
| Silsden (Gill Grange) . . . . .       | L. Mitchell, Esq., C.E. . .   | 5           | 1                | 0                      | 883                    | 865                                   | 34·05                                  | ..  | ..  |
| Silsden Reservoir . . . . .           | L. Mitchell, Esq., C.E. . .   | 5           | 1                | 0                      | 560                    | 846                                   | 33·31                                  | 191 | 153 |
| Silsden (Cringles Res. Site) . . . .  | L. Mitchell, Esq., C.E. . .   | 5           | 1                | 0                      | 760                    | 903                                   | 35·55                                  | 188 | 158 |
| d Elslack (Moorside Farm) . . . . .   | J. W. Thompson, Esq. . .      | 5           | 0                | 7                      | 835                    | 1237                                  | 48·71                                  | 232 | 189 |
| Carleton (Beech Hill) . . . . .       | W. Cyril Empson, Esq. . .     | 8           | 5                | 3                      | 425                    | 1007                                  | 39·63                                  | ..  | ..  |
| d Skipton (Sewage Works) . . . . .    | F. Morrison, Esq. . . . .     | 8           | 1                | 0                      | 318                    | 936                                   | 36·83                                  | 193 | 170 |
| d Skipton (Town Hall) . . . . .       | (R) A. E. W. Aldridge, Esq. . | 6           | 1                | 6                      | 367                    | 908                                   | 35·74                                  | 198 | 162 |
| Skipton (Hawthorne Cottage) . . . .   | Leeds & Liv'pool Canal Co. .  | 8           | 1                | 0                      | 380                    | 895                                   | 35·24                                  | ..  | ..  |
| Gargrave (Banks Hill Bank Nwtm) . .   | Leeds & Liv'pool Canal Co. .  | 8           | 1                | 0                      | 545                    | 1098                                  | 43·23                                  | ..  | ..  |
| Gargrave (Ray Bridge Hill) . . . .    | Leeds & Liv'pool Canal Co. .  | 8           | 0                | 10                     | 459                    | 936                                   | 36·86                                  | ..  | ..  |
| Rylstone Rectory . . . . .            | Rev. C. H. Lowe . . . . .     | 5           | 0                | 7                      | 708                    | 1123                                  | 44·20                                  | 225 | 178 |
| Winterburn (Long Hill) . . . . .      | Leeds & Liv'pool Canal Co. .  | 8           | 0                | 9                      | 705                    | 1151                                  | 45·30                                  | ..  | ..  |
| Winterburn (Brown Hill) . . . . .     | Leeds & Liv'pool Canal Co. .  | 8           | 1                | 0                      | 961                    | 1296                                  | 51·04                                  | ..  | ..  |
| d Malham Tarn . . . . .               | Mr. John Winskill . . . .     | 8           | 1                | 0                      | 1296                   | 1622                                  | 63·87                                  | 257 | 219 |
| d Malham Tarn . . . . .               | Mr. John Winskill . . . .     | 5           | 1                | 0                      | 1296                   | 1654                                  | 65·12                                  | 257 | 219 |
| 10.—OUSE—Wharfe. 408 sq. mi.          |                               |             |                  |                        |                        |                                       |  |     |     |
| d Aberford (Lotherton Hall) . . (R)   | Mrs. Trench Gascoigne . .     | 8           | 1                | 0                      | 200                    | 641                                   | 25·25                                  | ..  | ..  |
| d Saxton Vicarage . . . . .           | Rev. C. D. Ash . . . . .      | 5           | 1                | 6                      | 95                     | 741                                   | 29·17                                  | 199 | 144 |
| Adel (Eccup, South) . . . . .         | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 390                    | 843                                   | 33·20                                  | 217 | ..  |
| Adel (Eccup, East) . . . . .          | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 375                    | 806                                   | 31·73                                  | 214 | ..  |
| d Bardsey Pumping Station . . . . .   | M. C. Wood, Esq. . . . .      | 5           | 1                | 0                      | 250                    | 840                                   | 33·06                                  | 197 | 153 |
| d Harewood (Arthington) . . . . .     | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 139                    | 1066                                  | 41·99                                  | 185 | ..  |
| d Harewood House . . . . .            | Countess of Harewood . .      | 5           | 0                | 10                     | 300                    | 858                                   | 33·79                                  | 190 | 155 |
| d Otley (Sewage Works) . . . . .      | C. F. Hodgson, Esq., C.E. .   | 5           | 1                | 0                      | 172                    | 825                                   | 32·47                                  | 174 | 145 |
| d Ilkley (Silverwell Cottage) . . . . | G. A. Waite, Esq. . . . .     | 5           | 1                | 0                      | 900                    | 1075                                  | 42·33                                  | 222 | 186 |
| d Ilkley (Beechwood Grove) . . . .    | P. G. Marshall, Esq. . . .    | 5           | 11               | 0                      | 400                    | 974                                   | 38·35                                  | 211 | 162 |
| d Ilkley (Spence's Garden) . . . . .  | G. A. Waite, Esq. . . . .     | 5           | 1                | 0                      | 314                    | 950                                   | 37·41                                  | 220 | 169 |
| Leathley (Lindley Wood, S.) . . . .   | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 312                    | 932                                   | 36·70                                  | 245 | ..  |
| Leathley (Lindley Wood, N.) . . . .   | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 320                    | 934                                   | 36·77                                  | 245 | ..  |
| d Ilkley (March Gill Reservoir) . . . | C. F. Hodgson, Esq., C.E. .   | 5           | 1                | 0                      | 665                    | 1165                                  | 45·85                                  | 226 | 189 |
| d York (Mount Villas) . . . . .       | Miss S. E. Rowntree . . .     | 5           | 1                | 0                      | 70                     | 781                                   | 30·74                                  | 243 | 129 |
| d York (Cherry Hill) . . . . .        | Messrs. H. Richardson & Co. . | 5           | 1                | 6                      | 50                     | 694                                   | 27·32                                  | ..  | ..  |
| d York (Museum Gardens) . . . . .     | Oxley Grabham, Esq. . . .     | 9           | 1                | 0                      | 57                     | 663                                   | 26·10                                  | 192 | 127 |
| d York (The Retreat) . . . . .        | Dr. H. J. Mackenzie . . .     | 5           | 1                | 0                      | 73                     | 713                                   | 28·07                                  | 189 | 123 |
| York (Acomb Landing) . . . . .        | W. H. Humphreys, Esq. . .     | 5           | 1                | 0                      | 40                     | 736                                   | 28·98                                  | 179 | 139 |
| M Skipton (Counter Hill) . . . . .    | L. Mitchell, Esq., C.E. . .   | 5           | 1                | 0                      | 951                    | 890                                   | 35·05                                  | ..  | ..  |
| Skipton (Chelker Reservoir) . . . .   | L. Mitchell, Esq., C.E. . .   | 5           | 1                | 0                      | 730                    | 936                                   | 36·84                                  | ..  | ..  |
| Fewston (Timble Ings) . . . . .       | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 912                    | 1034                                  | 40·73                                  | 247 | ..  |
| Fewston (Timble) . . . . .            | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 720                    | 913                                   | 35·95                                  | 205 | ..  |
| Fewston (Swinsty, East) . . . . .     | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 460                    | 973                                   | 38·31                                  | 226 | ..  |
| Fewston (Swinsty, West) . . . . .     | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 425                    | 987                                   | 38·86                                  | 226 | ..  |
| Fewston, South . . . . .              | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 525                    | 1019                                  | 40·11                                  | 225 | ..  |
| Fewston, North . . . . .              | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 525                    | 972                                   | 38·25                                  | 225 | ..  |
| Fewston (Blubberhouses) . . . . .     | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 575                    | 1057                                  | 41·60                                  | 217 | ..  |
| Bolton Abbey Estate Office . . . .    | A. Downs, Esq. . . . .        | 5           | 1                | 2                      | 368                    | 1019                                  | 40·13                                  | 224 | 176 |
| Barden Reservoir . . . . .            | L. Mitchell, Esq., C.E. . .   | 8           | 1                | 0                      | 746                    | 1108                                  | 43·63                                  | 244 | 186 |
| Barden Reservoir . . . . .            | L. Mitchell, Esq., C.E. . .   | 5           | 1                | 0                      | 746                    | 1118                                  | 44·00                                  | 236 | 181 |
| Upper Barden Reservoir . . . . .      | L. Mitchell, Esq., C.E. . .   | 5           | 1                | 0                      | 1250                   | 1101                                  | 43·35                                  | 234 | 176 |
| Thruscross (Lane Head) . . . . .      | C. G. Henzell, Esq., C.E. .   | 8           | 0                | 9                      | 950                    | 938                                   | 36·93                                  | 237 | ..  |
| M Burnsall (Thorpe Fell) . . . . .    | L. Mitchell, Esq., C.E. . .   | 5           | 1                | 0                      | 1661                   | 1155                                  | 45·47                                  | ..  | ..  |
| M Burnsall (Sandbed Beck) . . . .     | L. Mitchell, Esq., C.E. . .   | 5           | 1                | 0                      | 676                    | 1176                                  | 46·31                                  | ..  | ..  |
| d Burnsall Rectory . . . . .          | Rev. W. J. Stavert . . . .    | 8           | 4                | 8                      | 503                    | 1271                                  | 50·05                                  | 230 | 171 |
| Grimwith Reservoir . . . . .          | L. Mitchell, Esq., C.E. . .   | 8           | 1                | 0                      | 890                    | 1320                                  | 51·99                                  | 219 | 183 |



## DIVISION IX.—YORKSHIRE—(con.).

| STATIONS.  | AUTHORITIES.                | Rain Gauge. |               |                  |      | Depth of Rain. |       | Days with ·01 in. or more. | Days with ·04 in. or more. |
|--|-----------------------------|-------------|---------------|------------------|------|----------------|-------|----------------------------|----------------------------|
|  |                             | Diam.       | Height Ground | above Sea Level. | 1920 |                |       |                            |                            |
| WEST RIDING—(con.).                              |                             | in.         | ft.           | in.              | ft.  | mm.            | in.   |                            |                            |
| <b>10.—OUSE—Wharfe—(con.).</b>                   |                             |             |               |                  |      |                |       |                            |                            |
| Grimwith Reservoir                               | L. Mitchell, Esq., C.E.     | 5           | 1             | 0                | 893  | 1290           | 50·77 | 219                        | 183                        |
| Grimwith (Trunla Hill)                           | L. Mitchell, Esq., C.E.     | 5           | 1             | 0                | 1201 | 1200           | 47·24 | ..                         | ..                         |
| Buckden  | G. E. Clayton, Esq.         | 5           | 3             | 0                | 800  | 1640           | 64·55 | 221                        | 199                        |
| Oughtershaw Hall                                 | Miss Woodd                  | 5           | 1             | 6                | 1175 | 2235           | 88·00 | ..                         | 205                        |
| <b>11.—OUSE—Nidd. 254 sq. mi.</b>                |                             |             |               |                  |      |                |       |                            |                            |
| Spofforth (Sewage Works)                         | C. E. Rivers, Esq., C.E.    | 5           | 1             | 0                | 184  | 806            | 31·75 | 219                        | ..                         |
| Wetherby (Ribston Hall)                          | Mr. W. Simpson              | 5           | 1             | 2                | 130  | 802            | 31·59 | ..                         | 132                        |
| Harrogate W.W. (Ling Cottage)                    | A. S. West, Esq., C.E.      | 5           | 1             | 0                | 740  | 929            | 36·59 | ..                         | ..                         |
| Harrogate W.W. (Broad Dubb)                      | A. S. West, Esq., C.E.      | 5           | 1             | 0                | 725  | 967            | 38·07 | ..                         | ..                         |
| Harrogate W.W. (Cobblers Cott.)                  | A. S. West, Esq., C.E.      | 5           | 1             | 0                | 730  | 947            | 37·27 | ..                         | ..                         |
| Harrogate W.W. (Ten Acres Res.)                  | A. S. West, Esq., C.E.      | 8           | 1             | 6                | 620  | 970            | 38·18 | 208                        | 154                        |
| Harrogate W.W. (Scargill Res.)                   | A. S. West, Esq., C.E.      | 8           | 1             | 0                | 646  | 1033           | 40·67 | 209                        | 158                        |
| Harrogate W.W. (Beaver Dyke R.)                  | A. S. West, Esq., C.E.      | 8           | 0             | 11               | 575  | 928            | 36·53 | 206                        | 151                        |
| Harrogate W.W. (John o' Gaunts)                  | A. S. West, Esq., C.E.      | 5           | 1             | 0                | 600  | 947            | 37·27 | ..                         | ..                         |
| Harrogate W.W. (Long Stoop)                      | A. S. West, Esq., C.E.      | 5           | 1             | 0                | 700  | 917            | 36·12 | ..                         | ..                         |
| Harrogate W.W. (Knab's Moor)                     | A. S. West, Esq., C.E.      | 5           | 1             | 0                | 700  | 909            | 35·80 | ..                         | ..                         |
| Harrogate (Harlow Moor Obsy.)                    | C. E. Rivers, Esq., C.E.    | 5           | 1             | 0                | 480  | 887            | 34·93 | 201                        | 143                        |
| Harrogate (Harlow Hill Res.)                     | A. S. West, Esq., C.E.      | 8           | 1             | 0                | 589  | 828            | 32·61 | 192                        | 147                        |
| Harrogate (Irongate Bridge Res.)                 | A. S. West, Esq., C.E.      | 8           | 1             | 6                | 455  | 899            | 35·41 | 192                        | 150                        |
| Harrogate (The Stray)                            | Mr. G. W. Gledhill          | 5           | 1             | 0                | 380  | 884            | 34·80 | 186                        | 143                        |
| Harrogate (Park Parade)                          | Mr. G. W. Gledhill          | 5           | 1             | 0                | 400  | 894            | 35·18 | 186                        | 143                        |
| Knaresborough (The Abbey)                        | Rev. Canon J. T. Hartley    | 5           | 1             | 0                | 140  | 759            | 29·87 | 191                        | 132                        |
| Knaresborough (Water Tower)                      | A. S. West, Esq., C.E.      | 8           | 1             | 0                | 240  | 753            | 29·64 | 193                        | 129                        |
| Knaresborough (Grammar Sch.)                     | C. W. H. Greaves, Esq.      | 5           | 1             | 0                | 230  | 809            | 31·85 | 197                        | 128                        |
| Harrogate (Bilton Sewage Works)                  | C. E. Rivers, Esq., C.E.    | 5           | 1             | 0                | 208  | 877            | 34·52 | 187                        | ..                         |
| Birstwith Hall                                   | F. A. Aykroyd, Esq.         | 8           | 0             | 10               | 470  | 979            | 38·55 | 216                        | 158                        |
| Birstwith (Swarcliffe)                           | Capt. C. S. Greenwood       | 5           | 1             | 0                | 510  | 1049           | 41·30 | 201                        | 169                        |
| Greenhow Hill (Kell House)                       | Harold Bruff, Esq., C.E.    | 5           | 1             | 0                | 1350 | 1313           | 51·70 | 218                        | 176                        |
| Pateley Bridge (Bewerley Hall)                   | T. E. Yorke, Esq.           | 5           | 0             | 8                | 420  | 1187           | 46·75 | 174                        | 161                        |
| Ramskill (Holme Ho. Gouthwaite)                  | L. Mitchell, Esq., C.E.     | 5           | 1             | 0                | 464  | 1210           | 47·62 | 209                        | 164                        |
| Ramskill (Raygill House)                         | L. Mitchell, Esq., C.E.     | 5           | 1             | 0                | 925  | 1397           | 55·00 | 203                        | 178                        |
| Ramskill   | L. Mitchell, Esq., C.E.     | 5           | 1             | 0                | 450  | 1072           | 42·19 | 193                        | 165                        |
| Nidderdale (High Riggs)                          | L. Mitchell, Esq., C.E.     | 5           | 1             | 0                | 1010 | 1418           | 55·82 | 182                        | 173                        |
| Nidderdale (East Gill Head)                      | L. Mitchell, Esq., C.E.     | 5           | 1             | 0                | 1710 | 1814           | 71·40 | ..                         | ..                         |
| Nidderdale (Rain Stang)                          | L. Mitchell, Esq., C.E.     | 5           | 1             | 0                | 1470 | 1524           | 59·98 | ..                         | ..                         |
| Nidderdale (New Houses)                          | L. Mitchell, Esq., C.E.     | 5           | 1             | 0                | 755  | 1145           | 45·08 | ..                         | 140                        |
| Nidderdale (West Houses)                         | L. Mitchell, Esq., C.E.     | 5           | 1             | 0                | 1150 | 1591           | 62·65 | 214                        | 189                        |
| <b>12.—OUSE—Ure. 110 sq. mi.</b>                 |                             |             |               |                  |      |                |       |                            |                            |
| Dallow Moor (Harper Hill)                        | C. G. Henzell, Esq., C.E.   | 5           | 0             | 9                | 858  | 994            | 39·12 | 225                        | ..                         |
| Ripon (Studley Royal Gardens)                    | Marquis of Ripon            | 5           | 1             | 6                | 250  | 872            | 34·33 | 181                        | ..                         |
| Ripon (The Red House)                            | F. D. Wise, Esq., C.E.      | 5           | 1             | 0                | 120  | 803            | 31·63 | 169                        | 133                        |
| Kirkby Malzeard (Drovers' Inn)                   | C. G. Henzell, Esq., C.E.   | 8           | 0             | 9                | 576  | 1113           | 43·82 | 220                        | ..                         |
| Kirkby Malzeard (Hawsett)                        | C. G. Henzell, Esq., C.E.   | 8           | 0             | 9                | 820  | 1136           | 44·73 | 221                        | ..                         |
| Kirkby Malzeard (Hambleton H.)                   | C. G. Henzell, Esq., C.E.   | 8           | 0             | 9                | 1106 | 1160           | 45·67 | ..                         | ..                         |
| Kirkby Malzeard (Bagwith Brae)                   | C. G. Henzell, Esq., C.E.   | 5           | 0             | 9                | 703  | 924            | 36·39 | 205                        | ..                         |
| Kirkby M. (Stone & Ears Wham)                    | C. G. Henzell, Esq., C.E.   | 8           | 0             | 9                | 1118 | 1216           | 47·87 | ..                         | ..                         |
| EAST RIDING. (Area, 1176 sq. mi.)                |                             |             |               |                  |      |                |       |                            |                            |
| <b>1.—OUSE—Left Bank Tributaries. 82 sq. mi.</b> |                             |             |               |                  |      |                |       |                            |                            |
| York (Deighton Grove)                            | Miss M. L. Whitehead        | 5           | 2             | 0                | 47   | 761            | 29·95 | 214                        | 129                        |
| York (Heslington)                                | Hn. L. de Yarbrough-Bateson | 8           | 0             | 10               | 35   | 752            | 29·59 | 191                        | 142                        |
| York (Dunnington Hall)                           | Miss Hildyard               | 8           | 1             | 2                | 110  | 691            | 27·21 | 206                        | 134                        |
| <b>2.—OUSE—Derwent. 248 sq. mi.</b>              |                             |             |               |                  |      |                |       |                            |                            |
| Warter   | Mrs. J. Coxon               | 5           | 1             | 10               | 230  | 662            | 26·05 | 172                        | 127                        |
| Burythorpe Rectory                               | Rev. William Robinson       | 5           | 1             | 0                | 240  | 683            | 26·88 | 182                        | 140                        |
| Birdsall Gardens                                 | Mr. J. Anderson             | 5           | 1             | 0                | 303  | 772            | 30·41 | 177                        | 139                        |
| Rillington (Scampston Hall)                      | W. H. St. Quintin, Esq.     | 5           | 1             | 6                | 152  | 706            | 27·79 | 170                        | 143                        |
| Ganton (Dawnay Lodge)                            | H. D. Birdsall, Esq.        | 5           | 1             | 0                | 185  | 591            | 27·21 | 176                        | 127                        |
| Ganton (Ganton Hall)                             | Harold Wrigley, Esq.        | 5           | 2             | 0                | 250  | 729            | 28·71 | 207                        | 130                        |
| Hunmanby (Holly Bank)                            | Miss Ackland                | 5           | 1             | 2                | ..   | 680            | 26·79 | ..                         | ..                         |

## DIVISION IX.—YORKSHIRE—(con.).

| STATIONS.                                    | AUTHORITIES.                   | Rain Gauge. |                  |                        | Depth of Rain. |      | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |     |
|--|--------------------------------|-------------|------------------|------------------------|----------------|------|-------------------------------------|-------------------------------------|-----|
|  |                                | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |      |                                     |                                     |     |
|  |                                |             |                  |                        | in.            | in.  |                                     |                                     |     |
| EAST RIDING—(con.).                          |                                | in.         | ft.              | in.                    | ft.            | mm.  | in.                                 |                                     |     |
| 3.—HUMBER—Left Bank Tributaries. 675 sq. mi. |                                |             |                  |                        |                |      |                                     |                                     |     |
| d Patrington (Spurn Head).....               | Meteorological Office .....    | 8           | 1                | 0                      | 27             | 496  | 19·54                               | 159                                 | 110 |
| d Patrington .....                           | Miss H. Kirman .....           | 5           | 2                | 6                      | 46             | 632  | 24·90                               | 147                                 | 110 |
| d Hull (Pearson Park) .....                  | H. B. Witty, Esq. ....         | 5           | 0                | 10                     | 12             | 652  | 25·67                               | 193                                 | 122 |
| d Hull (Springhead) .....                    | C. B. Newton, Esq., C.E. ....  | 5           | 1                | 0                      | 16             | 641  | 25·24                               | 200                                 | 132 |
| d Cottingham (Water Works).....              | C. B. Newton, Esq., C.E. ....  | 5           | 1                | 1                      | 26             | 630  | 24·82                               | 168                                 | 117 |
| North Cave (The Croft) .....                 | Major W. H. Carver.....        | 5           | 1                | 0                      | 30             | 688  | 27·09                               | ..                                  | ..  |
| Holme-on-Spalding-Moor .....                 | C. J. Pybus, Esq. ....         | 8           | 1                | 0                      | 32             | 689  | 27·14                               | 158                                 | 131 |
| Beverley (East Riding Asylum) ..             | Dr. E. S. Simpson, M.C. ....   | 5           | 1                | 0                      | 175            | 697  | 27·43                               | 190                                 | 137 |
| Beverley (New Walk) .....                    | W. Evans, Esq., C.E. ....      | 5           | 3                | 0                      | 38             | 699  | 27·53                               | 197                                 | ..  |
| Beverley (Hull Bridge) .....                 | W. Evans, Esq., C.E. ....      | 5           | 2                | 6                      | 11             | 622  | 24·50                               | 168                                 | ..  |
| d Market Weighton (Dalton Holme) ..          | Mr. J. P. Jobling .....        | 8           | 6                | 0                      | 120            | 740  | 29·12                               | 200                                 | 140 |
| d Watton Abbey .....                         | J. A. Coulson, Esq. ....       | 5           | 1                | 0                      | 40             | 654  | 25·74                               | 193                                 | 123 |
| Brandesburton (Hempholm Lk.) ..              | W. Evans, Esq., C.E. ....      | 5           | 2                | 6                      | 11             | 625  | 24·59                               | 191                                 | ..  |
| d Lowthorpe (The Elms) .....                 | F. K. Hawes, Esq. ....         | 5           | 1                | 0                      | 63             | 679  | 26·73                               | 176                                 | 127 |
| 4.—EAST COAST STREAMS. 171 sq. mi.           |                                |             |                  |                        |                |      |                                     |                                     |     |
| d Bridlington .....                          | S. R. Crofts, Esq. ....        | 5           | 1                | 0                      | 40             | 692  | 27·24                               | 202                                 | 129 |
| d Bridlington (Grammar School) ..            | G. T. Reeve, Esq. ....         | 8           | 1                | 0                      | 57             | 643  | 25·32                               | 156                                 | 112 |
| d Wold Newton .....                          | Major Ralph E. Stuart....      | 5           | 1                | 6                      | 175            | 707  | 27·82                               | ..                                  | 118 |
| d Ganton (Willerby Wold) .....               | Major W. F. Wormald ....       | 5           | 0                | 3                      | 565            | 730  | 28·73                               | ..                                  | ..  |
| d Filey Vicarage .....                       | Rev. Canon A. N. Cooper .      | 6           | 0                | 9                      | 95             | 641  | 25·25                               | 174                                 | 120 |
| NORTH RIDING. (Area, 2155 sq. mi.)           |                                |             |                  |                        |                |      |                                     |                                     |     |
| 1.—OUSE—Ure. 273 sq. mi.                     |                                |             |                  |                        |                |      |                                     |                                     |     |
| Masham Moor (W. Summerside) ..               | C. G. Henzell, Esq., C.E. .... | 5           | 0                | 9                      | 928            | 1194 | 47·01                               | 209                                 | ..  |
| Masham Moor (High Sour Mire) ..              | C. G. Henzell, Esq., C.E. .... | 5           | 0                | 9                      | 884            | 873  | 34·37                               | ..                                  | ..  |
| Masham Moor (Leighton Res.) ..               | C. G. Henzell, Esq., C.E. .... | 5           | 0                | 9                      | 634            | 1039 | 40·89                               | 209                                 | ..  |
| Masham Moor (Towler Hill) ..                 | C. G. Henzell, Esq., C.E. .... | 8           | 0                | 9                      | 820            | 1090 | 42·90                               | 211                                 | ..  |
| Masham Moor (Breary Bank) ..                 | C. G. Henzell, Esq., C.E. .... | 5           | 0                | 9                      | 600            | 1102 | 43·37                               | 211                                 | ..  |
| Masham Moor (Healey) .....                   | C. G. Henzell, Esq., C.E. .... | 5           | 0                | 9                      | 542            | 1022 | 40·23                               | 222                                 | ..  |
| Masham Moor (Healey Pasture) ..              | C. G. Henzell, Esq., C.E. .... | 5           | 0                | 9                      | 1237           | 1080 | 42·51                               | 202                                 | ..  |
| Masham Moor (Low Houses) ..                  | C. G. Henzell, Esq., C.E. .... | 5           | 0                | 9                      | 693            | 1116 | 43·94                               | 232                                 | ..  |
| d Masham Moor (Roundhill Res.) ..            | A. S. West, Esq., C.E. ....    | 8           | 1                | 0                      | 743            | 1191 | 46·89                               | 233                                 | 178 |
| d Clifton Castle Gardens .....               | Lady Cowell .....              | 5           | 1                | 0                      | 360            | 901  | 35·49                               | 178                                 | 126 |
| d Middleham (Castle Hill) .....              | Col. P. H. Hammond, C.B. ....  | 5           | 1                | 0                      | 470            | 930  | 36·62                               | 199                                 | 145 |
| d Middleham (The Deanery) .....              | Rev. H. G. Topham .....        | 5           | 1                | 0                      | 450            | 931  | 36·64                               | 192                                 | 154 |
| d West Witton (Ivy House) .....              | J. B. Espiner, Esq. ....       | 5           | 1                | 0                      | 606            | 978  | 38·49                               | 209                                 | 157 |
| d Leyburn (Bolton Hall) .....                | Mr. F. Scrivener .....         | 8           | 1                | 0                      | 420            | 979  | 38·53                               | 213                                 | 150 |
| Hawes (The Stone House) .....                | H. Arden Crallan, Esq. ....    | 5           | 1                | 6                      | 845            | 1572 | 61·88                               | 205                                 | 189 |
| 2.—OUSE—Swale. 569 sq. mi.                   |                                |             |                  |                        |                |      |                                     |                                     |     |
| Sessay .....                                 | Rev. F. Payne Gallwey ...      | 5           | 1                | 0                      | 113            | 674  | 26·52                               | ..                                  | ..  |
| d Dalton Parsonage .....                     | Rev. G. H. Chilman .....       | 5           | 1                | 0                      | 79             | 644  | 25·37                               | 164                                 | 124 |
| d Carlton Husthwaite .....                   | W. R. Bagley, Esq. ....        | 5           | 1                | 0                      | 190            | 701  | 27·60                               | 198                                 | 135 |
| d Coxwold (The Old Hall) .....               | H. Geipel, Esq. ....           | 5           | 1                | 6                      | 260            | 753  | 29·66                               | ..                                  | 119 |
| d Baldersby (Baldersby Park) ..              | Mr. J. E. Hathaway .....       | 10          | 2                | 0                      | 100            | 673  | 26·51                               | 215                                 | 133 |
| Burniston (Camp Hill) .....                  | Capt. F. H. Reynard .....      | 8           | 3                | 6                      | 152            | 744  | 29·28                               | ..                                  | ..  |
| d Thirsk (Spital Hill) .....                 | C. H. Gill, Esq. ....          | 5           | 1                | 0                      | 117            | 682  | 26·87                               | 196                                 | 128 |
| Thirsk (Sowerby) .....                       | William Brown, Esq. ....       | 5           | 1                | 0                      | 110            | 662  | 26·08                               | ..                                  | ..  |
| d Thirsk (Brynkellhow) .....                 | A. B. Hall, Esq. ....          | 8           | 1                | 0                      | 115            | 699  | 27·53                               | 200                                 | 137 |
| Thirsk (The Hall) .....                      | "Northern Echo" .....          | 5           | 1                | 10                     | 121            | 648  | 25·50                               | 176                                 | ..  |
| d Thirsk (Stoneybrough) .....                | T. J. Foggitt, Esq. ....       | 5           | 1                | 2                      | 122            | 711  | 27·99                               | 181                                 | 140 |
| d Sutton (Brook House) .....                 | Miss A. M. Hansell .....       | 5           | 1                | 0                      | 246            | 728  | 28·67                               | 167                                 | 131 |
| d Felixkirk (Thirby) .....                   | A. J. Walker, Esq. ....        | 5           | 1                | 0                      | 339            | 790  | 31·11                               | ..                                  | ..  |
| d Felixkirk (Mount St. John) ..              | A. J. Walker, Esq. ....        | 5           | 1                | 0                      | 523            | 709  | 27·91                               | 192                                 | 136 |
| d Felixkirk (Mount St. John) ..              | A. J. Walker, Esq. ....        | 5           | 1                | 10                     | 542            | 730  | 28·75                               | 186                                 | 134 |
| d Felixkirk (Mount St. John) ..              | A. J. Walker, Esq. ....        | 5           | 1                | 0                      | 541            | 741  | 29·17                               | 191                                 | 135 |
| d Felixkirk (Mount St. John) ..              | A. J. Walker, Esq. ....        | 5           | 1                | 10                     | 542            | 712  | 28·03                               | ..                                  | ..  |
| d Felixkirk (Mount St. John) ..              | A. J. Walker, Esq. ....        | 5           | 1                | 0                      | 541            | 722  | 28·41                               | ..                                  | ..  |
| d Boltby (Ravensthorpe Manor) ..             | F. E. Walker, Esq. ....        | 5           | 1                | 7                      | 661            | 748  | 29·44                               | 180                                 | 134 |
| d Boltby, East .....                         | A. J. Walker, Esq. ....        | 5           | 1                | 0                      | 460            | 808  | 31·81                               | ..                                  | ..  |
| d Boltby (Cliff Head) .....                  | No. 2 A. J. Walker, Esq. ....  | 5           | 1                | 4                      | 772            | 770  | 30·32                               | ..                                  | ..  |
| d Boltby (High Paradise) .....               | A. J. Walker, Esq. ....        | 5           | 1                | 3                      | 1144           | 904  | 35·58                               | ..                                  | ..  |
| d Kirkby Knowle Rectory .....                | Rev. C. H. Murray .....        | 5           | 1                | 0                      | 436            | 747  | 29·40                               | 180                                 | 140 |

## DIVISION IX.—YORKSHIRE—(con.).

| STATIONS.                                  | AUTHORITIES.               | Rain Gauge.  |                         |                               | Depth of Rain. |      | Days with<br>·01 in.<br>or more. | Days with<br>·04 in.<br>or more. |     |
|--|----------------------------|--------------|-------------------------|-------------------------------|----------------|------|----------------------------------|----------------------------------|-----|
|  |                            | Diam.<br>in. | Height<br>Ground<br>ft. | above<br>Sea<br>Level.<br>ft. | 1920<br>mm.    | in.  |                                  |                                  |     |
| NORTH RIDING—(con.).                       |                            |              |                         |                               |                |      |                                  |                                  |     |
| 2.—OUSE—Swale—(con.).                      |                            |              |                         |                               |                |      |                                  |                                  |     |
| Kirkby Knowle (Newbuilding)                | Brig.-Gen. J. Hotham, C.B. | 5            | 0                       | 10                            | 575            | 684  | 26·92                            | ..                               | ..  |
| Bedale (Thorp Perrow)                      | Mr. W. Pattison            | 8            | 1                       | 6                             | 140            | 730  | 28·73                            | 155                              | 126 |
| d Maunby Hall                              | Major A. Hill-Walker, V.C. | 5            | 1                       | 0                             | 90             | 689  | 27·12                            | ..                               | 129 |
| D Bedale (Park House)                      | Miss M. Greenwood          | 5            | 1                       | 1                             | 180            | 723  | 28·46                            | 175                              | 122 |
| D Thornton-le-Moor                         | Lt.-Col. R. W. Peckitt     | 5            | 1                       | 0                             | 136            | 681  | 26·82                            | 166                              | 139 |
| D Thornton-le-Moor (Pasture Ho.)           | G. H. Croft, Esq.          | 5            | 1                       | 0                             | 225            | 635  | 25·00                            | 175                              | 131 |
| Newby Wiske (Sowbergate)                   | J. Hutton, Esq.            | 5            | 1                       | 0                             | 100            | 642  | 25·29                            | 188                              | 141 |
| D Borrowby (Leake Vicarage)                | Rev. G. W. Kendall         | 5            | 1                       | 0                             | 215            | 713  | 28·08                            | 162                              | 137 |
| Kepwick Vicarage                           | Rev. T. E. Parkinson       | 5            | 1                       | 0                             | 530            | 618  | 24·32                            | ..                               | 128 |
| Scruton Hall                               | Rev. A. T. Coore           | 5            | 1                       | 3                             | 110            | 639  | 25·17                            | 189                              | 124 |
| M Swaledale (Gunnerside Lodge)             | W. M. Christy, Esq.        | 5            | 1                       | 0                             | 950            | 1508 | 59·38                            | ..                               | ..  |
| d Northallerton (Brompton)                 | J. P. Yeoman, Esq.         | 5            | 3                       | 0                             | 165            | 728  | 28·64                            | ..                               | ..  |
| D Reeth                                    | T. R. Blumer, Esq.         | 5            | 1                       | 0                             | 700            | 1105 | 43·52                            | 170                              | 159 |
| D Osmotherley                              | T. Yeoman, Esq.            | 8            | 0                       | 8                             | 660            | 743  | 29·25                            | 166                              | 137 |
| D East Harlsey (Harlsey Hall)              | J. Constantine, Esq.       | 5            | 1                       | 0                             | 370            | 662  | 26·08                            | 160                              | 128 |
| D Rounton Grange                           | Mr. J. Hanagan             | 8            | 1                       | 0                             | 249            | 669  | 26·33                            | 205                              | 137 |
| D West Rounton Rectory                     | Rev. G. Bird               | 5            | 0                       | 11                            | 200            | 614  | 24·17                            | 166                              | 133 |
| d Reeth (Arkengarthdale)                   | Samuel Gott, Esq.          | 5            | 1                       | 0                             | 940            | 1277 | 50·27                            | ..                               | 151 |
| Richmond (Gilling West)                    | Mrs. Roper                 | 5            | 1                       | 3                             | 303            | 952  | 37·48                            | 169                              | 132 |
| Middleton Tyas                             | J. F. B. Baker, Esq.       | 5            | 0                       | 10                            | 380            | 747  | 29·41                            | ..                               | ..  |
| 3.—OUSE—Left Bank Tributaries. 153 sq. mi. |                            |              |                         |                               |                |      |                                  |                                  |     |
| Haxby (Moorlands)                          | E. G. Tew, Esq.            | 8            | 1                       | 6                             | 58             | 762  | 30·02                            | 159                              | ..  |
| d Sutton-on-Forest (Sutton Hall)           | Mrs. Grey                  | 5            | 1                       | 0                             | 125            | 706  | 27·79                            | ..                               | ..  |
| 4.—OUSE—Derwent. 509 sq. mi.               |                            |              |                         |                               |                |      |                                  |                                  |     |
| Huttons Ambo (Minster Hill)                | J. W. Procter, Esq.        | 5            | 1                       | 3                             | 75             | 604  | 23·80                            | ..                               | ..  |
| D Welburn                                  | John D. Atkin, Esq.        | 5            | 1                       | 0                             | 300            | 735  | 28·94                            | 188                              | 144 |
| d Malton (Broughton Rise)                  | C. C. Laverack, Esq.       | 5            | 1                       | 0                             | 164            | 674  | 26·53                            | 178                              | ..  |
| D Hovingham Hall                           | Sir W. H. A. Worsley, Bt.  | 5            | 0                       | 9                             | 119            | 767  | 30·21                            | 183                              | 130 |
| D Ampleforth College                       | Rev. H. deNormanville, OSB | 8            | 1                       | 0                             | 350            | 712  | 28·04                            | 193                              | 128 |
| D Helmsley (DuncombePk.Gdns.)              | Mr. D. Williams            | 5            | 3                       | 0                             | 176            | 870  | 34·26                            | ..                               | 131 |
| D Pickering (Hungate Hall)                 | Dr. J. L. Kirk             | 5            | 1                       | 0                             | 90             | 715  | 28·16                            | 232                              | 136 |
| D Seamer (Irtton Pump. Station)            | H. Richardson, Esq., C.E.  | 8            | 1                       | 0                             | 94             | 702  | 27·65                            | 176                              | 121 |
| d Scarborough (Osgodby)                    | H. Richardson, Esq., C.E.  | 8            | 1                       | 0                             | 166            | 649  | 25·55                            | ..                               | 129 |
| D East Ayton (Derwent House)               | A. H. Robinson, Esq.       | 5            | 1                       | 0                             | 110            | 683  | 26·90                            | 174                              | 132 |
| D Scawton Rectory                          | Rev. C. H. Rowntree        | 5            | 1                       | 0                             | 606            | 855  | 33·66                            | 206                              | 145 |
| D Cold Kirby (The School)                  | John Sanders, Esq.         | 5            | 1                       | 0                             | 763            | 888  | 34·98                            | 220                              | 143 |
| D Old Byland (Board Inn)                   | Herbert Nicholson, Esq.    | 5            | 1                       | 0                             | 722            | 897  | 35·32                            | 173                              | 144 |
| d KirkbyMoorside (Ravenswyke)              | Harrison Holt, Esq.        | 5            | 1                       | 0                             | 220            | 667  | 26·25                            | ..                               | ..  |
| KirkbyMoorside (Hutton-le-Hole)            | F. M. Curtis, Esq.         | 5            | 1                       | 0                             | 350            | 709  | 27·93                            | ..                               | ..  |
| D Hawnby Rectory                           | Rev. W. Hughes             | 5            | 1                       | 0                             | 497            | 962  | 37·89                            | 167                              | 154 |
| D Rosedale Abbey Vicarage                  | Rev. W. Wainman            | 5            | 1                       | 0                             | 550            | 877  | 34·54                            | 182                              | 142 |
| Farndale Vicarage                          | Rev. H. W. Smith           | 5            | 1                       | 0                             | 476            | 980  | 38·58                            | ..                               | ..  |
| D Bilsdale Priory                          | Rev. J. Powell Parry       | 5            | 1                       | 0                             | 638            | 845  | 33·28                            | 178                              | 138 |
| 5.—ESK & C. 278 sq. mi.                    |                            |              |                         |                               |                |      |                                  |                                  |     |
| D Scarborough                              | D. Quaife, Esq.            | 5            | 1                       | 0                             | 118            | 643  | 25·32                            | 162                              | 120 |
| D Scarborough (Scalby)                     | Mrs. J. W. Rowntree        | 5            | 0                       | 11                            | 300            | 897  | 35·31                            | 158                              | 144 |
| D Scarborough (ScalbySt.Philips)           | Rev. W. E. Stewart         | 5            | 1                       | 0                             | 130            | 703  | 27·66                            | 176                              | 121 |
| Goathland (Thwaitefield)                   | J. L. Rowland, Esq.        | 5            | 0                       | 6                             | 485            | 726  | 28·57                            | ..                               | ..  |
| D Gaisdale (The Gables Gardens)            | Mr. H. Hope                | 5            | 0                       | 9                             | 400            | 887  | 34·92                            | 169                              | 145 |
| D Danby (The School House)                 | J. W. Lynas, Esq.          | 5            | 1                       | 0                             | 500            | 851  | 33·52                            | 155                              | 140 |
| Danby Lodge                                | Mr. C. Hardy               | 5            | 3                       | 0                             | 500            | 822  | 32·37                            | 155                              | 141 |
| D Whitby (Park Hall, Aislaby)              | Rev. J. H. Richardson      | 5            | 1                       | 0                             | 500            | 748  | 29·43                            | 181                              | 121 |
| D Whitby                                   | D. S. Ramsdale, Esq.       | 8            | 1                       | 0                             | 125            | 569  | 22·40                            | 170                              | 105 |
| D Whitby (Mulgrave Castle)                 | Mr. J. Corbett             | 5            | 1                       | 0                             | 410            | 718  | 28·26                            | 204                              | 123 |
| D Guisborough (Lockwood Res.)              | W. M. P'Anson, Esq., C.E.  | 8            | 1                       | 0                             | 632            | 744  | 29·29                            | 163                              | 131 |
| M Guisborough (Lockwood Res.)              | W. M. P'Anson, Esq., C.E.  | 8            | 1                       | 0                             | 632            | 732  | 28·80                            | ..                               | ..  |
| D Saltburn (Skelton Castle)                | Lt.-Col. W. H. A. Wharton  | 5            | 0                       | 9                             | 272            | 638  | 25·12                            | 165                              | 139 |
| 6.—TEES. 373 sq. mi.                       |                            |              |                         |                               |                |      |                                  |                                  |     |
| d Ingleby Manor                            | Lord De L'Isle & Dudley    | 5            | 0                       | 11                            | 460            | 792  | 31·18                            | 168                              | ..  |
| Ingleby Greenhow Vicarage                  | Rev. M. A. Horsfall        | 5            | 1                       | 6                             | 420            | 826  | 32·54                            | 188                              | 140 |

## DIVISION IX.—YORKSHIRE—(con.).

| STATIONS.                        | AUTHORITIES.             | Rain Gauge. |                  |                        | Depth of Rain. |      | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |     |
|----------------------------------|--------------------------|-------------|------------------|------------------------|----------------|------|--|--|-----|
|                                  |                          | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |      |  |  |     |
| NORTH RIDING—(con.).             |                          | in.         | ft.              | in.                    | ft.            | mm.  | in.                                    |  |     |
| 6.—TEES—(con.).                  |                          |             |                  |                        |                |      |  |  |     |
| D Ingleby Greenhow (School Ho.)  | P. Huntington, Esq.      | 5           | 1                | 0                      | 430            | 800  | 31·48                                  | 185                                    | 137 |
| D Croft (Dalton-on-Tees)         | Mr. W. Wrather           | 8           | 2                | 0                      | 170            | 679  | 26·72                                  | 175                                    | 121 |
| Hutton Magna Vicarage            | Rev. A. W. M. Close      | 5           | 0                | 6                      | 450            | 825  | 32·48                                  | 176                                    | 144 |
| D Kildale Hall                   | Major R. B. Turton       | 5           | 1                | 2                      | 600            | 889  | 34·99                                  | 191                                    | 146 |
| Marton-in-Cleveland (Southcroft) | R. Theodore Wilson, Esq. | 5           | 0                | 9                      | 150            | 601  | 23·65                                  | ..                                     | ..  |
| D Middlesbrough (Albert Park)    | J. M. Parnaby, Esq.      | 8           | 1                | 0                      | 30             | 649  | 25·56                                  | 157                                    | 123 |
| M Baldersdale (Blackton Res.)    | Hugh Wilson, Esq.        | 5           | 1                | 0                      | 937            | 1204 | 47·40                                  | ..                                     | ..  |
| M Baldersdale (Balderhead)       | Hugh Wilson, Esq.        | 5           | 1                | 0                      | 1360           | 1379 | 54·30                                  | ..                                     | ..  |
| D Baldersdale (Hury Reservoir)   | Hugh Wilson, Esq.        | 5           | 1                | 0                      | 866            | 1014 | 39·94                                  | 211                                    | 174 |
| M Lunedale (Lunehead)            | Hugh Wilson, Esq.        | 5           | 1                | 0                      | 1450           | 1699 | 66·90                                  | ..                                     | ..  |
| M Lunedale (Selset)              | Hugh Wilson, Esq.        | 5           | 1                | 0                      | 924            | 1133 | 44·60                                  | ..                                     | ..  |
| D Lunedale (Grassholme Res.)     | Hugh Wilson, Esq.        | 5           | 1                | 0                      | 936            | 1084 | 33·61                                  | 213                                    | 180 |
| M Mickleton (Lime Kiln Pasture)  | Mr. J. Harvey            | 8           | 1                | 0                      | 1175           | 922  | 36·30                                  | ..                                     | ..  |

## DIVISION X.—NORTHERN COUNTIES.

DURHAM. (Area, 1011 sq. mi.)

**1.—TEES & C. 396 sq. mi.**

|                                  |                             |    |    |   |     |     |       |     |     |
|----------------------------------|-----------------------------|----|----|---|-----|-----|-------|-----|-----|
| D Darlington (North Villa)       | Dr. C. A. Lower             | 5  | 1  | 3 | 100 | 652 | 25·66 | 193 | 121 |
| Darlington (Public Park)         | "Darlington Times"          | 5  | 1  | 0 | 150 | 666 | 26·22 | 191 | ..  |
| d Darlington (Hummernknott)      | Mr. John Short              | 5  | 1  | 6 | 200 | 695 | 27·35 | ..  | 115 |
| d Piercebridge (Carlbury Hall)   | J. H. Pease, Esq.           | 5  | 1  | 0 | 222 | 648 | 25·51 | ..  | ..  |
| D Barnard Castle (County School) | C. W. Watson, Esq.          | 5  | 1  | 6 | 540 | 820 | 32·30 | 194 | 143 |
| d Winston-on-Tees                | E. Hardy, Esq.              | 5  | 1  | 0 | 380 | 648 | 25·51 | ..  | ..  |
| D Stockton (Ropner Park)         | W. A. Jenkins, Esq.         | 5  | 1  | 9 | 61  | 583 | 22·95 | 152 | 111 |
| D Sedgfield (Hardwick Hall)      | Viscountess Boyne           | 5  | 0  | 3 | 400 | 770 | 30·33 | 169 | 141 |
| D Hurworth Burn (Crookfoot Res.) | A. W. Branson, Esq., C.E.   | 10 | 1  | 6 | 293 | 674 | 26·54 | 190 | 117 |
| D West Hartlepool (Lynn Street)  | H. Lamb, Esq.               | 5  | 63 | 0 | 84  | 552 | 21·72 | 156 | 107 |
| d West Hartlepool (WaterWorks)   | A. W. Branson, Esq., C.E.   | 10 | 1  | 0 | 35  | 680 | 26·76 | ..  | ..  |
| D Hurworth Burn Reservoir        | A. W. Branson, Esq., C.E.   | 10 | 1  | 0 | 357 | 668 | 26·30 | 189 | 128 |
| D Hartlepool (Hart Reservoir)    | A. W. Branson, Esq., C.E.   | 10 | 1  | 0 | 172 | 614 | 24·18 | 169 | 123 |
| d Shotton Pumping Station        | A.B.E. Blackburn, Esq. C.E. | 8  | 1  | 0 | 422 | 854 | 33·61 | ..  | ..  |
| D Seaham (Dalton Pumping Sta.)   | A.B.E. Blackburn, Esq. C.E. | 8  | 1  | 0 | 345 | 810 | 31·91 | 178 | 131 |

**2.—WEAR. 464 sq. mi.**

|                                    |                             |   |   |    |      |     |       |     |     |
|------------------------------------|-----------------------------|---|---|----|------|-----|-------|-----|-----|
| D Bishop Auckland (N. Bondgate)    | J. Kilburn, Esq.            | 5 | 1 | 0  | 311  | 725 | 28·54 | 186 | 125 |
| D Wolsingham (Dryderdale)          | Mr. G. Cranston             | 5 | 1 | 0  | 700  | 863 | 33·99 | ..  | 129 |
| d Stanhope (Parson Byers Quarry)   | Messrs. Bell, Bros., Ltd.   | 5 | 6 | 8  | 846  | 813 | 32·19 | ..  | 112 |
| D Durham Observatory               | F. Sargent, Esq.            | 8 | 0 | 10 | 336  | 654 | 25·73 | 190 | 125 |
| D Ushaw (St. Cuthbert's College)   | Rev. A. Forkin              | 5 | 0 | 9  | 594  | 790 | 31·09 | 203 | 143 |
| D Pitlington (Elemore Hall)        | Miss Baker Baker            | 8 | 0 | 6  | 323  | 808 | 35·35 | ..  | ..  |
| D Weardale W.W. (Tunstall Res.)    | H. Robinson, Esq., C.E.     | 8 | 1 | 2  | 724  | 876 | 34·50 | 175 | 157 |
| Weardale W.W. (Waskerley 6)        | H. Robinson, Esq., C.E.     | 8 | 4 | 2  | 1229 | 814 | 32·04 | ..  | ..  |
| Weardale W.W. (Waskerley 3)        | H. Robinson, Esq., C.E.     | 8 | 4 | 6  | 1433 | 879 | 34·60 | ..  | ..  |
| Weardale W.W. (Waskerley 4)        | H. Robinson, Esq., C.E.     | 8 | 4 | 7  | 1321 | 797 | 31·38 | ..  | ..  |
| Weardale W.W. (Waskerley 5)        | H. Robinson, Esq., C.E.     | 8 | 4 | 2  | 1244 | 846 | 33·29 | ..  | ..  |
| D Weardale W.W. (Waskerley)        | H. Robinson, Esq., C.E.     | 8 | 0 | 11 | 1179 | 874 | 34·41 | 207 | 153 |
| Weardale W.W. (Waskerley 2)        | H. Robinson, Esq., C.E.     | 8 | 4 | 5  | 1367 | 825 | 32·47 | ..  | ..  |
| Weardale W.W. (Waskerley 1)        | H. Robinson, Esq., C.E.     | 8 | 4 | 4  | 1317 | 898 | 35·34 | ..  | ..  |
| Fence Houses (Chilton Moor)        | V. W. Corbett, Esq.         | 5 | 1 | 4  | 186  | 623 | 24·52 | ..  | ..  |
| Chester-le-Street (Biddick Hall 2) | Mr. J. Fletcher             | 5 | 1 | 0  | 150  | 678 | 26·69 | 193 | ..  |
| Chester-le-Street (Biddick Hall 1) | Mr. J. Fletcher             | 5 | 1 | 0  | 150  | 679 | 26·75 | 193 | ..  |
| D Ryhope Pumping Station           | A.B.E. Blackburn, Esq. C.E. | 8 | 1 | 1  | 228  | 675 | 26·58 | 173 | 120 |
| D Sunderland (W. Hendon H.)        | No. 5 Mrs. Mounsey          | 5 | 1 | 0  | 130  | 705 | 27·76 | 185 | 127 |
| D Sunderland (W. Hendon H.)        | No. 6 Mrs. Mounsey          | 5 | 1 | 0  | 130  | 713 | 28·08 | 186 | 127 |
| D Sunderland (Mowbray Park)        | H. Renney, Esq., M.D.       | 5 | 3 | 0  | 105  | 764 | 30·07 | 168 | 127 |
| D Sunderland (Glaxheugh Grove)     | Ford Paper Works, Ltd.      | 5 | 2 | 6  | 90   | 730 | 28·75 | 180 | 124 |
| D Sunderland (Cedars End)          | W. F. Vint, Esq.            | 5 | 1 | 0  | 115  | 712 | 28·03 | 180 | 128 |
| Sunderland (Southwick Cemet'y)     | Mr. J. R. Hodgson           | 8 | 1 | 0  | 171  | 771 | 30·37 | 163 | ..  |

## DIVISION X.—NORTHERN COUNTIES—(con.).

| STATIONS.   | AUTHORITIES | Rain Gauge. |                  |                        |  | Depth of Rain. |         | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|---|-------------|-------------|------------------|------------------------|--|----------------|---------|-------------------------------------|-------------------------------------|
|   |             | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |  | 1920           |         |                                     |                                     |
|   |             | in.         | ft. in.          | ft.                    |  | mm.            | in.     |                                     |                                     |
| DURHAM—(con.).  |             |             |                  |                        |  |                |         |                                     |                                     |
| <b>3.—TYNE, LOWER. 151 sq. mi.</b>                                |             |             |                  |                        |  |                |         |                                     |                                     |
| d Weardale W.W. (Smiddy Shaw) H. Robinson, Esq., C.E. . .         |             | 8           | 1 3              | 1128                   |  | 944            | 37·17   | 221                                 | 169                                 |
| Consett Park Farm . . . . . J. D. Brown, Esq. . . . .             |             | 5           | 4 3              | 641                    |  | 804            | 31·64   | 150                                 | 119                                 |
| d Rowlands Gill (Armstrong Coll.) R. W. Hunter, Esq. . . . .      |             | 8           | 1 0              | 446                    |  | 740            | 29·15   | 206                                 | 136                                 |
| d Sunderland (Cleadon Pump Stn.) A. B. E. Blackburn, Esq., C.E. . |             | 8           | 1 0              | 216                    |  | 648            | 25·51   | 180                                 | 127                                 |
| d Ryton-on-Tyne (Balgonie Ho.) J. W. Smith, Esq., M.D. . . .      |             | 8           | 1 3              | 258                    |  | 704            | 27·71   | 180                                 | 140                                 |
| d South Shields (Bent's Park) . . . Dr. W. Campbell Lyons . .     |             | 5           | 1 0              | 36                     |  | 636            | 25·03   | 173                                 | 122                                 |
| NORTHUMBERLAND. (Area, 2015 sq. mi.)                              |             |             |                  |                        |  |                |         |                                     |                                     |
| <b>1.—EDEN. 20 sq. mi.</b>  |             |             |                  |                        |  |                |         |                                     |                                     |
| <b>2.—SOUTH TYNE. 232 sq. mi.</b>                                 |             |             |                  |                        |  |                |         |                                     |                                     |
| d Allenheads . . . . . J. W. Metcalfe, Esq. . . . .               |             | 8           | 1 0              | 1353                   |  | 1157           | 45·55   | ..                                  | ..                                  |
| d Bardon Mill (Allans Green) . . . J. B. Lowe, Esq. . . . .       |             | 5           | 4 0              | 1000                   |  | 742            | 29·23   | 216                                 | 140                                 |
| <b>3.—TYNE, LOWER. 227 sq. mi.</b>                                |             |             |                  |                        |  |                |         |                                     |                                     |
| d Corbridge (Howden Dene) . . . . T. D. Straker-Smith, Esq. . .   |             | 5           | 0 8              | 200                    |  | 718            | 28·26   | 191                                 | 144                                 |
| d Hexham (Beaufront Castle) . . . The Lady Rayleigh . . . .       |             | 8           | 1 0              | 400                    |  | 786            | 30·93   | 157                                 | 134                                 |
| d Newcastle (Lit. and Phil. Soc.) H. Richardson, Esq. . . . .     |             | 8           | 55 0             | 160                    |  | 624            | 24·58   | ..                                  | ..                                  |
| d Newcastle (Westgate Street) . . . " Newcastle Chronicle " . .   |             | 8           | 30 0             | 148                    |  | 670            | 26·36   | ..                                  | ..                                  |
| d Newcastle (Leazes Park) . . . . W. J. Steele, Esq. . . . .      |             | 5           | 1 0              | 255                    |  | 701            | 27·60   | ..                                  | 118                                 |
| d Newcastle (Town Moor) . . . . D. C. Baldie, Esq. . . . .        |             | 5           | 2 0              | 201                    |  | 755            | 29·73   | 185                                 | 138                                 |
| Newcastle (Wellburn, Jesmond) J. H. Holmes, Esq., C.E. . . .      |             | 5           | 1 6              | 163                    |  | 717            | 28·24   | 187                                 | 138                                 |
| d Tynemouth (Tyne Pier Works) R. F. Hindmarsh, Esq. C.E. .        |             | 5           | 1 8              | 65                     |  | 753            | 29·64   | 183                                 | 128                                 |
| d Tynemouth (Coastguard Stat.) Meteorological Office. . . . .     |             | 8           | 1 0              | 118                    |  | 658            | 25·92   | 173                                 | 128                                 |
| Whittle Dean (Newcastle W.W.) A. L. Forster, Esq., C.E. . . .     |             | 5           | 0 6              | 380                    |  | 695            | 27·37   | 221                                 | ..                                  |
| Whittle Dean Filters (N'stle W.W.) A. L. Forster, Esq., C.E. . .  |             | 5           | 1 1              | 353                    |  | 731            | 28·77   | 203                                 | ..                                  |
| <b>4.—NORTH TYNE. 433 sq. mi.</b>                                 |             |             |                  |                        |  |                |         |                                     |                                     |
| N. Tyne (G. Crag) (N'castle W.W.) A. L. Forster, Esq., C.E. . .   |             | 5           | 1 6              | 896                    |  | 794            | 31·26   | ..                                  | ..                                  |
| Hallington Vill. (N'castle W.W.) A. L. Forster, Esq., C.E. . .    |             | 5           | 1 0              | 467                    |  | 791            | 31·15   | ..                                  | ..                                  |
| Hallington Res. (N'castle W.W.) A. L. Forster, Esq., C.E. . .     |             | 5           | 1 0              | 470                    |  | 766            | 30·17   | 209                                 | ..                                  |
| Hallington (Fawcett) (Newc. W.W.) A. L. Forster, Esq., C.E. . .   |             | 5           | 1 2              | 537                    |  | 771            | 30·36   | ..                                  | ..                                  |
| Hallington (Cheviot) (Newc. W.W.) A. L. Forster, Esq., C.E. . .   |             | 5           | 1 2              | 576                    |  | 749            | 29·50   | ..                                  | ..                                  |
| Camphill (Newcastle W.W.) . . . A. L. Forster, Esq., C.E. . .     |             | 5           | 1 1              | 650                    |  | 774            | 30·48   | ..                                  | ..                                  |
| Colt Crag (Newcastle W.W.) . . . A. L. Forster, Esq., C.E. . .    |             | 5           | 1 0              | 654                    |  | 758            | 29·83   | 206                                 | ..                                  |
| d Falstone Rectory . . . . . Rev. A. J. Dexter . . . . .          |             | 5           | 1 0              | 485                    |  | 1017           | 40·03   | 229                                 | 168                                 |
| d Bellingham (High Green Man.) Sir C. Morrison-Bell, Bt. . .      |             | 5           | 1 0              | 849                    |  | 868            | 34·17   | 256                                 | 152                                 |
| Redewater (Catcleugh) . . . . . A. L. Forster, Esq., C.E. . .     |             | 5           | 1 0              | 819                    |  | 1096           | 43·15   | 234                                 | ..                                  |
| <b>5.—COQUET &amp; C. 840 sq. mi.</b>                             |             |             |                  |                        |  |                |         |                                     |                                     |
| Whittington (Newcastle W.W.) A. L. Forster, Esq., C.E. . . .      |             | 8           | 0 9              | 528                    |  | 805            | 31·69   | ..                                  | ..                                  |
| Burnside (Newcastle W.W.) . . . A. L. Forster, Esq., C.E. . .     |             | 5           | 0 9              | 419                    |  | 753            | 29·63   | ..                                  | ..                                  |
| Ryal Cottage (Newcastle W.W.) A. L. Forster, Esq., C.E. . . .     |             | 10          | 0 9              | 463                    |  | 774            | 30·47   | ..                                  | ..                                  |
| d Morpeth (Bothalhaugh Garden) Hon. Rev. W. C. Ellis . . .        |             | 5           | 0 10             | 35                     |  | 722            | 28·43   | 234                                 | 140                                 |
| M Morpeth (Bothalhaugh Garden) Hon. Rev. W. C. Ellis . . .        |             | 5           | 0 10             | 35                     |  | 725            | 28·55   | ..                                  | ..                                  |
| d Morpeth (Bothalhaugh Lawn) Hon. Rev. W. C. Ellis . . . .        |             | 5           | 0 10             | 137                    |  | 729            | 28·69   | 234                                 | 141                                 |
| M Morpeth (Bothalhaugh Lawn) Hon. Rev. W. C. Ellis . . . .        |             | 5           | 0 10             | 137                    |  | 709            | 27·93   | ..                                  | ..                                  |
| Morpeth (Ashington) . . . . . J. Gray, Esq. . . . .               |             | 5           | 1 0              | 110                    |  | 676            | 26·62   | 191                                 | 120                                 |
| d Morpeth (Cockle Park) . . . . J. Procter, Esq. . . . .          |             | 8           | 1 0              | 325                    |  | 730            | 28·76   | 190                                 | 120                                 |
| d Font Res. (Tynemouth W. W.) J. W. McKerrow, Esq. . . .          |             | 10          | 1 0              | 614                    |  | 793            | 31·23   | 217                                 | 157                                 |
| d Acklington (Broomhill Colliery) Broomhill Colliery, Ltd. . .    |             | 5           | 7 6              | 92                     |  | 705            | 27·74   | 161                                 | 114                                 |
| Rothbury (Brinkburn Priory) . . Mrs. Hugh Fenwick . . . .         |             | 8           | 1 2              | 257                    |  | 766            | 30·14   | ..                                  | ..                                  |
| d Felton R.C. School . . . . . J. Brown, Esq. . . . .             |             | 5           | 1 0              | 280                    |  | 618            | 24·34   | 162                                 | 113                                 |
| d Rothbury (Crag-side) . . . . Mr. H. Hudson . . . . .            |             | 8           | 1 3              | 405                    |  | 820            | 32·29   | 154                                 | 143                                 |
| d Felton (Newton-on-the-Moor) . W. A. Ord, Esq. . . . .           |             | 5           | 1 6              | 500                    |  | 682            | 26·84 ? | 190                                 | 119                                 |
| d Alnwick Castle . . . . . Duke of Northumberland, K.G. .         |             | 8           | 1 0              | 181                    |  | 837            | 32·94   | 180                                 | 125                                 |
| d Howick Hall Gardens . . . . Mr. John Wright . . . . .           |             | 8           | 0 10             | 120                    |  | 764            | 30·08   | 173                                 | 125                                 |
| Bamburgh . . . . . T. W. Little, Esq. . . . .                     |             | 5           | 1 0              | 75                     |  | 541            | 21·29   | ..                                  | ..                                  |
| d Beal (Lowlynn) . . . . . H. L. Pattinson, Esq. . . .            |             | 5           | 1 10             | 200                    |  | 697            | 27·44   | ..                                  | 110                                 |
| <b>6.—TWEED. 262 sq. mi.</b>                                      |             |             |                  |                        |  |                |         |                                     |                                     |
| d Glanton (Glanton Pyke Gdns.) Mr. J. Henderson . . . . .         |             | 8           | 4 2              | 521                    |  | 770            | 30·30   | 193                                 | 146                                 |
| d Ilderton (Lilburn Tower) . . . A. B. Collingwood, Esq. . . .    |             | 10          | 6 0              | 300                    |  | 758            | 29·83   | 178                                 | 120                                 |
| d Ilderton (Lilburn Tower Grdns.) Mr. W. Lovett . . . . .         |             | 5           | 1 0              | 250                    |  | 819            | 32·24   | 179                                 | 126                                 |
| Wooler (St. Ninians) . . . . . Dr. R. Walker . . . . .            |             | 8           | 0 10             | 176                    |  | 891            | 35·09   | ..                                  | ..                                  |

## DIVISION X.—NORTHERN COUNTIES—(con.).

| STATIONS                                       | AUTHORITIES.                   | Rain Gauge. |                  |                        | Depth of Rain. |      | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|--------------------------------|-------------|------------------|------------------------|----------------|------|-------------------------------------|-------------------------------------|
|  |                                | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |      |                                     |                                     |
| NORTHUMBERLAND—(con.).                         |                                | in.         | ft.              | in.                    | ft.            | mm.  | in.                                 |                                     |
| 6.—TWEED—(con.).                               |                                |             |                  |                        |                |      |                                     |                                     |
| Wooler (Victoria House) .....                  | Miss E. M. Dodds .....         | 5           | 1                | 0                      | 176            | 673  | 26·51                               | ..                                  |
| D Doddington Vicarage .....                    | Rev. J. G. Shotton .....       | 8           | 1                | 6                      | 140            | 698  | 27·50                               | 146                                 |
| Ford Castle Gardens .....                      | Mr. J. Jackson .....           | 5           | 3                | 0                      | 220            | 719  | 28·30                               | ..                                  |
| 7.—INSULAR. 1 sq. mi.                          |                                |             |                  |                        |                |      |                                     |                                     |
| CUMBERLAND. (Area, 1516 sq. mi.)               |                                |             |                  |                        |                |      |                                     |                                     |
| 1.—EDEN & SOLWAY. 887 sq. mi.                  |                                |             |                  |                        |                |      |                                     |                                     |
| Ullswater (Hallsteads) .....                   | Miss C. Marshall .....         | 5           | 2                | 0                      | 497            | 1623 | 63·91                               | 188                                 |
| Watermillock (Mell Fell House) .....           | Mrs. Spring-Rice .....         | 5           | 2                | 6                      | 960            | 1409 | 55·47                               | 210                                 |
| D Penrith (Briar Cottage) .....                | H. Lester, Esq. ....           | 5           | 1                | 0                      | 575            | 953  | 37·52                               | 202                                 |
| Penrith (Sandath) .....                        | Major G. Varty-Smith .....     | 5           | 1                | 0                      | 570            | 990  | 38·98                               | 212                                 |
| D Penrith (Benson House) .....                 | A. B. Sinclair, Esq. ....      | 5           | 2                | 4                      | 480            | 973  | 38·32                               | 210                                 |
| d Penrith (Newton Rigg) .....                  | John Procter, Esq. ....        | 8           | 1                | 0                      | 559            | 1025 | 40·37                               | 200                                 |
| Penrith (Greystoke Castle) .....               | J. Smith Hill, Esq. ....       | 5           | 1                | 3                      | 650            | 1207 | 47·53                               | ..                                  |
| D Penrith (Ennism) .....                       | Mrs. Hamlet Riley .....        | 8           | 0                | 6                      | 660            | 1132 | 44·57                               | 209                                 |
| M Flimby .....                                 | Wilfrid Irwin, Esq. ....       | 5           | 3                | 0                      | 50             | 1160 | 45·65                               | ..                                  |
| D Uldale (Chapel House Res.) .....             | J. Strong, Esq. ....           | 8           | 1                | 0                      | 620            | 1217 | 47·93                               | 218                                 |
| D Penrith (Nunwick Hall) .....                 | Mrs. Heywood Thompson ..       | 5           | 1                | 0                      | 298            | 865  | 34·06                               | 197                                 |
| D Mealsgate (Quarry Hill) .....                | J. Ferguson, Esq. ....         | ..          | 0                | 9                      | 487            | 943  | 37·13                               | 222                                 |
| D Renwick (Ravenwood) .....                    | W. Salkeld, Esq. ....          | 5           | 4                | 0                      | 750            | 1055 | 41·52                               | 227                                 |
| D Wigton (Brookfield) .....                    | F. Ransom, Esq. ....           | 5           | 5                | 0                      | 124            | 813  | 32·02                               | 218                                 |
| Wigton (Woodlands) .....                       | J. Ransom Marsh, Esq. ....     | 5           | 0                | 10                     | ..             | 803  | 31·60                               | ..                                  |
| D Wigton (Dacre House) .....                   | J. H. Walker, Esq. ....        | 5           | 4                | 6                      | 134            | 907  | 35·72                               | 214                                 |
| D Wreay Vicarage .....                         | Rev. Canon A. R. Hall ..       | 5           | 2                | 0                      | 310            | 837  | 32·95                               | 208                                 |
| D Geltsdale .....                              | H. C. Marks, Esq., C.E. ....   | 5           | 1                | 2                      | 778            | 942  | 37·07                               | 247                                 |
| D Carlisle (Spital Cemetery) .....             | J. T. Charlton, Esq. ....      | 8           | 1                | 6                      | 114            | 816  | 32·11                               | 211                                 |
| Carlisle (Denton Holme) .....                  | W. Eggleston, Esq. ....        | 5           | 2                | 0                      | 57             | 726  | 28·58                               | ..                                  |
| D Carlisle (Scaleby Hall) .....                | Sir R. A. Allison .....        | 5           | 1                | 0                      | 112            | 834  | 32·85                               | 217                                 |
| D Penton (Warwickland School) .....            | W. Roden, Esq. ....            | 5           | 1                | 0                      | 360            | 960  | 37·79                               | 214                                 |
| 2.—DERWENT. 257 sq. mi.                        |                                |             |                  |                        |                |      |                                     |                                     |
| M Sprinkling Tarn .....                        | British Rainfall Organization  | 5           | 1                | 6                      | 1985           | 4338 | 170·80                              | ..                                  |
| M Styhead Tarn .....                           | British Rainfall Organization  | 4           | 0                | 6                      | 1472           | 2431 | 95·70 ?                             | ..                                  |
| M The Sty B .....                              | British Rainfall Organization  | 4           | 0                | 6                      | 1077           | 4771 | 187·83                              | ..                                  |
| M The Sty B. . . . . <i>Seathwaite g</i> ..... | British Rainfall Organization  | 5           | 1                | 6                      | 1070           | 5161 | 203·20                              | ..                                  |
| M The Sty C .....                              | British Rainfall Organization  | 4           | 1                | 0                      | 1077           | 4963 | 195·40                              | ..                                  |
| M The Sty D .....                              | British Rainfall Organization  | 4           | 1                | 0                      | 1077           | 4288 | 168·82                              | ..                                  |
| M Borrowdale (Seathwaite) .....                | British Rainfall Organization  | 4           | 0                | 6                      | 422            | 3840 | 151·20 ?                            | ..                                  |
| w Borrowdale (Seathwaite) .....                | British Rainfall Organization  | 5           | 1                | 0                      | 423            | 3253 | 128·08                              | ..                                  |
| w Borrowdale (Seathwaite Field) .....          | Miss C. Marshall .....         | 5           | 1                | 0                      | 423            | 3387 | 133·35                              | ..                                  |
| M Ullscarf .....                               | Messrs. G. H. Hill & Sons, C.E | 7           | 1                | 8                      | 2100           | 3327 | 131·00                              | ..                                  |
| M Helvellyn (Birkside) .....                   | Messrs. G. H. Hill & Sons, C.E | 7           | 1                | 3                      | 1900           | 1748 | 68·80                               | ..                                  |
| M Wythburn .....                               | Messrs. G. H. Hill & Sons, C.E | 7           | 1                | 4                      | 610            | 2690 | 105·90                              | ..                                  |
| Armboth Fells (The Pewitts) .....              | Messrs. G. H. Hill & Sons, C.E | 7           | 1                | 6                      | 1650           | 1854 | 73·00                               | ..                                  |
| Helvellyn (Whiteside) .....                    | Messrs. G. H. Hill & Sons, C.E | 7           | 1                | 6                      | 2100           | 2222 | 87·50                               | ..                                  |
| Thirlmere (Dale Head Hall) .....               | Messrs. G. H. Hill & Sons, C.E | 7           | 1                | 5                      | 620            | 2291 | 90·20                               | ..                                  |
| D Keswick (Derwent Island) <i>old g.</i> ..... | John Marshall, Esq. ....       | 5           | 0                | 7                      | 280            | 1588 | 62·50                               | 253                                 |
| D Keswick (Derwent Islnd) <i>new g.</i> .....  | John Marshall, Esq. ....       | 5           | 0                | 6                      | 290            | 1572 | 61·90                               | 252                                 |
| D Keswick (The Bank) .....                     | Mr. W. E. Campbell .....       | 5           | 1                | 3                      | 265            | 1565 | 61·60                               | 237                                 |
| D Keswick (Meteorological Station) .....       | H. Swinburn, Esq. ....         | 5           | 1                | 0                      | 254            | 1450 | 57·10                               | 241                                 |
| D Keswick (Crosthwaite School) .....           | H. Swinburn, Esq. ....         | 5           | 1                | 0                      | 254            | 1450 | 57·08                               | 242                                 |
| Keswick (Mirehouse) .....                      | Miss Spedding .....            | 5           | 1                | 6                      | ..             | 1288 | 50·73                               | 226                                 |
| Lorton (Whinfell Hall) .....                   | Sennett Weeks, Esq. ....       | 5           | 0                | 1                      | 255            | 1352 | 53·25                               | 212                                 |
| Cockermouth (Elmhurst) .....                   | Josiah Hall, Esq. ....         | 5           | 0                | 10                     | 300            | 1126 | 44·32                               | ..                                  |
| d Cockermouth (Henry Street) .....             | R. M. Liddbetter, Esq. ....    | 5           | 0                | 8                      | 250            | 1078 | 42·43                               | 227                                 |
| D Cockermouth (Derwent Lodge) .....            | Wilfred Irwin, Esq. ....       | 5           | 4                | 0                      | 200            | 991  | 39·01                               | 236                                 |
| D Threlkeld (Blencathra Sanat.) .....          | Dr. W. Goodchild .....         | 5           | 1                | 0                      | 885            | 1508 | 63·32                               | 228                                 |
| Camerton Vicarage .....                        | Rev. E. C. Bennett .....       | 5           | 1                | 0                      | 200            | 968  | 38·13                               | ..                                  |
| D Bassenthwaite Vicarage .....                 | Rev. M. H. Banister .....      | 5           | 1                | 0                      | 350            | 1186 | 46·71                               | 244                                 |
| Bassenthwaite (Higham) .....                   | Late Joseph Fisher, Esq. ....  | 5           | 0                | 9                      | 500            | 1165 | 45·85                               | 240                                 |

## DIVISION X.—NORTHERN COUNTIES—(con.).

| STATIONS.                          | AUTHORITIES.                    | Rain Gauge. |                  |                        |      | Depth of Rain. |        | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|------------------------------------|---------------------------------|-------------|------------------|------------------------|------|----------------|--------|-------------------------------------|-------------------------------------|
|                                    |                                 | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |        |                                     |                                     |
| CUMBERLAND—(con.).                 |                                 | in.         | ft.              | in.                    | ft.  | mm.            | in.    |                                     |                                     |
| 3.—WEST COAST STREAMS. 235 sq. mi. |                                 |             |                  |                        |      |                |        |                                     |                                     |
| Ravenglass (The Grove).....        | Alexander Watt, Esq. ....       | 5           | 2                | 8                      | 77   | 1190           | 46·86  | 176                                 |                                     |
| D Eskdale Green (Gatehouse) ...    | Mr. J. W. Rainbow .....         | 5           | 1                | 0                      | 215  | 1731           | 68·16  | 250                                 | 199                                 |
| Beckfoot .....                     | Miss C. Marshall .....          | 5           | 1                | 0                      | 180  | 1878           | 73·93  | 200                                 |                                     |
| D Seascale (Whinthaite) .....      | Dr. R. Hellon .....             | 5           | 1                | 0                      | 52   | 1142           | 44·98  | 173                                 | 154                                 |
| Braystones .....                   | H. H. Watson, Esq. ....         | 10          | 3                | 6                      | 36   | 1076           | 42·36  |                                     |                                     |
| D Egremont (The Grange).....       | J. Sherwen, Esq. ....           | 8           | 1                | 0                      | 350  | 1517           | 59·74  | 233                                 | 192                                 |
| D Whitehaven (Scragill Reservoir)  | E. E. Stiven, Esq., C.E....     | 8           | 1                | 0                      | 188  | 1210           | 47·64  | 239                                 | 184                                 |
| D Whitehaven (Irish Street) ....   | Dr. Eldon Pratt .....           | 5           | 1                | 1                      | 21   | 1257           | 49·48  | 222                                 | 178                                 |
| D Distington (Gilgarran) .....     | Mr. A. Kydd .....               | 5           | 4                | 9                      | 470  | 1247           | 49·11  | 223                                 | 174                                 |
| D Workington (Winscales House).    | J. A. Trench, Esq. ....         | 5           | 1                | 6                      | 440  | 1071           | 42·16  | 228                                 | 181                                 |
| 4.—DUDDON & C. 50 sq. mi.          |                                 |             |                  |                        |      |                |        |                                     |                                     |
| D Silecroft (Old Chappels) .....   | G. H. Holt, Esq. ....           | 5           | 1                | 0                      | 200  | 1604           | 63·13  | 237                                 | 204                                 |
| 5.—SOUTH TYNE. 87 sq. mi.          |                                 |             |                  |                        |      |                |        |                                     |                                     |
| WESTMORLAND. (Area, 783 sq. mi.).  |                                 |             |                  |                        |      |                |        |                                     |                                     |
| 1.—EDEN. 373 sq. mi.               |                                 |             |                  |                        |      |                |        |                                     |                                     |
| D Kirkby Stephen (Redman Ho.)      | Mrs. T. Mason .....             | 5           | 1                | 0                      | 574  | 1220           | 48·01  | 196                                 | 161                                 |
| Mosedale (Mosedale Cottage)...     | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 1442 | 2676           | 105·34 |                                     |                                     |
| Wet Sleddale (Mirethwaite)....     | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 989  | 2009           | 79·08  |                                     |                                     |
| Blea Water .....                   | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 1477 | 2696           | 106·15 |                                     |                                     |
| Mardale (Grove Brae) .....         | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 800  | 2527           | 99·49  |                                     |                                     |
| Swindale Head .....                | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 1029 | 1863           | 73·35  |                                     |                                     |
| Grizedale (Ruthwaite Lodge)...     | Miss C. Marshall .....          | 8           | 1                | 6                      | 1750 | 2808           | 110·54 |                                     |                                     |
| Shap (Force Beck) .....            | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 1062 | 1319           | 51·92  |                                     |                                     |
| Shap (Thornship Gill) .....        | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 865  | 1506           | 59·30  |                                     |                                     |
| Shap (Tailbert Head) .....         | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 1103 | 1762           | 69·38  |                                     |                                     |
| Shap (Kirk Bank) .....             | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 911  | 1391           | 54·77  |                                     |                                     |
| Hawes Water (Naddle House)...      | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 830  | 1804           | 71·04  |                                     |                                     |
| Hawes Water (Measand) .....        | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 831  | 2482           | 97·70  |                                     |                                     |
| Measand Beck (Keasgill) .....      | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 1877 | 1921           | 75·64  |                                     |                                     |
| Pattdale Hall .....                | Miss C. Marshall .....          | 5           | 1                | 3                      | 490  | 2552           | 100·47 | 236                                 |                                     |
| Cawdale Beck (Howe Grain) ...      | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 1638 | 1973           | 77·67  |                                     |                                     |
| Heltondale (Kidmoor) .....         | Messrs. G. H. Hill & Sons, C.E. | 5           | 1                | 0                      | 988  | 1497           | 58·95  |                                     |                                     |
| Pattdale (Greenside Mine) ...      | L. H. Gimson, Esq. ....         | 7           | 1                | 6                      | 1000 | 2476           | 97·46  | 186                                 | 179                                 |
| D Appleby (Castle Bank) .....      | C. R. Rivington, Esq. ....      | 5           | 4                | 0                      | 440  | 1000           | 39·36  | 225                                 | 185                                 |
| Ullswater (Sharrow Bay) .....      | Mr. G. Robinson .....           | 5           | 0                | 7                      | 600  | 1464           | 57·63  |                                     |                                     |
| D Penrith (Morland) .....          | Miss M. F. Markham .....        | 5           | 1                | 0                      | 456  | 1062           | 41·82  | 229                                 | 164                                 |
| Penrith (Brougham Gardens)...      | Mr. J. H. Lane .....            | 5           | 0                | 5                      | 470  | 895            | 35·25  | 192                                 | 156                                 |
| 2.—LEVEN. 60 sq. mi.               |                                 |             |                  |                        |      |                |        |                                     |                                     |
| Bowness (Lindeth Howe) .....       | "Westmorland Gazette" ..        | 5           | 1                | 0                      | 250  | 1929           | 75·96  |                                     |                                     |
| D Bowness (Dawstone) .....         | A. M. Sing, Esq. ....           | 5           | 1                | 2                      | 550  | 1570           | 61·81  | 244                                 | 188                                 |
| D Bowness (Fellside) .....         | T. D. Lingard, Esq. ....        | 5           | 0                | 6                      | 310  | 1834           | 72·20  | 231                                 | 199                                 |
| Bowness (Fallbarrow) .....         | Miss C. Marshall .....          | 8           | 1                | 0                      | 155  | 1853           | 72·96  | 233                                 |                                     |
| D Windermere (Hammar Bank) ...     | H. Coutts, Esq. ....            | 5           | 1                | 0                      | 295  | 1796           | 70·70  | 248                                 | 195                                 |
| D Windermere (Holebird) .....      | W. G. Groves, Esq. ....         | 5           | 1                | 0                      | 483  | 2035           | 80·13  | 256                                 | 210                                 |
| D Windermere (Brockhole) .....     | W. Gaddum, Esq. ....            | 5           | 1                | 6                      | 175  | 1934           | 76·15  | 237                                 | 199                                 |
| D Ambleside (Wansfell) .....       | Miss Wrigley .....              | 8           | 1                | 0                      | 150  | 2072           | 81·57  | 231                                 | 202                                 |
| Ambleside (Skelwith Bridge)...     | Miss C. Marshall .....          | 5           | 1                | 9                      | 190  | 2694           | 106·05 | 225                                 |                                     |
| M Little Langdale (Fell Foot) ...  | Miss C. Marshall .....          | 5           | 2                | 2                      | 380  | 3099           | 122·01 |                                     |                                     |
| D Ambleside (White Craggs) ...     | C. H. Hough, Esq. ....          | 5           | 1                | 7                      | 200  | 2121           | 83·49  | 230                                 | 216                                 |
| D Ambleside (Market Square)...     | G. A. Johnston, Esq., M.D.      | 5           | 1                | 0                      | 180  | 2238           | 88·12  | 252                                 | 209                                 |
| Ambleside (Lesketh How) .....      | Miss Benson .....               | 5           | 2                | 6                      | 175  | 2311           | 90·97  | 253                                 | 215                                 |
| Rydal (The Stepping Stones) ...    | Gordon Wordsworth, Esq.         | 5           | 1                | 0                      | 190  | 2394           | 94·25  | 251                                 | 214                                 |
| D Rydal .....                      | Miss M. Yates .....             | 5           | 1                | 0                      | 390  | 2423           | 95·40  | 265                                 | 217                                 |
| D Rydal (High Close) .....         | F. E. T. Jones Balme, Esq....   | 8           | 0                | 9                      | 553  | 2388           | 94·01  | 239                                 | 206                                 |
| D Dungeon Ghyll .....              | Miss C. Marshall .....          | 5           | 1                | 0                      | 310  | 3208           | 126·30 | 251                                 | 214                                 |
| M Dungeon Ghyll .....              | Miss C. Marshall .....          | 5           | 1                | 0                      | 311  | 3275           | 128·93 |                                     |                                     |
| M Mickleden .....                  | Miss C. Marshall .....          | 5           | 1                | 6                      | 490  | 3853           | 151·68 |                                     |                                     |
| D Grasmere (The Wray) .....        | Miss G. M. Simpson .....        | 5           | 1                | 0                      | 221  | 2670           | 105·10 | 262                                 | 220                                 |

## DIVISION X.—NORTHERN COUNTIES—(con.).

| STATIONS.                           | AUTHORITIES.                   | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|-------------------------------------|--------------------------------|-------------|------------------|------------------------|------------------------|--|--|
|                                     |                                | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |
| WESTMORLAND—(con.).                 |                                | in.         | ft. in.          | ft.                    | mm.                    | in.                                    |  |
| 3.—KENT. 188 sq. mi.                |                                |             |                  |                        |                        |  |  |
| d Heversham (Plumtree Hall) . . .   | Miss M. C. Watson . . . . .    | 5           | 0 8              | 115                    | 1324                   | 52·14                                  | 235 184                                |
| d Heversham (Leasgill) . . . . .    | Major T. A. Argles . . . . .   | 5           | 0 8              | 130                    | 1243                   | 48·93                                  | 230 186                                |
| d Kendal (Crosthwaite Vicarage) . . | Rev. T. Heelis . . . . .       | 5           | 1 0              | 160                    | 1567                   | 61·68                                  | 219 191                                |
| d Kendal (Vicarage Terrace) . . . . | G. F. Braithwaite, Esq. . . .  | 8           | 3 3              | 160                    | 1370                   | 53·92                                  | 222 184                                |
| d Kendal (Holmcroft) . . . . .      | R. Rhodes, Esq. . . . .        | 5           | 1 3              | 176                    | 1479                   | 58·24                                  | 220 192                                |
| d Kendal (Greenside) . . . . .      | Miss C. E. Wilson . . . . .    | 5           | 1 1              | 380                    | 1580                   | 62·22                                  | 225 ..                                 |
| d Kendal (Hylands) . . . . .        | H. W. Baron, Esq. . . . .      | 5           | 1 6              | 375                    | 1555                   | 61·23                                  | 204 186                                |
| d Kendal (Ellergreen) . . . . .     | C. J. Cropper, Esq. . . . .    | 5           | 1 6              | 270                    | 1718                   | 67·63                                  | 236 206                                |
| d Kendal (Potter Tarn Res.) . . . . | Messrs. J. Cropper & Co., Ltd. | 5           | 2 0              | 750                    | 2334                   | 91·89                                  | .. ..                                  |
| m Long Sleddale (Low House) . . . . | A. Wilson, Esq. . . . .        | 5           | 1 0              | 550                    | 2078                   | 81·80                                  | .. ..                                  |
| d Kentmere (Mags Howe) . . . . .    | Miss G. M. Barker . . . . .    | 5           | 1 0              | 750                    | 2137                   | 84·12                                  | 244 213                                |
| 4.—LUNE. 122 sq. mi.                |                                |             |                  |                        |                        |  |  |
| Kirkby Lonsdale . . . . .           | J. R. Picard, Esq. . . . .     | 7           | 0 8              | 215                    | 1348                   | 53·08                                  | .. ..                                  |
| d Kirkby Lonsdale (Casterton) . . . | Miss Williams . . . . .        | 8           | 1 6              | 320                    | 1384                   | 54·47                                  | 224 189                                |
| d Barbon Manor . . . . .            | Lord Shuttleworth . . . . .    | 5           | 1 3              | 650                    | 1523                   | 59·95                                  | 208 203                                |
| d Barbon . . . . .                  | W. Wilkinson, Esq. . . . .     | 5           | 1 0              | 310                    | 1404                   | 55·29                                  | 215 188                                |
| d Orton . . . . .                   | Michael Scott, Esq. . . . .    | 5           | 1 0              | 770                    | 1802                   | 70·95                                  | 250 199                                |
| 5.—TEES. 40 sq. mi.                 |                                |             |                  |                        |                        |  |  |

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS.

MONMOUTH. (Area, 534 sq. mi.).

|                                       |                                  |    |      |      |      |       |         |
|---------------------------------------|----------------------------------|----|------|------|------|-------|---------|
| <b>1.—RHYMNEY. 39 sq. mi.</b>         |                                  |    |      |      |      |       |         |
| d Rumney (Witla Court) . . . . .      | Mr. J. F. Matthyssens . . . .    | 5  | 1 0  | 177  | 1134 | 44·66 | 192 174 |
| <b>2.—EBBW. 88 sq. mi.</b>            |                                  |    |      |      |      |       |         |
| Rogerstone (Brynedydd) . . . . .      | Blethyn T. Rees, Esq., C.E. . .  | 5  | 0 8  | 333  | 994  | 39·13 | 158 145 |
| d Rogerstone (Rhiwderin) . . . . .    | L. Forestier-Walker, Esq., MP .  | 5  | 1 3  | 259  | 1137 | 44·76 | 193 162 |
| d Abercarn (Cwmarn) . . . . .         | J. Williams, Esq. . . . .        | 12 | 3 2  | 428  | 1629 | 64·15 | .. 154  |
| d Abertillery (The Park) . . . . .    | S. E. Thomas, Esq. . . . .       | 5  | 1 0  | 700  | 1758 | 69·22 | 235 191 |
| d Abertillery (Cwmtillyery) . . . .   | W. Y. Hobkirk, Esq. . . . .      | 5  | 1 0  | 970  | 1961 | 77·19 | 210 190 |
| d Tredegar Laboratory . . . . .       | W. Morgan, Esq. . . . .          | 5  | 1 3  | 950  | 1795 | 70·66 | 223 187 |
| d Tredegar (Redesdale) . . . . .      | D. W. Davies, Esq. . . . .       | 5  | 1 6  | 963  | 1313 | 51·70 | 224 187 |
| d Ebbw Vale (Iron Works) . . . . .    | J. H. Williams, Esq., V.C. . .   | 8  | 1 0  | 902  | 1729 | 68·07 | 233 187 |
| d Nant-y-bwch (ShonSheffrey's W) .    | D. W. Davies, Esq. . . . .       | 5  | 1 5  | 1204 | 1600 | 63·01 | 215 195 |
| <b>3.—USK &amp; C. 290 sq. mi.</b>    |                                  |    |      |      |      |       |         |
| Goldcliff (Porton) . . . . .          | Blethyn T. Rees, Esq., C.E. . .  | 5  | 1 3  | 27   | 810  | 31·90 | 192 149 |
| d Portskewett (Sudbrook) . . . . .    | H. V. Woodward, Esq., C.E. . .   | 8  | 0 10 | 22   | 968  | 38·11 | .. 128  |
| d Newport W.W. (Friar St. Yard) . .   | Newport Corporation . . . . .    | 5  | 6 0  | 32   | 1136 | 44·74 | 190 157 |
| d Newport WW (Ynis-y-froR) new        | Newport Corporation . . . . .    | 5  | 1 0  | 130  | 1274 | 50·17 | 227 164 |
| d Newportww (Pant-y-reosR) new        | Newport Corporation . . . . .    | 5  | 1 0  | 430  | 1274 | 50·15 | 233 164 |
| d Newport W.W. (Llanvaches) . . . .   | Newport Corporation . . . . .    | 5  | 0 10 | 456  | 1149 | 45·23 | 224 165 |
| d Newport W.W. (Nantypriidd) . . . .  | Newport Corporation . . . . .    | 5  | 1 0  | 500  | 1207 | 47·51 | 214 159 |
| d Chepstow (Itton Court) . . . . .    | Col. E. C. Curre . . . . .       | 5  | 1 0  | 390  | 1106 | 43·53 | 194 154 |
| Caerleon (Cwm-y-Wiwer) . . . . .      | Blethyn T. Rees, Esq., C.E. . .  | 5  | 1 0  | 112  | 1120 | 44·10 | 205 153 |
| d Llanfrechfa Grange . . . . .        | Maj.-Gen. W. F. Clevee, C.B. . . | 5  | 4 0  | 326  | 1236 | 48·65 | 185 163 |
| d Newport W.W. (Newchurch) . . . .    | Newport Corporation . . . . .    | 5  | 1 0  | 550  | 1266 | 49·85 | 212 159 |
| d Usk (Castle Parade House) . . . .   | J. Maitland Watkins, Esq. . . .  | 5  | 1 0  | 75   | 1144 | 45·04 | 176 144 |
| Abersychan (Snatchwood Pk.) . . . .   | "Pontypool Free Press" . . . .   | .. | ..   | 529  | 1755 | 69·10 | 225 ..  |
| d Abersychan (Glansychan) . . . . .   | G. W. James, Esq. . . . .        | 5  | 1 0  | 699  | 1756 | 69·14 | 247 186 |
| d Little Mill (Monmouth Reform.) . .  | F. E. Craven Jones, Esq. . . .   | 5  | 1 0  | 300  | 1404 | 55·29 | .. 140  |
| d Goytre (Goytre Hall) . . . . .      | Mrs. Lionel Whitehead . . . .    | 9  | 1 2  | 300  | 1406 | 55·37 | 202 158 |
| d Blaenavon (Estate Office) . . . . . | E. J. John, Esq. . . . .         | 8  | 4 0  | 1150 | 1696 | 66·77 | .. ..   |
| d Abergavenny . . . . .               | F. Mansfield, Esq. . . . .       | 5  | 1 0  | 194  | 1221 | 48·07 | .. 140  |
| d Abergavenny (Mansel Place) . . . .  | C. Webb, Esq. . . . .            | 8  | 7 2  | 207  | 1276 | 50·24 | 173 ..  |
| d Abergavenny (Larchfield) . . . . .  | Dr. N. R. Phillips . . . . .     | 5  | 1 0  | 240  | 1183 | 46·58 | 186 148 |
| d Abergavenny (The Chain) . . . . .   | W. Baker-Gabb, Esq. . . . .      | 5  | 1 0  | 310  | 1212 | 47·72 | 202 151 |
| d Grwyne Fawr (Coed Dias) . . . . .   | W. Baker-Gabb, Esq. . . . .      | 5  | 1 0  | 900  | 1344 | 52·92 | 227 186 |



## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(con.).

| STATIONS.                         | AUTHORITIES.                   | Rain Gauge. |                  |                        | Depth of Rain. |        | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|-----------------------------------|--------------------------------|-------------|------------------|------------------------|----------------|--------|-------------------------------------|-------------------------------------|
|                                   |                                | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |        |                                     |                                     |
|                                   |                                | in.         | ft. in.          | ft.                    | mm.            | in.    |                                     |                                     |
| MONMOUTH—(con.).                  |                                |             |                  |                        |                |        |                                     |                                     |
| 4.—WYE. 117 sq. mi.               |                                |             |                  |                        |                |        |                                     |                                     |
| Chepstow (The Cedars).....        | J. E. G. Lawrence, Esq....     | 5           | 2 0              | 150                    | 1070           | 42·12  | 160                                 | 147                                 |
| Chepstow (Piercefield Park).....  | Late H. Clay, Esq.....         | 5           | 1 6              | 315                    | 1077           | 42·41  | 175                                 | 143                                 |
| Tintern.....                      | Office of Woods.....           | 8           | 1 0              | 100                    | 1163           | 45·80  | 197                                 | 152                                 |
| Monmouth (The Elms).....          | Mrs. Hall.....                 | 5           | 1 1              | 91                     | 783            | 30·82  | ..                                  | ..                                  |
| Monmouth (Pentwyn).....           | Rev. Canon J. T. Harding.      | 9           | 1 0              | 191                    | 936            | 36·84  | 183                                 | 139                                 |
| Llantilio Court.....              | Sir H. Mather-Jackson, Bt.     | 5           | 0 11             | 231                    | 1021           | 40·19  | 156                                 | 138                                 |
| Llanvihangel Crucorney Depôt.     | J. F. Jupp, Esq., C.E.....     | 5           | 1 0              | 501                    | 1210           | 47·63  | 183                                 | 159                                 |
| Llanthony (New House Farm).....   | Mr. J. Pritchard.....          | 5           | 1 0              | 824                    | 1504           | 59·23  | 202                                 | 176                                 |
| GLAMORGAN. (Area, 808 sq. mi.)    |                                |             |                  |                        |                |        |                                     |                                     |
| 1.—LOUGHOR. 55 sq. mi.            |                                |             |                  |                        |                |        |                                     |                                     |
| Gorseinon (Penllergaer).....      | Sir J. T. D. Llewelyn, Bt....  | 5           | 3 0              | 240                    | 1528           | 60·16  | 220                                 | 193                                 |
| Felindre (Blaenant Dhu).....      | Lt. G. R. Collinson, R.E....   | 5           | 1 3              | 348                    | 1781           | 70·12  | 234                                 | 202                                 |
| Felindre (Lower Lliw Res.).....   | Lt. G. R. Collinson, R.E....   | 8           | 1 3              | 427                    | 1612           | 63·46  | 226                                 | 189                                 |
| Felindre (Upper Lliw Res.).....   | Lt. G. R. Collinson, R.E....   | 8           | 1 3              | 600                    | 2026           | 79·77  | 241                                 | 206                                 |
| 2.—GOWER PENINSULA. 62 sq. mi.    |                                |             |                  |                        |                |        |                                     |                                     |
| Penmaen (Cefn Mor).....           | Mrs. Bostock.....              | 5           | 1 5              | 300                    | 1358           | 53·45  | 208                                 | 186                                 |
| Mumbles(Bristol Ch. Yacht Club)   | A. E. Whitman, Esq.....        | 5           | 1 0              | 20                     | 683            | 26·89  | 212                                 | 186                                 |
| Sketty (Rhydyrhyelig).....        | E. H. Perkins, Esq.....        | 5           | 1 0              | 124                    | 1492           | 58·76  | 230                                 | 186                                 |
| Sketty (Killay House).....        | Mrs. M. B. Williams.....       | 5           | 0 6              | 265                    | 1501           | 59·10  | 222                                 | 183                                 |
| 3.—TAFE. 47 sq. mi.               |                                |             |                  |                        |                |        |                                     |                                     |
| Swansea (Victoria Park).....      | Mr. D. Bliss.....              | 8           | 1 0              | 26                     | 1468           | 57·81  | 229                                 | 187                                 |
| Morriston (Pentrepeth House)..... | M. W. Williams, Esq.....       | 5           | 1 0              | 236                    | 1530           | 60·23  | 222                                 | ..                                  |
| Clydach (Wernfado).....           | Mrs. Player.....               | 8           | 4 0              | ..                     | 1548           | 60·96  | 229                                 | 186                                 |
| Pontardawe (Plas Cilybebyll)..... | J. H. B. Lloyd, Esq.....       | 5           | 3 0              | 510                    | 2028           | 79·85  | ..                                  | ..                                  |
| Ystalyfera (Wern House).....      | J. Williams, Esq.....          | 5           | 1 3              | 240                    | 2177           | 85·71  | 239                                 | 208                                 |
| 4.—NEATH. 82 sq. mi.              |                                |             |                  |                        |                |        |                                     |                                     |
| Briton Ferry (Brynsiriol).....    | H. A. Clarke, Esq., C.E....    | 5           | 1 0              | 33                     | 1422           | 55·98  | 213                                 | 176                                 |
| Briton Ferry (Cefn Court).....    | H. A. Clarke, Esq., C.E....    | 5           | 1 0              | 503                    | 1490           | 58·64  | 217                                 | 179                                 |
| Neath (Cimla Reservoir).....      | D. M. Jenkins, Esq., C.E....   | 5           | 1 0              | 364                    | 1598           | 62·93  | 234                                 | 190                                 |
| Neath (Gnoll Reservoir).....      | D. M. Jenkins, Esq., C.E....   | 5           | 1 0              | 204                    | 1828           | 71·96  | 229                                 | 195                                 |
| Neath (Maesmelyn).....            | Major E. Ll. Green.....        | 5           | 1 6              | 115                    | 1436           | 56·55  | 222                                 | 191                                 |
| Neath (Glynfeln).....             | T. Gibbins, Esq.....           | 5           | 1 4              | 180                    | 1694           | 66·69  | ..                                  | 180                                 |
| 5.—OGMORE & C. 350 sq. mi.        |                                |             |                  |                        |                |        |                                     |                                     |
| Cowbridge (Fonmon Castle).....    | Mrs. Oliver Jones.....         | 8           | 1 2              | 130                    | 902            | 35·52  | 171                                 | 155                                 |
| Barry W.W. (Biglis).....          | T. E. Franklin, Esq., C.E....  | 5           | 1 0              | 20                     | 1041           | 40·99  | 198                                 | 156                                 |
| Barry W.W. (Merthyr Dyfan R.)     | T. E. Franklin, Esq., C.E....  | 5           | 1 0              | 300                    | 1149           | 45·25  | ..                                  | ..                                  |
| Barry W.W. (Pencoedtre Res.)      | T. E. Franklin, Esq., C.E....  | 5           | 1 0              | 200                    | 1058           | 41·66  | ..                                  | ..                                  |
| Barry W.W. (Dinas Powis Res.)     | T. E. Franklin, Esq., C.E....  | 5           | 1 0              | 165                    | 1122           | 44·17  | ..                                  | ..                                  |
| Lower Penarth.....                | E. I. Evans, Esq., C.E....     | 5           | 1 0              | 67                     | 1006           | 39·59  | 188                                 | 155                                 |
| Penarth.....                      | E. I. Evans, Esq., C.E....     | 5           | 5 0              | 160                    | 1074           | 42·27  | 197                                 | 159                                 |
| Cardiff (Cogan Pumping Statn.)    | C. H. Priestley, Esq., C.E.... | 5           | 1 0              | 121                    | 884            | 34·82  | 200                                 | 153                                 |
| Cardiff (Ely Pumping Station)...  | C. H. Priestley, Esq., C.E.... | 5           | 1 0              | 53                     | 1208           | 47·57  | 259                                 | 174                                 |
| Cardiff (St. Fagans).....         | Capt. H. A. Pettigrew.....     | 5           | 0 11             | 100                    | 1454           | 57·26  | 213                                 | 181                                 |
| Cowbridge (Ash Hall).....         | E. Tudor Owen, Esq.....        | 8           | 3 0              | 315                    | 1384           | 54·47  | 201                                 | 178                                 |
| Merthyr Mawr.....                 | Lt.-Col. J. D. Nicholl.....    | 8           | 0 10             | 70                     | 1251           | 49·24  | 196                                 | 180                                 |
| Bridgend (Highmead).....          | H. J. Randall, Esq.....        | 5           | 1 0              | 80                     | 1252           | 49·30  | 215                                 | 182                                 |
| Llantrisant (Talygarn).....       | W. D. Clark, Esq.....          | 5           | 4 3              | 250                    | 1522           | 59·90  | 203                                 | 170                                 |
| Port Talbot (Twyn-yr-hydd)...     | G. Lipscomb, Esq.....          | 5           | 1 0              | 180                    | 1290           | 50·77  | 216                                 | 182                                 |
| Port Talbot (Secondary School)... | T. W. Lewis, Esq.....          | 5           | 1 0              | 20                     | 1208           | 47·57  | ..                                  | ..                                  |
| Ogmore Vale (Ogmore School)...    | E. Bevan, Esq.....             | 5           | 0 6              | 600                    | 2424           | 95·44  | ..                                  | ..                                  |
| Pontycymer (Garw Sec. Sch.)...    | J. J. Morgan, Esq.....         | 5           | 1 0              | 600                    | 2136           | 84·08  | 207                                 | ..                                  |
| Glyncoirwg Colliery.....          | Mr. C. Stephens.....           | 5           | 4 6              | 725                    | 2616           | 103·01 | 201                                 | ..                                  |
| 6.—TAFF. 157 sq. mi.              |                                |             |                  |                        |                |        |                                     |                                     |
| Cardiff (Trade Street Depôt)...   | C. H. Priestley, Esq., C.E.... | 5           | 1 0              | 45                     | 1144           | 45·06  | 208                                 | 160                                 |
| Llandaff (West Hill).....         | J. E. Gladstone, Esq.....      | 5           | 1 0              | 110                    | 1211           | 47·68  | 234                                 | 170                                 |
| Pontypridd (Maesderwen).....      | T. Bowen, Esq.....             | 5           | 6 0              | 425                    | 1644           | 64·73  | 206                                 | 186                                 |
| Pontypridd (Lan Wood Res.)...     | T. W. Coates, Esq., C.E....    | 5           | 1 6              | 300                    | 1695           | 66·72  | 215                                 | 172                                 |
| Ystradyfodwg (Tyntyla Hos.)...    | J. D. Jenkins, Esq., M.D....   | 5           | 1 0              | 590                    | 1362           | 53·61  | 186                                 | 149                                 |

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(con.).

| STATIONS.  | AUTHORITIES.                         | Rain Gauge. |                  |                        |      | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|--|--------------------------------------|-------------|------------------|------------------------|------|------------------------|--|--|
|  |                                      | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      |                        |  |  |
| GLAMORGAN—(con.).  |                                      | in.         | ft.              | in.                    | ft.  | mm.                    | in.                                    |  |
| 6.—TAFF—(con.).  |                                      |             |                  |                        |      |                        |  |  |
| D Treharris Service Reservoir . . . . .                            | T. F. Harvey, Esq., C.E. . . . .     | 5           | 1                | 0                      | 865  | 1593                   | 62·73                                  | 213 168                                |
| D Mountain Ash (Maesydderwen) Lt.-Col. M. Morgan . . . . .         |                                      | 5           | 1                | 0                      | 483  | 1742                   | 68·59                                  | 206 166                                |
| D Mountain Ash (Darranlas Res.) W. G. Thomas, Esq., C.E. . . . .   |                                      | 5           | 0                | 11                     | 540  | 2028                   | 79·84                                  | 224 173                                |
| D Treherbert (Bute Merthyr Col.) W. Jenkins, Esq. . . . .          |                                      | 5           | 1                | 0                      | 670  | 2828                   | 111·35                                 | 235 196                                |
| D Treherbert (Tyn-y-waun) . . . . .                                | O. Thomas, Esq. . . . .              | 5           | 1                | 0                      | 801  | 2856                   | 112·45                                 | 239 205                                |
| M Treherbert (Tyn-y-waun) . . . . .                                | O. Thomas, Esq. . . . .              | 5           | 1                | 0                      | 801  | 2826                   | 111·26                                 | .. ..                                  |
| D Cwmaman Collieries . . . . .                                     | R. R. Davies, Esq. . . . .           | 5           | 2                | 2                      | 930  | 2263                   | 89·08                                  | 217 192                                |
| D Rhondda (Pont Lluest WenR.)3 T. W. Coates, Esq., C.E. . . . .    |                                      | 5           | 1                | 6                      | 1200 | 2615                   | 102·95                                 | 227 208                                |
| D Rhondda (Pont Lluest WenR.)2 T. W. Coates, Esq., C.E. . . . .    |                                      | 5           | 1                | 6                      | 1225 | 1834                   | 72·22                                  | 226 195                                |
| D Rhondda (Pont Lluest WenR.)1 T. W. Coates, Esq., C.E. . . . .    |                                      | 5           | 1                | 6                      | 1250 | 2782                   | 109·51                                 | 227 205                                |
| D Rhondda W.W.(LlynFawr Res.) Mr. J. B. Hughes . . . . .           |                                      | 8           | 1                | 0                      | 1220 | 2786                   | 109·69                                 | 238 204                                |
| D Merthyr Tydfil (Penybryn Filt.) T. F. Harvey, Esq., C.E. . . . . |                                      | 5           | 1                | 0                      | 936  | 1628                   | 64·09                                  | 244 197                                |
| M Merthyr Tydfil (Penybryn Filt.) T. F. Harvey, Esq., C.E. . . . . |                                      | 5           | 1                | 0                      | 936  | 1627                   | 64·05                                  | .. ..                                  |
| D Dowlais (Gwernllwyn) . . . . .                                   | R. C. Harrison, Esq. . . . .         | 5           | 1                | 6                      | 1071 | 1668                   | 65·67                                  | 211 186                                |
| 7.—RHYMNEY. 55 sq. mi.   |                                      |             |                  |                        |      |                        |  |  |
| D Cardiff (Roath Park) . . . . .                                   | Mr. A. A. Pettigrew . . . . .        | 5           | 1                | 0                      | 49   | 1232                   | 48·51                                  | 234 178                                |
| D Cardiff (Penylan) . . . . .                                      | E. Walford, Esq., M.D. . . . .       | 5           | 1                | 0                      | 203  | 1158                   | 45·61                                  | 204 171                                |
| D Cardiff (Heath Filters) . . . . .                                | C. H. Priestley, Esq., C.E. . . . .  | 5           | 1                | 0                      | 132  | 1248                   | 49·14                                  | 217 176                                |
| D Llanishen Reservoir . . . . .                                    | C. H. Priestley, Esq., C.E. . . . .  | 5           | 1                | 0                      | 155  | 1098                   | 43·21                                  | 212 158                                |
| D Lisvane Reservoir . . . . .                                      | C. H. Priestley, Esq., C.E. . . . .  | 5           | 1                | 0                      | 150  | 1066                   | 41·96                                  | 208 157                                |
| D Caerphilly (Deneholme) . . . . .                                 | J. Prosser-Jones, Esq., C.E. . . . . | 5           | 1                | 0                      | 400  | 1633                   | 64·27                                  | .. ..                                  |
| D Bargoed H.E. School. . . . .                                     | J. Silvan Evans, Esq. . . . .        | 5           | 0                | 9                      | 800  | 1561                   | 61·46                                  | 178 159                                |
| D Rhymney Bridge Reservoir . . . . .                               | J. Prosser-Jones, Esq., C.E. . . . . | 8           | 1                | 0                      | 1099 | 1828                   | 71·98                                  | .. 208                                 |
| CARMARTHEN. (Area, 918 sq. mi.)                                    |                                      |             |                  |                        |      |                        |  |  |
| 1.—TEIFI. 87 sq. mi.   |                                      |             |                  |                        |      |                        |  |  |
| 2.—TOWY & C. 715 sq. mi.   |                                      |             |                  |                        |      |                        |  |  |
| D Laugharne (Broadway) . . . . .                                   | H. Eccles, Esq. . . . .              | 5           | 2                | 0                      | 174  | 1510                   | 59·43                                  | 211 180                                |
| D Llanddarog (Lletherllestry) . . . . .                            | H. L. Puxley, Esq. . . . .           | 5           | 1                | 0                      | 242  | 1619                   | 63·75                                  | 229 ..                                 |
| D Carmarthen (The Friary) . . . . .                                | Dr. L. M. Bowen-Jones . . . . .      | 5           | 1                | 5                      | 62   | 1558                   | 61·35                                  | 240 194                                |
| D Llandilo (Golden Grove Gdns.) Mr. F. Surman. . . . .             |                                      | 6           | 1                | 6                      | 125  | 1792                   | 70·56                                  | 216 ..                                 |
| D Llandilo (Dynevor Castle) . . . . .                              | H. Brookshaw, Esq. . . . .           | 8           | 1                | 0                      | 202  | 1589                   | 62·56                                  | 241 198                                |
| D Llandilo (Cwmifor School) . . . . .                              | T. I. Griffiths, Esq. . . . .        | 5           | 1                | 0                      | 210  | 1504                   | 59·22                                  | 218 186                                |
| D Llandeusan (Pontcrynfe) . . . . .                                | J. Thomas, Esq. . . . .              | 5           | 1                | 0                      | 323  | 1821                   | 71·68                                  | 225 188                                |
| D Llandovery (Nantyalwygfaen) . D. T. M. Jones, Esq. . . . .       |                                      | 5           | 1                | 0                      | 249  | 1546                   | 60·86                                  | 243 201                                |
| D Llanwrda (Dolaucothy) . . . . .                                  | Lady Hills-Johnes. . . . .           | 5           | 2                | 6                      | 498  | 1866                   | 73·47                                  | 261 222                                |
| 3.—LOUGHOR & C. 104 sq. mi.  |                                      |             |                  |                        |      |                        |  |  |
| D Llanelly (Old Market Yard) . . . . .                             | G. Watkeys, Esq., C.E. . . . .       | 5           | 12               | 0                      | 35   | 1638                   | 64·48                                  | 228 194                                |
| D Llanelly (Filter Beds) . . . . .                                 | G. Watkeys, Esq., C.E. . . . .       | 5           | 1                | 0                      | 237  | 1535                   | 60·45                                  | 227 195                                |
| D Llanelly (Cwmlledi W.W.) . . . . .                               | G. Watkeys, Esq., C.E. . . . .       | 5           | 2                | 3                      | 240  | 1716                   | 67·57                                  | 255 207                                |
| D Llanelly (Upper Lliedi Res.) . . . . .                           | G. Watkeys, Esq., C.E. . . . .       | 5           | 3                | 0                      | 290  | 1977                   | 77·82                                  | 244 205                                |
| D Llanelly (Cynheidre) . . . . .                                   | G. Watkeys, Esq., C.E. . . . .       | 5           | 1                | 6                      | 505  | 1955                   | 76·96                                  | 233 210                                |
| D Ammanford (Wernoleu) . . . . .                                   | E. Hewlett, Esq. . . . .             | 5           | 0                | 4                      | 212  | 1702                   | 67·00                                  | 228 201                                |
| 4.—TAWE. 7 sq. mi.   |                                      |             |                  |                        |      |                        |  |  |
| 5.—USK. 5 sq. mi.  |                                      |             |                  |                        |      |                        |  |  |
| 6.—WYE.  |                                      |             |                  |                        |      |                        |  |  |
| PEMBROKE. (Area, 617 sq. mi.)                                      |                                      |             |                  |                        |      |                        |  |  |
| 1.—TEIFI. 37 sq. mi.   |                                      |             |                  |                        |      |                        |  |  |
| 2.—NEVERN & C. 91 sq. mi.  |                                      |             |                  |                        |      |                        |  |  |
| Boncath (Blaenffos Sch.) . . . . .                                 | W. T. Williams, Esq. . . . .         | 5           | 1                | 0                      | 500  | 1553                   | 61·16                                  | .. ..                                  |
| D Fishguard (Goodwick Station) . G. Lambert Gibson, Esq. . . . .   |                                      | 5           | 7                | 4                      | 57   | 1318                   | 51·88                                  | 234 187                                |
| 3.—WEST COAST STREAMS. 82 sq. mi.                                  |                                      |             |                  |                        |      |                        |  |  |
| D St. David's . . . . .  | J. Morgan Williams, Esq. . . . .     | 5           | 1                | 0                      | 216  | 1239                   | 48·78                                  | 223 175                                |
| D St. David's (Y Fagwr) . . . . .                                  | F. D. Llewellyn, Esq. . . . .        | 5           | 1                | 0                      | ..   | 1230                   | 48·43                                  | 206 175                                |

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(con.).

| STATIONS.                                     | AUTHORITIES.                            | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|---|-------------|------------------|------------------------|------------------------|--|--|
|   |   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |
| PEMBROKE—(con.).                              |   | in.         | ft. in.          | ft.                    | mm.                    | in.                                    |  |
| 4.—CLEDDAU & C. 407 sq. mi.                   |   |             |                  |                        |                        |  |  |
| Pembroke (Stackpole Court) . . . . .          | Mr. C. McInroy . . . . .                | 6           | 1 6              | 60                     | 1301                   | 51·22                                  | 222 189                                |
| d Tenby . . . . .                             | Miss D. Truscott . . . . .              | 8           | 0 10             | 87                     | 1311                   | 51·62                                  | 227 180                                |
| d St. Ann's Head . . . . .                    | Meteorological Office . . . . .         | 8           | 0 10             | 150                    | 1053                   | 41·47                                  | 215 166                                |
| d Pembroke Dock (Admiralty R.) . . . . .      | W. T. Coldicott, Esq. . . . .           | 8           | 1 0              | 90                     | 1167                   | 45·96                                  | 194 170                                |
| d Pembroke Dock (County Sch.) . . . . .       | J. H. Garnett, Esq. . . . .             | 5           | 1 0              | 85                     | 1350                   | 53·15                                  | 237 178                                |
| d Saundersfoot (Hean Castle) . . . . .        | Lord Merthyr . . . . .                  | 5           | 1 0              | 206                    | 1213                   | 47·74                                  | 207 183                                |
| Haverfordwest (Picton Castle) . . . . .       | Sir C. E. G. Philipps, Bt. . . . .      | 5           | 0 10             | 138                    | 1529                   | 60·21                                  | 228 ..                                 |
| d Haverfordwest (Portfield) . . . . .         | J. W. Phillips, Esq. . . . .            | 5           | 1 0              | 250                    | 1464                   | 57·63                                  | 227 180                                |
| d Haverfordwest (Grammar Sch.) . . . . .      | J. W. Phillips, Esq. . . . .            | 5           | 1 0              | 95                     | 1526                   | 60·08                                  | 231 183                                |
| d Mynachlogddu Council School . . . . .       | W. Phillips, Esq. . . . .               | 5           | 1 3              | 620                    | 2025                   | 79·73                                  | 203 181                                |
| d Fishguard (Langton, Dwrbach) . . . . .      | J. C. Yorke, Esq. . . . .               | 5           | 1 0              | 320                    | 1621                   | 63·82                                  | 240 199                                |
| CARDIGAN. (Area, 688 sq. mi.).                |   |             |                  |                        |                        |  |  |
| 1.—DOVEY. 20 sq. mi.                          |   |             |                  |                        |                        |  |  |
| 2.—YSTWYTH & C. 347 sq. mi.                   |   |             |                  |                        |                        |  |  |
| d Strata Florida (Hafod) . . . . .            | T. J. Waddingham, Esq. . . . .          | 5           | 1 0              | 580                    | 1611                   | 63·44                                  | 246 203                                |
| d Devil's Bridge . . . . .                    | T. Richards, Esq. . . . .               | 5           | 1 0              | 825                    | 1729                   | 68·06                                  | 253 212                                |
| Capel Bangor (Penllwyn) . . . . .             | W. E. Whitehouse, Esq. . . . .          | 5           | 1 0              | 145                    | 1219                   | 48·00                                  | .. ..                                  |
| Ponterwyd . . . . .                           | W. E. Whitehouse, Esq. . . . .          | 5           | 1 0              | 767                    | 2000                   | 78·76                                  | .. ..                                  |
| d Aberystwyth (Castle Grounds) . . . . .      | Dr. A. Thomas . . . . .                 | 8           | 2 6              | 59                     | 1069                   | 42·10                                  | 233 171                                |
| Aberystwyth (North Parade) . . . . .          | Dr. A. Thomas . . . . .                 | 8           | 2 6              | 18                     | 1176                   | 46·28                                  | 233 176                                |
| Aberystwyth (Corporation Yard) . . . . .      | Dr. A. Thomas . . . . .                 | 8           | 2 6              | 14                     | 1120                   | 44·10                                  | .. ..                                  |
| d Aberystwyth (Gogerddan) . . . . .           | Mr. F. J. Reeves . . . . .              | 5           | 1 1              | 83                     | 1411                   | 55·54                                  | .. ..                                  |
| Elerch (Pantyffynon) . . . . .                | W. E. Whitehouse, Esq. . . . .          | 5           | 1 0              | 718                    | 1516                   | 59·69                                  | .. ..                                  |
| Talybont . . . . .                            | W. E. Whitehouse, Esq. . . . .          | 5           | 1 0              | 199                    | 1378                   | 54·25                                  | .. ..                                  |
| d Ynys-las (Sandling) . . . . .               | Wyndham Deedes, Esq. . . . .            | 5           | 1 6              | 15                     | 1074                   | 42·30                                  | 196 157                                |
| 3.—TEIFI. 260 sq. mi.                         |   |             |                  |                        |                        |  |  |
| d Cardigan (County School) . . . . .          | Dr. D. Rees . . . . .                   | 5           | 1 6              | 72                     | 1236                   | 48·66                                  | 221 163                                |
| d Lampeter (Falcondale) . . . . .             | Mr. W. T. Taylor . . . . .              | 5           | 1 0              | 498                    | 1637                   | 64·44                                  | 232 203                                |
| 4.—TOWY. 46 sq. mi.                           |   |             |                  |                        |                        |  |  |
| d Abergwesyn (Nantneuadd) . . . . .           | Mr. W. Roberts . . . . .                | 5           | 1 0              | 1290                   | 1926                   | 75·83                                  | .. 190                                 |
| M Tregaron (Maes-y-bettws) . . . . .          | British Rainfall Organization . . . . . | 5           | 1 0              | 910                    | 2073                   | 81·60                                  | .. ..                                  |
| M Strata Florida (Towy-fechan) . . . . .      | British Rainfall Organization . . . . . | 5           | 1 0              | 1330                   | 2207                   | 86·90                                  | .. ..                                  |
| 5.—WYE. 15 sq. mi.                            |   |             |                  |                        |                        |  |  |
| M Birmingham W.W. (Llyn Gynon) . . . . .      | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1 0              | 1500                   | 1932                   | 76·05                                  | .. ..                                  |
| M Birmng'm WW (Bwlchyrendre) . . . . .        | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1 0              | 1585                   | 1822                   | 71·75                                  | .. ..                                  |
| M Birmingham W.W. (Claerddu) . . . . .        | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1 0              | 1500                   | 1910                   | 75·20                                  | .. ..                                  |
| M Birmingham W.W. (Gwngu) . . . . .           | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1 0              | 1650                   | 1848                   | 72·75                                  | .. ..                                  |
| d Birmingham W.W. (Abergwngu) . . . . .       | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1 0              | 1200                   | 1862                   | 73·30                                  | .. 215                                 |
| M Plynlimon . . . . .                         | British Rainfall Organization . . . . . | 5           | 1 0              | 1740                   | 3061                   | 120·50                                 | .. ..                                  |
| BRECON. (Area, 733 sq. mi.)                   |   |             |                  |                        |                        |  |  |
| 1.—TOWY. 17 sq. mi.                           |   |             |                  |                        |                        |  |  |
| 2.—TAWY. 41 sq. mi.                           |   |             |                  |                        |                        |  |  |
| d Swansea W.W. (Nantyrwydd) . . . . .         | Lt. G. R. Collinson, R.E. . . . .       | 5           | 1 0              | 916                    | 2414                   | 95·02                                  | 242 217                                |
| 3.—NEATH. 48 sq. mi.                          |   |             |                  |                        |                        |  |  |
| Glyn Neath (P. Neath Vaughan) . . . . .       | Messrs. Curtis & Harvey, Ltd. . . . .   | 5           | 1 5              | 297                    | 1778                   | 70·01                                  | 221 200                                |
| d Ystradfellte Reservoir . . . . .            | D. M. Davies, Esq. . . . .              | 5           | 1 0              | 1147                   | 2763                   | 108·77                                 | 248 218                                |
| 4.—TAFF. 48 sq. mi.                           |   |             |                  |                        |                        |  |  |
| d Aberdare (Nanthir Reservoir) . . . . .      | O. Williams, Esq., C.E. . . . .         | 5           | 1 0              | 860                    | 1780                   | 70·09                                  | 250 186                                |
| d Penderyn Reservoir . . . . .                | F. W. la T. Bateman, Esq. . . . .       | 5           | 1 0              | 717                    | 1714                   | 67·48                                  | 217 185                                |
| d Taff Fechan (Pontsticill) No. 12 . . . . .  | T. F. Harvey, Esq., C.E. . . . .        | 5           | 1 0              | 1031                   | 1723                   | 67·83                                  | 243 208                                |
| M Taff Fechan (Pontsticill) No. 12A . . . . . | T. F. Harvey, Esq., C.E. . . . .        | 5           | 1 0              | 1031                   | 1646                   | 64·80                                  | .. ..                                  |
| M Taff Fechan (Pontsticill West) . . . . .    | T. F. Harvey, Esq., C.E. . . . .        | 5           | 1 0              | 1254                   | 1754                   | 69·06                                  | .. ..                                  |
| d Cardiff W.W. (Llwynon Res.) . . . . .       | C. H. Priestley, Esq., C.E. . . . .     | 5           | 1 0              | 854                    | 1744                   | 68·66                                  | 234 196                                |
| Cardiff W.W. (Troedyrhiw) . . . . .           | C. H. Priestley, Esq., C.E. . . . .     | 5           | 1 0              | 860                    | 1929                   | 75·94                                  | .. ..                                  |
| d Cardiff W.W. (Pont-ar-daf) . . . . .        | C. H. Priestley, Esq., C.E. . . . .     | 5           | 1 0              | 850                    | 2017                   | 79·42                                  | 236 203                                |

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(con.).

| STATIONS.  | AUTHORITIES.                  | Rain Gauge. |                  |                        |      | Depth of Rain. |       | Day with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|-------------------------------|-------------|------------------|------------------------|------|----------------|-------|------------------------------------|-------------------------------------|
|  |                               | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |       |                                    |                                     |
| BRECON—(con.).   |                               | in.         | ft.              | in.                    | ft.  | mm.            | in.   |                                    |                                     |
| 4.—TAFF—(con.).  |                               |             |                  |                        |      |                |       |                                    |                                     |
| Cardiff W.W. (Garw-nant) . . . . .                             | C. H. Priestley, Esq., C.E.   | 5           | 1                | 0                      | 1100 | 2048           | 80·64 | ..                                 | ..                                  |
| Cardiff W.W. (Nant-Gwineu) . . . . .                           | C. H. Priestley, Esq., C.E.   | 5           | 1                | 0                      | 1275 | 1698           | 66·84 | ..                                 | ..                                  |
| Cardiff W.W. (Nant-y-gou-garn) . . . . .                       | C. H. Priestley, Esq., C.E.   | 5           | 1                | 0                      | ..   | 1987           | 78·24 | ..                                 | ..                                  |
| D Taff Fechan (Pentwyn Res.) . . . . .                         | T. F. Harvey, Esq., C.E.      | 5           | 1                | 0                      | 1120 | 2122           | 83·55 | 259                                | 210                                 |
| M Taff Fechan (Pentwyn Res.) . . . . .                         | T. F. Harvey, Esq., C.E.      | 5           | 1                | 0                      | 1120 | 2074           | 81·65 | ..                                 | ..                                  |
| Cardiff W.W. (Nant Goch) . . . . .                             | C. H. Priestley, Esq., C.E.   | 5           | 1                | 0                      | ..   | 1803           | 71·00 | ..                                 | ..                                  |
| Cardiff W.W. (Nant Ddu) . . . . .                              | C. H. Priestley, Esq., C.E.   | 5           | 1                | 0                      | 1560 | 2280           | 89·75 | ..                                 | ..                                  |
| Cardiff W.W. (Storey Arms) No. 4C. H. Priestley, Esq., C.E.    | 5                             | 1           | 0                | 1430                   | 2058 | 81·04          | ..    | ..                                 | ..                                  |
| Cardiff W.W. (Tyle Brith) No. 1C. H. Priestley, Esq., C.E.     | 5                             | 1           | 0                | 2350                   | 2283 | 89·87          | ..    | ..                                 | ..                                  |
| D Cardiff W.W. (Cantref R.) No. 2C. H. Priestley, Esq., C.E.   | 5                             | 1           | 0                | 1120                   | 2300 | 90·57          | 244   | 209                                | ..                                  |
| D Torpantau Station . . . . .                                  | Newport Corporation.          | 5           | 1                | 0                      | 1316 | 1937           | 76·27 | 227                                | 196                                 |
| D Cardiff W.W. (Beacons Res.) No. 6C. H. Priestley, Esq., C.E. | 5                             | 1           | 0                | 1340                   | 2609 | 102·72         | 243   | 216                                | ..                                  |
| Cardiff W.W. (Nant Penig) No. 3C. H. Priestley, Esq., C.E.     | 5                             | 1           | 0                | 2000                   | 2980 | 117·31         | ..    | ..                                 | ..                                  |
| D Taff Fechan (Neuadd Rs.) No. 1T. F. Harvey, Esq., C.E.       | 5                             | 1           | 0                | 1462                   | 2285 | 89·97          | 251   | 211                                | ..                                  |
| M Taff Fechan (Neuadd Rs.) No. 1T. F. Harvey, Esq., C.E.       | 5                             | 1           | 0                | 1462                   | 2173 | 85·54          | ..    | ..                                 | ..                                  |
| D Taff Fechan (Neuadd Rs.) No. 4T. F. Harvey, Esq., C.E.       | 5                             | 1           | 0                | 1487                   | 2621 | 103·19         | 251   | 223                                | ..                                  |
| D Taff Fechan (Neuadd Rs.) No. 4AT. F. Harvey, Esq., C.E.      | 5                             | 1           | 0                | 1487                   | 2597 | 102·25         | 251   | 228                                | ..                                  |
| M Taff Fechan (Neuadd Rs.) No. 2T. F. Harvey, Esq., C.E.       | 5                             | 1           | 0                | 1993                   | 2132 | 83·93          | ..    | ..                                 | ..                                  |
| M Taff Fechan (Neuadd Rs.) No. 5T. F. Harvey, Esq., C.E.       | 5                             | 1           | 0                | 1515                   | 2716 | 106·95         | ..    | ..                                 | ..                                  |
| M Taff Fechan (Neuadd Rs.) No. 10T. F. Harvey, Esq., C.E.      | 5                             | 1           | 0                | 1700                   | 2241 | 88·23          | ..    | ..                                 | ..                                  |
| D Taff Fechan (Neuadd Rs.) No. 11T. F. Harvey, Esq., C.E.      | 5                             | 1           | 0                | 1524                   | 2208 | 86·93          | 251   | 206                                | ..                                  |
| M Taff Fechan (Neuadd Rs.) No. 7T. F. Harvey, Esq., C.E.       | 5                             | 1           | 0                | 2017                   | 2690 | 105·92         | ..    | ..                                 | ..                                  |
| M Taff Fechan (Neuadd Rs.) No. 8T. F. Harvey, Esq., C.E.       | 5                             | 1           | 0                | 1723                   | 2780 | 109·43         | ..    | ..                                 | ..                                  |
| M Taff Fechan (Neuadd Rs.) No. 3T. F. Harvey, Esq., C.E.       | 5                             | 1           | 0                | 1843                   | 2076 | 81·72          | ..    | ..                                 | ..                                  |
| M Taff Fechan (Neuadd Rs.) No. 3AT. F. Harvey, Esq., C.E.      | 5                             | 1           | 0                | 1843                   | 2010 | 79·12          | ..    | ..                                 | ..                                  |
| M Taff Fechan (Neuadd Rs.) No. 9T. F. Harvey, Esq., C.E.       | 5                             | 1           | 0                | 1997                   | 1799 | 70·81          | ..    | ..                                 | ..                                  |
| M Taff Fechan (Neuadd Rs.) No. 6T. F. Harvey, Esq., C.E.       | 5                             | 1           | 0                | 2099                   | 3128 | 123·17         | ..    | ..                                 | ..                                  |
| 5.—RHYMNEY. 2 sq. mi.  |                               |             |                  |                        |      |                |       |                                    |                                     |
| 6.—EBBW. 7 sq. mi.   |                               |             |                  |                        |      |                |       |                                    |                                     |
| D Ebbw Vale W.W. (Llangunider) 1P. J. Davies, Esq., C.E.       | 5                             | 1           | 0                | 1413                   | 1910 | 75·21          | 235   | 194                                | ..                                  |
| Ebbw V.W.W. (Llangunider) W3P. J. Davies, Esq., C.E.           | 5                             | 1           | 0                | 1468                   | 2107 | 82·94          | 236   | ..                                 | ..                                  |
| Ebbw V.W.W. (Llangunider) NW2P. J. Davies, Esq., C.E.          | 5                             | 1           | 0                | 1471                   | 2081 | 81·93          | 237   | ..                                 | ..                                  |
| Ebbw Vale W.W. (Carno, S.) . . . . .                           | P. J. Davies, Esq., C.E.      | 5           | 1                | 0                      | 1236 | 1968           | 77·47 | 225                                | ..                                  |
| Ebbw Vale W.W. (Carno, E.) . . . . .                           | P. J. Davies, Esq., C.E.      | 5           | 1                | 0                      | 1391 | 1876           | 73·86 | 225                                | ..                                  |
| Ebbw Vale W.W. (Carno, W.) . . . . .                           | P. J. Davies, Esq., C.E.      | 5           | 1                | 0                      | 1412 | 2024           | 79·69 | 225                                | ..                                  |
| Ebbw Vale W.W. (Carno, N.) . . . . .                           | P. J. Davies, Esq., C.E.      | 5           | 1                | 0                      | 1583 | 1912           | 75·26 | 225                                | ..                                  |
| 7.—USK. 299 sq. mi.  |                               |             |                  |                        |      |                |       |                                    |                                     |
| Torpantau (Darenfawr) . . . . .                                | Newport Corporation.          | 5           | 1                | 0                      | 1172 | 2244           | 88·36 | ..                                 | ..                                  |
| Torpantau (Ynysposte) . . . . .                                | Newport Corporation.          | 5           | 1                | 0                      | 741  | 2123           | 83·60 | ..                                 | ..                                  |
| Torpantau (Blaen-caer-tanell) . . . . .                        | Newport Corporation.          | 5           | 1                | 0                      | 1584 | 2407           | 94·77 | ..                                 | ..                                  |
| D Talybont (Pentir-rhiw) . . . . .                             | Newport Corporation           | 5           | 1                | 0                      | 587  | 1921           | 75·61 | 222                                | 189                                 |
| Talybont (Pwll Ifor) . . . . .                                 | Newport Corporation           | 5           | 1                | 0                      | 1224 | 2106           | 82·90 | ..                                 | ..                                  |
| Crickhowell (Glanusk Park) . . . . .                           | Col. Lord Glanusk, C.B.       | 5           | 1                | 0                      | 290  | 1362           | 53·63 | 190                                | 162                                 |
| D Crickhowell (Gwernvale) . . . . .                            | E. Pirie Gordon, Esq.         | 5           | 1                | 0                      | 393  | 1293           | 50·90 | 216                                | 176                                 |
| M Swansea W.W. (Cray Rs.) No. 2.Lt. G. R. Collinson, R.E.      | 5                             | 1           | 0                | 1020                   | 2654 | 104·50         | ..    | ..                                 | ..                                  |
| D Swansea W.W. (Cray Rs.) No. 1.Lt. G. R. Collinson, R.E.      | 5                             | 1           | 0                | 1044                   | 2269 | 89·34          | 230   | 202                                | ..                                  |
| M Cray Station . . . . .                                       | Mr. J. Jones                  | 5           | 1                | 0                      | 930  | 2426           | 95·50 | ..                                 | ..                                  |
| D Brecon (New Inn) . . . . .                                   | Mr. W. Williams               | 5           | 1                | 0                      | 810  | 1641           | 64·59 | ..                                 | 179                                 |
| Talybont (Cwy Parc) . . . . .                                  | Col. H. R. Jones-Williams     | 5           | 1                | 6                      | 480  | 1560           | 61·40 | ..                                 | ..                                  |
| Llanfrynach (Ty-mawr) . . . . .                                | Miss M. D. de Winton          | 5           | 1                | 0                      | 450  | 1322           | 52·04 | 210                                | 170                                 |
| M Crickhowell (Cwmdu Rectory) . . . . .                        | Rev. W. A. Davies             | 5           | 1                | 0                      | 430  | 1148           | 45·20 | ..                                 | ..                                  |
| M Crickhowell (Tal-y-maes) . . . . .                           | British Rainfall Organization | 5           | 1                | 0                      | 1250 | 1392           | 54·80 | ..                                 | ..                                  |
| D Trecastle (Blaenau-hydfer) . . . . .                         | British Rainfall Organization | 5           | 1                | 0                      | 1070 | 2009           | 79·10 | ..                                 | 172                                 |
| Brecon (Ffrwdgrech) . . . . .                                  | Capt. J. D. D. Evans          | 8           | 1                | 1                      | 570  | 1425           | 56·12 | 201                                | 172                                 |
| D Black Mountains (Blaen-y-cwm) J. F. Jupp, Esq., C.E.         | 5                             | 1           | 0                | 1423                   | 1727 | 67·99          | 238   | 202                                | ..                                  |
| D Black Mountains (Blaen-y-cwm) J. F. Jupp, Esq., C.E.         | 5                             | 1           | 0                | 1289                   | 1645 | 64·78          | 223   | 192                                | ..                                  |
| Black Mountains (Waun Fach) J. F. Jupp, Esq., C.E.             | 5                             | 1           | 0                | 2650                   | 1556 | 61·26          | ..    | ..                                 | ..                                  |
| Black Mts. (Cwm Grigys Uchaf) J. F. Jupp, Esq., C.E.           | 5                             | 1           | 0                | 1980                   | 1840 | 72·42          | ..    | ..                                 | ..                                  |
| D Black M. (Dam Site Grwyne Fawr) J. F. Jupp, Esq., C.E.       | 5                             | 1           | 0                | 1620                   | 1845 | 72·63          | 241   | 211                                | ..                                  |
| D Black Mountains (AberClyd) . . . . .                         | J. F. Jupp, Esq., C.E.        | 5           | 1                | 0                      | 1880 | 1676           | 65·97 | 244                                | 203                                 |
| Black Mts. (Pen-y-Manllwyn) . . . . .                          | J. F. Jupp, Esq., C.E.        | 5           | 1                | 0                      | 2512 | 1449           | 57·06 | ..                                 | ..                                  |

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(con.).

| STATIONS.   | AUTHORITIES.                            | Rain Gauge. |                  |                        |      | Depth of Rain. |        | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|---|---|-------------|------------------|------------------------|------|----------------|--------|-------------------------------------|-------------------------------------|
|   |   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |        |                                     |                                     |
| BRECON—(con.).  |   | in.         | ft.              | in.                    | ft.  | mm.            | in.    |                                     |                                     |
| 7.—USK—(con.).  |   |             |                  |                        |      |                |        |                                     |                                     |
| Black Mts. (Taren-yr-Esgob) . . . . .                             | J. F. Jupp, Esq., C.E. . . . .          | 5           | 1                | 0                      | 2039 | 1385           | 54·54  | ..                                  | ..                                  |
| Black Mts. (Twyn Tal-y-Cefn) . . . . .                            | J. F. Jupp, Esq., C.E. . . . .          | 5           | 1                | 0                      | 2130 | 1424           | 56·05  | ..                                  | ..                                  |
| Black Mts. (BlaenGrwyneFawr) . . . . .                            | J. F. Jupp, Esq., C.E. . . . .          | 5           | 1                | 0                      | 2150 | 1392           | 54·80  | ..                                  | ..                                  |
| Upper Chapel (Tymawr) . . . . .                                   | Mrs. Probert . . . . .                  | 5           | 1                | 0                      | 945  | 1307           | 51·45  | ..                                  | ..                                  |
| 8.—WYE. 271 sq. mi.   |   |             |                  |                        |      |                |        |                                     |                                     |
| D Cathedine Rectory . . . . .                                     | Rev. D. H. Picton . . . . .             | 5           | 1                | 6                      | 660  | 1042           | 41·04  | 188                                 | 147                                 |
| D Talgarth (Dan-y-garth) . . . . .                                | F. Morgan, Esq. . . . .                 | 5           | 4                | 0                      | 404  | 858            | 33·76  | 169                                 | 132                                 |
| D Glasbury (Gwern-yfed) . . . . .                                 | Mr. James Slade . . . . .               | 5           | 1                | 0                      | 375  | 816            | 32·11  | 202                                 | 133                                 |
| D Llanwrtyd Wells (Brynonen) . . . . .                            | Rhys D. Jones, Esq. . . . .             | 5           | 1                | 0                      | 702  | 1496           | 58·91  | 240                                 | 191                                 |
| D Builth Wells (Tyn-y-berllan) . . . . .                          | Dr. W. Black Jones . . . . .            | 5           | 1                | 0                      | 425  | 1197           | 47·12  | 226                                 | 173                                 |
| M Abergwesyn (Trallwn) . . . . .                                  | British Rainfall Organization . . . . . | 5           | 1                | 0                      | 1000 | 2217           | 87·30  | ..                                  | ..                                  |
| M Newbridge (Pengraig) . . . . .                                  | British Rainfall Organization . . . . . | 5           | 1                | 0                      | 960  | 1730           | 68·10  | ..                                  | ..                                  |
| D Newbridge (Llysdinam) . . . . .                                 | Col. C. Venables Llewelyn . . . . .     | 5           | 1                | 3                      | 646  | 1243           | 48·93  | 232                                 | 180                                 |
| M Birm'gh'm W.W. (Cors-yr-hwch) . . . . .                         | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1775 | 2660           | 104·74 | ..                                  | ..                                  |
| M Birm'gh'm W.W. (EsgairCeiliog) . . . . .                        | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1525 | 1994           | 78·51  | ..                                  | ..                                  |
| M Birm'gh'm W.W. (Llyn-Carw) . . . . .                            | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1775 | 2398           | 94·41  | ..                                  | ..                                  |
| M Birm'gh'm W.W. (Nant-y-car) . . . . .                           | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1545 | 2208           | 86·95  | ..                                  | ..                                  |
| M Birm'gh'm W.W. (EsgairG'rth'n) . . . . .                        | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1600 | 1958           | 77·10  | ..                                  | ..                                  |
| D Birm'gh'm W.W. (Elan Village) . . . . .                         | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 700  | 1588           | 62·54  | 222                                 | 191                                 |
| RADNOR. (Area, 474 sq. mi.)                                       |   |             |                  |                        |      |                |        |                                     |                                     |
| 1.—WYE. 424 sq. mi.   |   |             |                  |                        |      |                |        |                                     |                                     |
| D Glasbury-on-Wye (Hampton Sc.) . . . . .                         | Rev. D. C. Lloyd . . . . .              | 5           | 1                | 0                      | 274  | 938            | 36·91  | 184                                 | 138                                 |
| Builth (Cefndyrys) . . . . .                                      | Capt. E. A. Thomas . . . . .            | 5           | 2                | 0                      | 730  | 1435           | 56·12  | ..                                  | ..                                  |
| Builth Rd. (St. John's Vicarage) . . . . .                        | Rev. J. L. Bryans . . . . .             | 5           | 0                | 11                     | 550  | 1293           | 50·90  | 219                                 | 181                                 |
| New Radnor . . . . .  | John Langston, Esq. . . . .             | 5           | 1                | 4                      | 720  | 1213           | 47·75  | 206                                 | ..                                  |
| D Llandrindod Wells (Kimberley) . . . . .                         | W.B. deWinton, Esq. C.I.E. . . . .      | 5           | 1                | 0                      | 699  | 1232           | 48·49  | 231                                 | 175                                 |
| D Presteign (St. Davids) . . . . .                                | Dr. N. Y. Lower . . . . .               | 5           | 1                | 0                      | 500  | 1040           | 40·96  | 208                                 | 154                                 |
| D Birmingham WW (Tyrmynydd) . . . . .                             | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 832  | 1658           | 65·27  | 221                                 | 187                                 |
| D Birmingham W W (Nantgwilt) . . . . .                            | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 845  | 1850           | 72·84  | 225                                 | 185                                 |
| M Birmingham W. W. (Dwnant) . . . . .                             | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1050 | 1886           | 74·27  | ..                                  | ..                                  |
| M Birm'gham W W (EsgairGader) . . . . .                           | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1500 | 1774           | 69·85  | ..                                  | ..                                  |
| M Birm'gham WW (EsgairGader) . . . . .                            | 2F. W. Macaulay, Esq., C.E. . . . .     | 5           | 1                | 0                      | 1500 | 1954           | 76·94  | ..                                  | ..                                  |
| d Birmingham W.W. (Claerwen) . . . . .                            | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1250 | 1908           | 75·10  | ..                                  | 229                                 |
| Rhayader (East Street) . . . . .                                  | John Jones, Esq. . . . .                | 5           | 1                | 0                      | 700  | 1401           | 55·16  | ..                                  | ..                                  |
| D Rhayader . . . . .  | E. D. Prothero, Esq. . . . .            | 5           | 1                | 0                      | 758  | 1333           | 52·46  | 234                                 | 182                                 |
| M Bir'gham WW (Cerriglywdion) . . . . .                           | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1700 | 2187           | 86·12  | ..                                  | ..                                  |
| M Birm'gham WW (Pen-y-gareg) . . . . .                            | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1500 | 1577           | 62·10  | ..                                  | ..                                  |
| M Birmingham W.W. (Calettwr) . . . . .                            | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1500 | 1971           | 77·59  | ..                                  | ..                                  |
| M Birmingham W.W. (Figin) No. 1F. W. Macaulay, Esq., C.E. . . . . | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1700 | 2095           | 82·49  | ..                                  | ..                                  |
| M Birmingham W.W. (Figin) No. 2F. W. Macaulay, Esq., C.E. . . . . | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1700 | 2182           | 85·89  | ..                                  | ..                                  |
| M Birmingham WW (Aberhenllan) . . . . .                           | F. W. Macaulay, Esq., C.E. . . . .      | 5           | 1                | 0                      | 1250 | 1546           | 60·88  | ..                                  | ..                                  |
| M Llanbister (Llananno) . . . . .                                 | British Rainfall Organization . . . . . | 5           | 1                | 0                      | 900  | 1407           | 55·40  | ..                                  | ..                                  |
| 2.—SEVERN—Right Bank Tributaries. 50 sq. mi.                      |   |             |                  |                        |      |                |        |                                     |                                     |
| Knighton (Upper Woodhouse) . . . . .                              | S. Wilson, Esq. . . . .                 | 5           | 1                | 0                      | 850  | 1108           | 43·62  | ..                                  | ..                                  |
| MONTGOMERY. (Area, 797 sq. mi.)                                   |   |             |                  |                        |      |                |        |                                     |                                     |
| 1.—DOVEY. 120 sq. mi.   |   |             |                  |                        |      |                |        |                                     |                                     |
| D Machynlleth (The Plas) . . . . .                                | Mr. A. Gribble . . . . .                | 5           | 1                | 0                      | 41   | 1771           | 69·72  | 225                                 | 199                                 |
| 2.—YSTWYTH. 7 sq. mi.   |   |             |                  |                        |      |                |        |                                     |                                     |
| 3.—WYE. 37 sq. mi.  |   |             |                  |                        |      |                |        |                                     |                                     |
| D Llangurig (Dernol) . . . . .                                    | British Rainfall Organization . . . . . | 5           | 1                | 0                      | 870  | 1550           | 61·04  | 217                                 | 207                                 |
| 4.—SEVERN—Right Bank Tributaries. 154 sq. mi.                     |   |             |                  |                        |      |                |        |                                     |                                     |
| Llandinam (Plas Dinam) . . . . .                                  | Mr. D. Bowen . . . . .                  | 5           | 3                | 0                      | 503  | 1140           | 44·88  | 199                                 | ..                                  |
| M Dolfor (Gilfach) . . . . .                                      | S. Wilson, Esq. . . . .                 | 5           | 1                | 0                      | 1050 | 1136           | 44·72  | ..                                  | ..                                  |
| Bishops Castle (Bishops Moat) . . . . .                           | S. Wilson, Esq. . . . .                 | 5           | 1                | 0                      | 1130 | 977            | 38·48  | ..                                  | ..                                  |
| D Newtown (Penarth Weir) . . . . .                                | H. C. Jones, Esq., C.E. . . . .         | 8           | 1                | 0                      | 321  | 983            | 38·69  | 196                                 | 155                                 |
| D Welshpool (Edderton Hall) . . . . .                             | Miss A. M. Howell Evans . . . . .       | 5           | 1                | 0                      | 500  | 862            | 33·94  | 207                                 | 147                                 |

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(con.).

| STATIONS.                                    | AUTHORITIES.                            | Rain Gauge. |                  |                        |      | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|--|---|-------------|------------------|------------------------|------|------------------------|--|--|
|  |   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      |                        |  |  |
| MONTGOMERY—(con.).                           |   | in.         | ft.              | in.                    | ft.  | mm.                    | in.                                    |  |
| 5.—SEVERN—Left Bank Tributaries. 479 sq. mi. |   |             |                  |                        |      |                        |  |  |
| Carno (Council School) . . . . .             | S. Wilson, Esq. . . . .                 | 5           | 1                | 0                      | 600  | 1426                   | 56·16                                  | ..                                     |
| Berriew (Brithdir Hall) . . . . .            | F. E. Marston, Esq. . . . .             | 5           | 2                | 0                      | 350  | 934                    | 36·76                                  | 193                                    |
| d Welshpool (County School) . . . . .        | John Ward, Esq. . . . .                 | 5           | 1                | 0                      | 263  | 870                    | 34·24                                  | 183                                    |
| Welshpool (Fron Llwyd) . . . . .             | Major G. B. D. Harrison. . . . .        | 5           | 1                | 3                      | 500  | 1034                   | 40·73                                  | 181                                    |
| m Garthbibio (Bwlch Tomlyd) . . . . .        | British Rainfall Organization . . . . . | 5           | 1                | 0                      | 1370 | 2017                   | 79·40                                  | 157                                    |
| d Llandysilio Rectory . . . . .              | Rev. H. G. Dickinson. . . . .           | 5           | 1                | 0                      | 225  | 909                    | 35·77                                  | 195                                    |
| d Lake Vyrnwy . . . . .                      | E. J. Bradley, Esq. . . . .             | 5           | 0                | 7                      | 770  | 1883                   | 74·15                                  | 150                                    |
| Lake Vyrnwy (Bryn Gwyn) . . . . .            | J. R. Davidson, Esq., C.E. . . . .      | 8           | 1                | 0                      | 1311 | 1833                   | 72·16                                  | 213                                    |
| d Lake Vyrnwy (Bank Cynon Isaf) . . . . .    | J. R. Davidson, Esq., C.E. . . . .      | 8           | 1                | 0                      | 750  | 1740                   | 68·51                                  | 199                                    |
| Lake Vyrnwy (Ty Uchaf) . . . . .             | J. R. Davidson, Esq., C.E. . . . .      | 8           | 1                | 0                      | 860  | 1770                   | 69·69                                  | 224                                    |
| Lake Vyrnwy (Heol-y-ffridd) 1. . . . .       | J. R. Davidson, Esq., C.E. . . . .      | 8           | 1                | 0                      | 912  | 2209                   | 86·98                                  | 180                                    |
| Lake Vyrnwy (Heol-y-ffridd) 2. . . . .       | J. R. Davidson, Esq., C.E. . . . .      | 8           | 1                | 0                      | 912  | 2139                   | 84·20                                  | ..                                     |
| Lake Vyrnwy (Tyn-y-ffridd) . . . . .         | J. R. Davidson, Esq., C.E. . . . .      | 8           | 1                | 0                      | 1010 | 1653                   | 65·07                                  | ..                                     |
| Lake Vyrnwy (Lluestwen) . . . . .            | J. R. Davidson, Esq., C.E. . . . .      | 8           | 1                | 0                      | 1667 | 2189                   | 86·19                                  | ..                                     |
| Lake Vyrnwy (Llwynrhiw) . . . . .            | J. R. Davidson, Esq., C.E. . . . .      | 8           | 1                | 0                      | 1428 | 2494                   | 98·21                                  | ..                                     |
| Lake Vyrnwy (Craig-y-Gribbin) . . . . .      | J. R. Davidson, Esq., C.E. . . . .      | 8           | 1                | 0                      | 1100 | 1928                   | 75·90                                  | ..                                     |
| Lake Vyrnwy (Eunant Bridge) . . . . .        | J. R. Davidson, Esq., C.E. . . . .      | 8           | 1                | 0                      | 830  | 2478                   | 97·54                                  | ..                                     |
| Lake Vyrnwy (Carreg Goch) . . . . .          | J. R. Davidson, Esq., C.E. . . . .      | 8           | 1                | 0                      | 1750 | 2262                   | 89·06                                  | ..                                     |
| Lake Vyrnwy (Fawnog) . . . . .               | J. R. Davidson, Esq., C.E. . . . .      | 8           | 1                | 0                      | 1315 | 1817                   | 71·53                                  | ..                                     |
| FLINT. (Area, 256 sq. mi.)                   |   |             |                  |                        |      |                        |  |  |
| 1.—DEE. 198 sq. mi.                          |   |             |                  |                        |      |                        |  |  |
| d Hanmer (Gredington) . . . . .              | Lord Kenyon, K.C.V.O. . . . .           | 5           | 0                | 10                     | 300  | 1058                   | 41·67                                  | 216                                    |
| d Overton (Fairleigh) . . . . .              | B. J. E. Wright, Esq. . . . .           | 5           | 1                | 8                      | 220  | 918                    | 36·16                                  | 222                                    |
| d Mold (The Park) . . . . .                  | J. F. J. Reynolds, Esq., C.E. . . . .   | 5           | 1                | 0                      | 370  | 1016                   | 40·00                                  | 219                                    |
| Buckley . . . . .                            | W. Simmons, Esq. . . . .                | 5           | 1                | 0                      | 553  | 832                    | 32·77                                  | 175                                    |
| Cilcain . . . . .                            | W. Simmons, Esq. . . . .                | 5           | 1                | 0                      | 790  | 684                    | 26·95 ?                                | 199                                    |
| Hawarden . . . . .                           | Great Central Rly Co. . . . .           | 9           | 3                | 6                      | 35   | 759                    | 29·89                                  | 157                                    |
| Northop (Soughton Hall) . . . . .            | Lord Justice Bankes . . . . .           | 5           | 1                | 0                      | 418  | 961                    | 37·85                                  | 197                                    |
| d Hawarden Bridge . . . . .                  | T. T. Sill, Esq. . . . .                | 8           | 1                | 3                      | 22   | 791                    | 31·13                                  | 200                                    |
| d Mostyn Vicarage . . . . .                  | Rev. W. Vaughan-Jones . . . . .         | 5           | 1                | 0                      | 100  | 974                    | 38·33                                  | 175                                    |
| 2.—CLWYD. 51 sq. mi.                         |   |             |                  |                        |      |                        |  |  |
| d Bodfari (Nantlys) . . . . .                | D. F. Pennant, Esq. . . . .             | 5           | 1                | 4                      | 178  | 920                    | 36·20                                  | 199                                    |
| d Bodfari (Cae Gwyn) . . . . .               | Mrs. Morgan . . . . .                   | 5           | 0                | 6                      | 542  | 932                    | 36·68                                  | 147                                    |
| d St. Asaph (St. Beuno's College) . . . . .  | Rev. R. S. Corish, S.J. . . . .         | 8           | 1                | 0                      | 480  | 947                    | 37·29                                  | 205                                    |
| Dyserth Castle . . . . .                     | J. B. Price, Esq. . . . .               | 5           | 0                | 6                      | 350  | 792                    | 31·18                                  | 155                                    |
| d Rhyl (Sewage Works) . . . . .              | A. A. Goodall, Esq. . . . .             | 8           | 1                | 0                      | 31   | 792                    | 31·19                                  | 217                                    |
| 3.—SEVERN—Left Bank Tributaries. 7 sq. mi.   |   |             |                  |                        |      |                        |  |  |
| DENBIGH. (Area, 668 sq. mi.)                 |   |             |                  |                        |      |                        |  |  |
| 1.—DEE. 270 sq. mi.                          |   |             |                  |                        |      |                        |  |  |
| d Glynceiriog School . . . . .               | R. Wynn Evans, Esq. . . . .             | 5           | 1                | 0                      | 560  | 1312                   | 51·66                                  | 203                                    |
| d Chirk Castle Gardens . . . . .             | Mr. James Vert . . . . .                | 5           | 1                | 2                      | 625  | 1120                   | 44·08                                  | 167                                    |
| d Ruabon (Whitehurst) . . . . .              | Mr. James Vert . . . . .                | 5           | 1                | 1                      | 327  | 1048                   | 41·24                                  | 207                                    |
| d Ruabon (Johnstown) . . . . .               | Ernest Jones, Esq. . . . .              | 5           | 2                | 6                      | 400  | 863                    | 33·98                                  | 163                                    |
| Wrexham (Ty Mawr Reservoir) . . . . .        | F. Storr, Esq., C.E. . . . .            | 5           | 0                | 9                      | 805  | 1202                   | 47·33                                  | ..                                     |
| Wrexham (Pack Saddle Res.) . . . . .         | F. Storr, Esq., C.E. . . . .            | 5           | 0                | 9                      | 370  | 1056                   | 41·59                                  | 187                                    |
| Wrexham (Cae Llwyd Res.) . . . . .           | F. Storr, Esq., C.E. . . . .            | 8           | 0                | 9                      | 918  | 1200                   | 47·25                                  | 153                                    |
| Wrexham (Cae Llwyd Res.) . . . . .           | F. Storr, Esq., C.E. . . . .            | 5           | 0                | 9                      | 918  | 1200                   | 47·23                                  | 154                                    |
| d Wrexham (Broughton Colliery) . . . . .     | J. Hall, Esq. . . . .                   | 5           | 1                | 6                      | 500  | 1128                   | 44·41                                  | 187                                    |
| d Brymbo (Pentre Broughtn Sch.) . . . . .    | D. E. Rees, Esq. . . . .                | 5           | 1                | 0                      | 680  | 1062                   | 41·79                                  | 150                                    |
| d R. Alwen (Hafod-llan-isaf) No.1 . . . . .  | J. H. Parkin, Esq. . . . .              | 5           | 1                | 0                      | 1200 | 1078                   | 42·45                                  | 221                                    |
| d R. Alwen (Hafod-llan-isaf) No.2 . . . . .  | J. H. Parkin, Esq. . . . .              | 5           | 1                | 2                      | 1200 | 1280                   | 50·41                                  | 162                                    |
| d R. Alwen (Hafod-llan-isaf) No.3 . . . . .  | J. H. Parkin, Esq. . . . .              | 5           | 1                | 0                      | 1200 | 1218                   | 47·97                                  | 203                                    |
| d Pentre Voelas (Nant Heilyn) . . . . .      | J. H. Parkin, Esq. . . . .              | 5           | 1                | 0                      | 1225 | 1581                   | 62·26                                  | 166                                    |
| d R. Brenig (Hafod-yr-Onen) . . . . .        | J. H. Parkin, Esq. . . . .              | 5           | 1                | 0                      | 1175 | 1295                   | 50·98                                  | 178                                    |
| m Nantglyn (Pant-y-maen) . . . . .           | J. H. Parkin, Esq. . . . .              | 8           | 1                | 0                      | 1320 | 1641                   | 64·60                                  | 219                                    |
| m Llyn Bran . . . . .                        | J. H. Parkin, Esq. . . . .              | 8           | 1                | 0                      | 1428 | 1691                   | 66·58                                  | 170                                    |

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(con.).

| STATIONS.  | AUTHORITIES.                   | Rain Gauge. |                  |                        |      | Depth of Rain. |        | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|--------------------------------|-------------|------------------|------------------------|------|----------------|--------|-------------------------------------|-------------------------------------|
|  |                                | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |        |                                     |                                     |
| DENBIGH—(con.).                                    |                                | in.         | ft.              | in.                    | ft.  | mm.            | in.    |                                     |                                     |
| <b>2.—CLWYD &amp; C. 267 sq. mi.</b>               |                                |             |                  |                        |      |                |        |                                     |                                     |
| Pentre Celyn Council School                        | John W. Jones, Esq.            | 5           | 1                | 2                      | 400  | 939            | 36·96  | ..                                  | ..                                  |
| d Gyffylliog (Fachlwyd Hall)                       | Elliott S. Currey, Esq.        | 5           | 1                | 0                      | 640  | 1151           | 45·30  | 231                                 | 191                                 |
| d Ruthin (Tymawr)                                  | Maj.-Gen. C. L. Cary           | 5           | 1                | 0                      | 400  | 898            | 35·34  | 211                                 | 172                                 |
| d Llangynhafal (Plâs Drâw)                         | Col. C. J. Bromhead, C.B.      | 5           | 1                | 0                      | 419  | 911            | 35·87  | 229                                 | 166                                 |
| d Gwytherin Council School                         | D. Jones, Esq.                 | 5           | 1                | 1                      | 700  | 1554           | 61·20  | 210                                 | 190                                 |
| d Llangerniew (Hafodunos)                          | Lt.-Col. T. Gee                | 5           | 2                | 6                      | 512  | 1437           | 56·57  | ..                                  | 193                                 |
| d Denbigh (Asylum)                                 | W. Barker, Esq.                | 5           | 1                | 0                      | 316  | 964            | 37·94  | 198                                 | 168                                 |
| d Denbigh (Garn)                                   | W. D. W. Griffith, Esq.        | 5           | 1                | 0                      | 447  | 1052           | 41·41  | 228                                 | 169                                 |
| M Llanefydd (Rhyl W.W. S.)                         | L. G. Hall, Esq., C.E.         | 5           | 1                | 0                      | 600  | 1084           | 42·68  | ..                                  | ..                                  |
| M Llanefydd (Rhyl W.W. W.)                         | L. G. Hall, Esq., C.E.         | 5           | 1                | 0                      | 580  | 1024           | 40·33  | ..                                  | ..                                  |
| d Llanefydd (Plas Uchaf Res.)                      | L. G. Hall, Esq., C.E.         | 5           | 1                | 0                      | 485  | 943            | 37·11  | 217                                 | 162                                 |
| d Llanefydd (Glascoed Res.)                        | L. G. Hall, Esq., C.E.         | 5           | 1                | 0                      | 360  | 1045           | 41·13  | 230                                 | 178                                 |
| d Trefnant (Maes Elwy)                             | Mrs. R. F. Birch               | 5           | 1                | 0                      | 195  | 929            | 36·57  | 183                                 | 148                                 |
| St. Asaph (Wygfair)                                | (R) Col. H. R. L. Howard, C.B. | 8           | 2                | 6                      | 250  | 1038           | 40·86  | ..                                  | ..                                  |
| d Abergele (Sea Road)                              | Sydney Wilson, Esq.            | 5           | 1                | 0                      | 30   | 970            | 38·19  | 187                                 | 167                                 |
| d Colwyn Bay (Council Offices)                     | W. Jones, Esq., C.E.           | 8           | 1                | 0                      | 83   | 972            | 38·26  | 173                                 | 168                                 |
| <b>3.—CONWAY. 84 sq. mi.</b>                       |                                |             |                  |                        |      |                |        |                                     |                                     |
| d Cerrigydruidion (Ty'nyfelin)                     | J. W. Jones, Esq.              | 5           | ..               | ..                     | 950  | 1205           | 47·45  | ..                                  | ..                                  |
| d Pentre Foelas (Voelas Hall)                      | Mr. T. Dickie                  | 5           | 1                | 3                      | 640  | 1680           | 66·13  | 223                                 | 199                                 |
| <b>4.—SEVERN—Left Bank Tributaries. 47 sq. mi.</b> |                                |             |                  |                        |      |                |        |                                     |                                     |
| Llanrhaiadr-yn-Mochnant                            | David F. Jones, Esq.           | 5           | 1                | 0                      | 400  | 1213           | 47·75  | ..                                  | ..                                  |
| Rhiwlas School                                     | B. J. E. Wright, Esq.          | ..          | ..               | ..                     | ..   | 1257           | 49·49  | ..                                  | ..                                  |
| d Llausilin (Penygwely Res.)                       | G. W. Lacey, Esq., C.E.        | 8           | 1                | 0                      | 1094 | 1159           | 45·64  | 218                                 | 163                                 |
| MERIONETH. (Area, 661 sq. mi.)                     |                                |             |                  |                        |      |                |        |                                     |                                     |
| <b>1.—DEE. 218 sq. mi.</b>                         |                                |             |                  |                        |      |                |        |                                     |                                     |
| Bala (Eryl Aran)                                   | Mrs. Burton                    | 8           | 1                | 0                      | 600  | 1838           | 72·38  | 228                                 | 208                                 |
| Llanderfel (Palé Gardens)                          | Mr. E. J. Edwards              | 8           | 1                | 0                      | 606  | 1603           | 63·10  | 221                                 | 204                                 |
| Corwen (Rûg Gardens)                               | Mr. H. Booker                  | 8           | 1                | 2                      | 500  | 820            | 32·28  | ..                                  | ..                                  |
| <b>2.—CLWYD. 7 sq. mi.</b>                         |                                |             |                  |                        |      |                |        |                                     |                                     |
| <b>3.—GLASLYN. 92 sq. mi.</b>                      |                                |             |                  |                        |      |                |        |                                     |                                     |
| d Tan-y-bwlch (The Gardens)                        | Mr. J. Roberts                 | 5           | 1                | 0                      | 50   | 2038           | 80·24  | 241                                 | 207                                 |
| Tan-y-bwlch (Dol-y-Moch)                           | Mrs. Howland Jackson           | 5           | 0                | 6                      | 55   | 2152           | 84·72  | 248                                 | 211                                 |
| d Blaenau Festiniog (Oakley Q.)                    | R. H. Jones, Esq.              | 5           | 10               | 0                      | 1100 | 2982           | 117·38 | 233                                 | 212                                 |
| d Blaenau Festiniog (Llechwedd Q.)                 | Messrs. J. W. Greaves & Sons   | 5           | 1                | 0                      | 770  | 3268           | 128·65 | 268                                 | 224                                 |
| <b>4.—MAWDDACH &amp; C. 262 sq. mi.</b>            |                                |             |                  |                        |      |                |        |                                     |                                     |
| d Towyn (Ynys-y-Maengwyn)                          | Roger Corbett, Esq.            | 5           | 1                | 0                      | 14   | 1438           | 56·62  | 221                                 | 187                                 |
| d Towyn (Peniarth)                                 | Mrs. Wynne                     | 8           | 1                | 0                      | 25   | 1666           | 65·59  | 218                                 | 196                                 |
| d Dolgelly (Dr. Williams' School)                  | Miss F. A. Anstey              | 5           | 4                | 0                      | 43   | 1636           | 64·40  | 185                                 | 169                                 |
| d Dolgelly (Bryntirion)                            | E. P. Beale, Esq.              | 5           | 0                | 10                     | 50   | 1959           | 77·12  | 216                                 | 196                                 |
| d Trawsfynydd Camp                                 | E. Jones, Esq.                 | 5           | 1                | 0                      | 800  | 2206           | 86·86  | 224                                 | 216                                 |
| <b>5.—DOVEY. 82 sq. mi.</b>                        |                                |             |                  |                        |      |                |        |                                     |                                     |
| d Aberdovey (Plas Penhelig)                        | J. M. Howell, Esq.             | 5           | 1                | 0                      | 130  | 1311           | 51·61  | 228                                 | 182                                 |
| Pennal (Talgarth Hall)                             | B. K. Gott, Esq.               | 5           | 0                | 5                      | 125  | 1828           | 71·97  | 198                                 | 185                                 |
| <b>6.—SEVERN—Left Bank Tributaries.</b>            |                                |             |                  |                        |      |                |        |                                     |                                     |
| CARNARVON. (Area, 572 sq. mi.)                     |                                |             |                  |                        |      |                |        |                                     |                                     |
| <b>1.—BARDSEY ISLAND.</b>                          |                                |             |                  |                        |      |                |        |                                     |                                     |
| Bardsey Island                                     | Hon. F. G. Wynn                | 5           | 1                | 0                      | 20   | 1127           | 44·38  | ..                                  | ..                                  |
| <b>2.—CONWAY &amp; C. 146 sq. mi.</b>              |                                |             |                  |                        |      |                |        |                                     |                                     |
| Bettws-y-Coed (Coed Fa)                            | E. C. Buxton, Esq.             | ..          | ..               | ..                     | ..   | 1772           | 69·76  | ..                                  | ..                                  |
| M Lake Cowlyd (Llethyr Gwyn)                       | C. F. Farrington, Esq., C.E.   | 5           | 1                | 0                      | 1700 | 2516           | 99·05  | ..                                  | ..                                  |
| M Lake Colwlyd (Gors-y-Llithrig)                   | C. F. Farrington, Esq., C.E.   | 5           | 1                | 0                      | 1900 | 2252           | 88·66  | ..                                  | ..                                  |
| M L. Cowlyd (Ffrith Carreg Wen)                    | C. F. Farrington, Esq., C.E.   | 5           | 1                | 0                      | 1168 | 2570           | 101·17 | ..                                  | ..                                  |
| d Trefriw Wells                                    | C. P. Adamson, Esq.            | 5           | 1                | 0                      | 25   | 1550           | 61·03  | 205                                 | 180                                 |

## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS—(con.).

| STATIONS.                                   | AUTHORITIES.                              | Rain Gauge. |                  |                        |      | Depth of Rain. |        | Days<br>with<br>or<br>more. | Days<br>with<br>or<br>more. |
|---|---|-------------|------------------|------------------------|------|----------------|--------|-----------------------------|-----------------------------|
|   |   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |        |                             |                             |
| CARNARVON—(con.).                           |   | in.         | ft.              | in.                    | ft.  | mm.            | in.    |                             |                             |
| 2.—CONWAY & C.—(con.).                      |   |             |                  |                        |      |                |        |                             |                             |
| D Lake Eigiau (Dam Site) . . . . .          | H. J. Jack, Esq. . . . .                  | 5           | 1                | 5                      | 1245 | 2631           | 103·57 | 233                         | 211                         |
| W Llanbedr-y-Cennin (Plasdulyn) . . . . .   | W. T. Ward, Esq. . . . .                  | 8           | 1                | 0                      | 509  | 1728           | 68·01  | ..                          | ..                          |
| W Llanbedr-y-Cennin (Llyndulyn) . . . . .   | W. T. Ward, Esq. . . . .                  | 8           | 1                | 6                      | 1632 | 2294           | 90·31  | ..                          | ..                          |
| Deganwy (Y Berlfa) . . . . .                | (R) Willoughby Gardner, Esq. . . . .      | 5           | 1                | 0                      | 35   | 1069           | 42·08  | ..                          | ..                          |
| d Llandudno (Glanwydden School) . . . . .   | Thomas Roberts, Esq. . . . .              | 5           | 1                | 0                      | 28   | 965            | 37·98  | ..                          | ..                          |
| D Llandudno . . . . .                       | W. Little, Esq. . . . .                   | 5           | 1                | 0                      | 22   | 972            | 38·28  | 212                         | 152                         |
| 3.—MENAI STRAITS, 221 sq. mi.               |   |             |                  |                        |      |                |        |                             |                             |
| D Madryn Castle (Farm School) . . . . .     | J. Hines, Esq. . . . .                    | 5           | 1                | 0                      | 285  | 1206           | 47·47  | 215                         | 164                         |
| d Llanllyfni (Bryn Aerau School) . . . . .  | Llewelyn Parry, Esq. . . . .              | 5           | 1                | 0                      | 50   | 1653           | 65·07  | ..                          | ..                          |
| M Nantlle (Dorothea Quarries) . . . . .     | W. J. Griffith, Esq. . . . .              | 8           | 70               | 0                      | 460  | 1976           | 77·81  | ..                          | ..                          |
| Llandwrog (Glynllivon Park) . . . . .       | Hon. F. G. Wynn . . . . .                 | 5           | 1                | 0                      | 100  | 1515           | 59·63  | ..                          | ..                          |
| Llandwrog (Glynllivon Nursery) . . . . .    | Hon. F. G. Wynn . . . . .                 | 5           | 1                | 0                      | 180  | 1576           | 62·04  | 203                         | ..                          |
| Llandwrog (Glynllivon Garden) . . . . .     | Hon. F. G. Wynn . . . . .                 | 5           | 1                | 0                      | 100  | 1575           | 62·00  | ..                          | ..                          |
| Llandwrog (Glynllivon Fort) . . . . .       | Hon. F. G. Wynn . . . . .                 | 5           | 1                | 0                      | 200  | 1595           | 62·81  | ..                          | ..                          |
| D Bettws Garmon . . . . .                   | Rev. T. C. V. Bastow . . . . .            | 5           | 0                | 7                      | 414  | 2080           | 81·90  | 239                         | 206                         |
| Waenfawr (Council School) . . . . .         | R. O. Pritchard, Esq. . . . .             | 5           | 1                | 6                      | 512  | 1738           | 68·43  | ..                          | ..                          |
| Carnarvon (Belan Fort) . . . . .            | Hon. F. G. Wynn . . . . .                 | 5           | 1                | 0                      | 12   | 1242           | 48·90  | ..                          | ..                          |
| D Llanberis (Bryntirion) . . . . .          | Mr. Emrys Jones . . . . .                 | 5           | 1                | 9                      | 365  | 2474           | 97·40  | 233                         | 217                         |
| Lake Ogwen C.E. School . . . . .            | R. Hughes, Esq. . . . .                   | 5           | 1                | 0                      | 1006 | 3233           | 127·27 | ..                          | ..                          |
| D Llanberis (Llandinorwig School) . . . . . | John Roberts, Esq. . . . .                | 5           | 1                | 0                      | 850  | 1905           | 75·01  | 215                         | 188                         |
| D Bethesda (St. Ann's Vicarage) . . . . .   | Rev. W. Morgan . . . . .                  | 5           | 2                | 0                      | 450  | 2000           | 78·75  | 238                         | 203                         |
| D Bethesda (Penrhyn Quarries) . . . . .     | W. D. Hobson, Esq. . . . .                | 8           | 1                | 0                      | 528  | 2065           | 81·29  | 247                         | 213                         |
| D Bangor (Penrhyn Castle Gdns.) . . . . .   | Mr. W. Speed . . . . .                    | 5           | 1                | 0                      | 150  | 1248           | 49·15  | 203                         | 174                         |
| D Llanfairfechan . . . . .                  | Mr. W. Timmins . . . . .                  | 5           | 1                | 0                      | 144  | 1178           | 46·39  | 205                         | 169                         |
| M Penmaenmawr (Mountain Res.) . . . . .     | R. J. Hughes, Esq. . . . .                | 5           | 1                | 6                      | 1200 | 1624           | 63·94  | ..                          | ..                          |
| D Penmaenmawr (Council Offices) . . . . .   | R. J. Hughes, Esq. . . . .                | 5           | 1                | 6                      | 100  | 1231           | 48·48  | 219                         | 173                         |
| 4.—ERCH & C. 155 sq. mi.                    |   |             |                  |                        |      |                |        |                             |                             |
| D Abersoch . . . . .                        | Sir W. H. Winterbotham . . . . .          | 8           | 1                | 0                      | 100  | 1439           | 56·66  | 212                         | 199                         |
| D Brynicroes (Schoolhouse) . . . . .        | E. R. Williams, Esq. . . . .              | 5           | 0                | 11                     | 320  | 1426           | 56·16  | 196                         | 169                         |
| D Pwllheli (Bodfean Hall) . . . . .         | Hon. F. G. Wynn . . . . .                 | 5           | 1                | 0                      | 200  | 1345           | 52·96  | 207                         | ..                          |
| D Pwllheli (Bodfean Hall Gdns.) . . . . .   | Hon. F. G. Wynn . . . . .                 | 5           | 1                | 0                      | 200  | 1428           | 56·20  | 207                         | ..                          |
| d Fourcrosses (Council School) . . . . .    | Morris Williams, Esq. . . . .             | 5           | 1                | 3                      | 200  | 1668           | 65·67  | ..                          | ..                          |
| 5.—GLASLYN. 50 sq. mi.                      |   |             |                  |                        |      |                |        |                             |                             |
| Beddgelert (Council School) . . . . .       | David Jones, Esq. . . . .                 | 5           | 1                | 0                      | 133  | 2792           | 109·90 | ..                          | 165                         |
| Snowdon (Wenallt) . . . . .                 | No. 6 H. J. Jack, Esq. . . . .            | 5           | 1                | 2                      | 1050 | 4193           | 165·08 | ..                          | ..                          |
| M Snowdon (Lliwedd) . . . . .               | No. 2 H. J. Jack, Esq. . . . .            | 5           | 1                | 3                      | 1485 | 4486           | 176·61 | ..                          | ..                          |
| M Snowdon (Glaslyn) . . . . .               | No. 3 H. J. Jack, Esq. . . . .            | 5           | 0                | 8                      | 2050 | 4119           | 162·15 | ..                          | ..                          |
| M Snowdon (Teyrn) . . . . .                 | No. 1 H. J. Jack, Esq. . . . .            | 5           | 1                | 0                      | 1080 | 4382           | 172·52 | ..                          | ..                          |
| Snowdon (Llydaw Intake) . . . . .           | 10 H. J. Jack, Esq. . . . .               | 5           | 1                | 0                      | 1480 | 4045           | 159·26 | ..                          | ..                          |
| Snowdon (L. Llydaw Copper M.) . . . . .     | 9 H. J. Jack, Esq. . . . .                | 5           | 1                | 5                      | 1480 | 4311           | 169·71 | ..                          | ..                          |
| M Snowdon (Crib Goch) . . . . .             | No. 8 H. J. Jack, Esq. . . . .            | 5           | 1                | 3                      | 2340 | 4661           | 183·49 | ..                          | ..                          |
| M Snowdon (Llyn Llydaw, N.) . . . . .       | 5 H. J. Jack, Esq. . . . .                | 5           | 1                | 0                      | 1470 | 4191           | 165·01 | ..                          | ..                          |
| ANGLESEY. (Area, 275 sq. mi.)               |   |             |                  |                        |      |                |        |                             |                             |
| Llandwyn Island . . . . .                   | Hon. F. G. Wynn . . . . .                 | 5           | 1                | 0                      | 20   | 883            | 34·77  | ..                          | ..                          |
| D Plas Newydd Gardens . . . . .             | Mr. W. Owen . . . . .                     | 5           | 1                | 0                      | 50   | 1354           | 53·31  | 224                         | 179                         |
| D Llangadwaladr (Bodorgan) . . . . .        | Mr. W. Pilgrim . . . . .                  | 5           | 1                | 0                      | 100  | 1260           | 49·62  | 219                         | 184                         |
| Llanfaelog . . . . .                        | H. S. Lowe, Esq. . . . .                  | 5           | 0                | 6                      | 50   | 1002           | 39·43  | ..                          | ..                          |
| D Llangefni (Penrhos) . . . . .             | Miss M. Nicholls-Jones . . . . .          | 8           | 0                | 9                      | 132  | 1298           | 51·11  | 193                         | 176                         |
| Beaumaris (Fryars) . . . . .                | Mrs. Burton . . . . .                     | 10          | 2                | 0                      | 20   | 1237           | 48·71  | ..                          | ..                          |
| D Llangwilog (Trescawen) . . . . .          | Late J. H. Pritchard-Rayner, Esq. . . . . | 5           | 1                | 0                      | 239  | 1365           | 53·73  | 205                         | 181                         |
| D Bodedern (Presaddfed) . . . . .           | Lt.-Col. W. A. Fox-Pitt . . . . .         | 5           | 1                | 0                      | 155  | 1316           | 51·80  | 238                         | 195                         |
| D Holyhead (Salt Island) . . . . .          | Meteorological Office . . . . .           | 5           | 1                | 0                      | 15   | 1231           | 48·48  | 231                         | 173                         |
| D Llanerchymedd (Llwydiarth Esbg) . . . . . | Miss Prichard . . . . .                   | 5           | 1                | 6                      | 175  | 1225           | 48·22  | 231                         | 180                         |
| D Penrhoslligwy School . . . . .            | T. Rowlands, Esq. . . . .                 | 5           | 1                | 0                      | 140  | 1337           | 52·63  | 211                         | 180                         |
| D Lligwy . . . . .                          | Lord Boston . . . . .                     | 5           | 1                | 0                      | 170  | 1172           | 46·16  | 223                         | 178                         |
| Amlwch (Dyffryn Adda) . . . . .             | Major T. Fanning Evans . . . . .          | 5           | 1                | 2                      | 178  | 1215           | 47·85  | 248                         | ..                          |



## DIVISION XI.—MONMOUTH, WALES, AND THE ISLANDS.—(con.).

| STATIONS.                           | AUTHORITIES.                   | Rain Gauge. |                  |                        |            | Depth of Rain. |            | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|-------------------------------------|--------------------------------|-------------|------------------|------------------------|------------|----------------|------------|-------------------------------------|-------------------------------------|
|                                     |                                | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |            | 1920           |            |                                     |                                     |
| ISLE OF MAN. (Area, 227 sq. mi.)    |                                | <i>in</i>   | <i>ft.</i>       | <i>in.</i>             | <i>ft.</i> | <i>mm.</i>     | <i>in.</i> |                                     |                                     |
| Castletown (Langness) .....         | Board of Northern Lights       | 8           | 1                | 0                      | 75         | 833            | 32·78      | 189                                 | ..                                  |
| Santon Vicarage .....               | Rev. R. Jones .....            | 5           | 0                | 10                     | 245        | 1080           | 42·50      | 209                                 | ..                                  |
| Douglashead .....                   | Board of Northern Lights       | ..          | ..               | ..                     | ..         | 722            | 29·61      | 169                                 | ..                                  |
| D Douglas (Borough Cemetery) ..     | H. A. Bridge, Esq. ....        | 8           | 1                | 0                      | 277        | 1197           | 47·13      | 237                                 | 177                                 |
| D Douglas (Clype Res., Onchan) ..   | Mr. W. Crebbin .....           | 8           | 1                | 0                      | 420        | 1208           | 47·54      | 221                                 | 170                                 |
| Maughold Head .....                 | Board of Northern Lights       | ..          | ..               | ..                     | ..         | 595            | 23·42 ?    | 165                                 | ..                                  |
| D Kirkmichael (Bishop's Court) ..   | Mr. W. Brew .....              | 5           | 0                | 10                     | 80         | 1007           | 39·63      | 178                                 | 164                                 |
| D Ramsey (Town Hall) .....          | G. W. Kewin, Esq. ....         | 8           | 15               | 0                      | 18         | 1199           | 47·20      | 208                                 | 157                                 |
| D Ramsey (North Promenade) ..       | G. W. Kewin, Esq. ....         | 5           | 2                | 0                      | 5          | 1238           | 48·73      | 209                                 | 170                                 |
| Point of Ayre .....                 | Board of Northern Lights       | 3           | 4                | 6                      | 116        | 745            | 29·33      | ..                                  | ..                                  |
| CHANNEL ISLANDS. (Area, 76 sq. mi.) |                                |             |                  |                        |            |                |            |                                     |                                     |
| JERSEY. 45 sq. mi.                  |                                |             |                  |                        |            |                |            |                                     |                                     |
| D Pontac (St. Edmunds) .....        | Dr. E. G. Barnes .....         | 5           | 1                | 6                      | 30         | 660            | 26·00      | 188                                 | 130                                 |
| D St. Saviour's (Clifton) .....     | Mrs. Hawksford .....           | 5           | 3                | 1                      | 218        | 722            | 28·43      | 186                                 | 135                                 |
| D St. Helier (St. Louis Obsy.) ..   | Rev. M. Dechevrens, S.J. ..    | 8           | 5                | 9                      | 177        | 647            | 25·48      | 174                                 | 125                                 |
| D St. Brelades (La Sergente) ..     | Mrs. Hawksford .....           | 5           | 1                | 4                      | 188        | 632            | 24·89      | 161                                 | 125                                 |
| D St. Aubins (Railway Station) ..   | Meteorological Office .....    | 8           | 1                | 9                      | 36         | 679            | 26·72      | 163                                 | 129                                 |
| D St. Aubins (Belle Vue) .....      | C. J. Sumner, Esq. ....        | 5           | 1                | 4                      | 220        | 748            | 29·43      | 173                                 | 136                                 |
| D Grouville (Gouray Lodge) .....    | Mrs. Hawksford .....           | 5           | 1                | 3                      | 101        | 717            | 28·23      | ..                                  | 126                                 |
| D Millbrook (St. Helier W.W.) ..    | A. J. Jenkins, Esq., C.E. ...  | 5           | 0                | 11                     | 53         | 674            | 26·55      | 164                                 | 130                                 |
| D St. Ouen's Manor .....            | R. Malet de Carteret, Esq. ... | 5           | 2                | 6                      | 270        | 740            | 29·15      | 159                                 | ..                                  |
| D Trinity (Rock Mount) .....        | Mrs. Hawksford .....           | 5           | 2                | 0                      | 412        | 669            | 26·33      | 170                                 | 125                                 |
| GUERNSEY. 25 sq. mi.                |                                |             |                  |                        |            |                |            |                                     |                                     |
| St. Peter in the Wood (Les Héches)  | F. J. Lilley, Esq. ....        | 5           | 3                | 0                      | 300        | 788            | 31·01      | 218                                 | ..                                  |
| D St. Peter in the Wood (Hawthorns) | L. J. Nicholle, Esq. ....      | 5           | 1                | 0                      | 100        | 703            | 27·69      | 174                                 | 134                                 |
| D St. Martins (Les Blanchés) ..     | B. T. Rowswell, Esq. ....      | 5           | 1                | 0                      | 310        | 822            | 32·38      | 180                                 | 149                                 |
| D St. Martin's Rectory .....        | Rev. R. Coulthard .....        | 5           | 1                | 0                      | 310        | 822            | 32·35      | 180                                 | 143                                 |
| D St. Martins (Hautnez) .....       | A. A. Allain, Esq., C.E. ...   | 5           | 0                | 8                      | 336        | 842            | 33·14      | 200                                 | 143                                 |
| D Villiaze .....                    | A. A. Allain, Esq., C.E. ...   | 5           | 0                | 6                      | 302        | 861            | 33·88      | 210                                 | 146                                 |
| D St. Saviours (Le Mont Saint) ..   | S. Carey Curtis, Esq. ....     | 5           | 1                | 0                      | 105        | 740            | 29·14      | 171                                 | 135                                 |
| D St. Peter Port (St. Martin's Rd.) | A. Collenette, Esq. ....       | 5           | 1                | 0                      | 295        | 868            | 34·16      | 203                                 | 151                                 |
| D St. Peter Port (Queens Road) ..   | A. A. Allain, Esq., C.E. ...   | 5           | 0                | 6                      | 220        | 883            | 34·75      | 190                                 | 156                                 |
| D St. Peter Port (Market Street)    | B. T. Rowswell, Esq. ....      | 5           | 52               | 8                      | 100        | 846            | 33·32      | 177                                 | 147                                 |
| D St. Peter Port (Villa Carey) ..   | Dr. F. E. Carey .....          | 8           | 1                | 2                      | 180        | 846            | 33·30      | 188                                 | 151                                 |
| Rohais (Colborne Villa) .....       | A. Collenette, Esq. ....       | 5           | 1                | 0                      | ..         | 798            | 31·42      | 184                                 | ..                                  |
| Menheniot Vineries .....            | Major H. Roper .....           | 5           | 1                | 0                      | ..         | 852            | 33·55      | 161                                 | ..                                  |
| D Castel (St. George) .....         | Rev. H. G. de C. S. Guille     | 5           | 1                | 0                      | 120        | 754            | 29·68      | 194                                 | 141                                 |
| St. Sampsons (Lowlands) .....       | A. Collenette, Esq. ....       | 5           | on roof          | ..                     | ..         | 721            | 28·39      | 162                                 | ..                                  |
| Fort Doyle (Platte Fougère) (R)     | A. Collenette, Esq. ....       | ..          | on roof          | ..                     | ..         | 583            | 22·94 ?    | 155                                 | ..                                  |
| SARK. 2 sq. mi.                     |                                |             |                  |                        |            |                |            |                                     |                                     |
| D Pointe Robert .....               | B. T. Rowswell, Esq. ....      | 5           | 1                | 0                      | 215        | 792            | 31·20      | 188                                 | 146                                 |
| HERM. 1 sq. mi.                     |                                |             |                  |                        |            |                |            |                                     |                                     |
| ALDERNEY. 3 sq. mi.                 |                                |             |                  |                        |            |                |            |                                     |                                     |
| D St. Anne's Rectory .....          | B. T. Rowswell, Esq. ....      | 5           | 1                | 0                      | 205        | 856            | 33·68      | 169                                 | 146                                 |

## SCOTLAND.

## DIVISION XII.—SOUTHERN COUNTIES.

| STATIONS.                                  | AUTHORITIES.                   | Rain Gauge. |        |     |        | Depth of Rain. |        | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|--------------------------------|-------------|--------|-----|--------|----------------|--------|-------------------------------------|-------------------------------------|
|  |                                | Diam.       | Height |     | above  | 1920           |        |                                     |                                     |
|  |                                |             | Ground | Sea | Level. |                |        |                                     |                                     |
|  |                                | in.         | ft.    | in. | ft.    | mm.            | in.    |                                     |                                     |
| WIGTOWN. (Area, 488 sq. mi.)               |                                |             |        |     |        |                |        |                                     |                                     |
| 1.—LOCH RYAN. 46 sq. mi.                   |                                |             |        |     |        |                |        |                                     |                                     |
| Loch Ryan Lighthouse .....                 | Board of Northern Lights ..    | ..          | ..     | ..  | 46     | 978            | 38·52  | 157                                 | ..                                  |
| 2.—WESTERN GALLOWAY. 44 sq. mi.            |                                |             |        |     |        |                |        |                                     |                                     |
| Mull of Galloway .....                     | Board of Northern Lights ..    | ..          | ..     | ..  | 327    | 650            | 25·59? | ..                                  | ..                                  |
| d Logan House .....                        | K. McDouall, Esq. ....         | 8           | 1      | 0   | 80     | 1141           | 44·91  | 242                                 | 175                                 |
| Corsewall .....                            | Board of Northern Lights ..    | ..          | 3      | 4   | 112    | 1382           | 54·39? | 200                                 | ..                                  |
| 3.—LUCE BAY. 186 sq. mi.                   |                                |             |        |     |        |                |        |                                     |                                     |
| d Stoneykirk (Ardwell House) ...           | Sir M. McT. Stewart, Bt. ...   | 8           | 2      | 4   | 65     | 1156           | 45·52  | 233                                 | 183                                 |
| Glenluce (Crews) .....                     | Peter Taylor, Esq. ....        | 5           | 1      | 9   | 218    | 1312           | 51·64  | 241                                 | ..                                  |
| 4.—CREE & WIGTOWN BAY. 212 sq. mi.         |                                |             |        |     |        |                |        |                                     |                                     |
| d Whithorn (Cutroach) .....                | J. G. Martin, Esq. ....        | 5           | 0      | 6   | 120    | 1008           | 39·67  | 185                                 | 169                                 |
| d Kirkcowan (Craighlaw) .....              | Major W. F. Hamilton ...       | 8           | 1      | 3   | 250    | 1269           | 49·95  | 175                                 | 165                                 |
| KIRKCUDBRIGHT. (Area, 902 sq. mi.)         |                                |             |        |     |        |                |        |                                     |                                     |
| 1.—DOON. 16 sq. mi.                        |                                |             |        |     |        |                |        |                                     |                                     |
| 2.—CREE & WIGTOWN BAY. 222 sq. mi.         |                                |             |        |     |        |                |        |                                     |                                     |
| Creetown (Cassencary) .....                | J. A. Henryson-Caird, Esq. 5   | 0           | 8      | 50  | 1214   | 47·80          | ..     | ..                                  | ..                                  |
| d Palnure (Bargaly) .....                  | Mrs. Colvin Stewart .....      | 8           | 3      | 5   | 100    | 1484           | 58·44  | 221                                 | 191                                 |
| 3.—DEE. 377 sq. mi.                        |                                |             |        |     |        |                |        |                                     |                                     |
| Little Ross Lighthouse .....               | Board of Northern Lights ..    | ..          | 3      | 3   | 175    | 742            | 29·23? | ..                                  | ..                                  |
| New Galloway (Glenlee Park) ...            | Mr. C. Jamieson .....          | 5           | 0      | 6   | 234    | 1596           | 62·83  | 209                                 | ..                                  |
| d Dalry (Glendaroch) .....                 | Miss M. Barbour .....          | 5           | 0      | 11  | 192    | 1561           | 61·44  | 258                                 | 206                                 |
| Dalry (Garroch) .....                      | Arthur Young, Esq. ....        | 8           | 1      | 3   | 250    | 1840           | 72·43  | 250                                 | 207                                 |
| d Carsphairn (Shiel) .....                 | Mr. S. Wilson .....            | 5           | 1      | 0   | 850    | 2038           | 80·25  | 258                                 | 232                                 |
| d Carsphairn (Knockgray) .....             | Miss Clark Kennedy .....       | 8           | 0      | 11  | 641    | 1540           | 60·64  | 243                                 | 218                                 |
| 4.—URR & C. 196 sq. mi.                    |                                |             |        |     |        |                |        |                                     |                                     |
| Auchencairn (Torr House) ....              | W. Ovens, Esq. ....            | 5           | 0      | 8   | 30     | 1340           | 52·75  | ..                                  | ..                                  |
| d Dalbeattie (Kirkennan) .....             | Wellwood Maxwell, Esq. ...     | 5           | 0      | 9   | 30     | 1243           | 48·95  | 228                                 | 185                                 |
| d Dalbeattie (Richorn Wood) ...            | Mrs. McNae .....               | 5           | 1      | 0   | 54     | 1182           | 46·53  | 232                                 | 178                                 |
| d Dalbeattie (Southwick) .....             | Sir M. McT. Stewart, Bart. 5   | 1           | 0      | 150 | 1271   | 50·03          | 227    | 191                                 | ..                                  |
| d Kirkpatrick Durham (Glenlair) .          | A. L. Hannay, Esq. ....        | 5           | 0      | 9   | 250    | 1331           | 52·40  | 185                                 | 175                                 |
| 5.—NITH & C. 91 sq. mi.                    |                                |             |        |     |        |                |        |                                     |                                     |
| d Dumfries (Cargen) .....                  | Col. R. F. Dudgeon .....       | 5           | 0      | 10  | 80     | 1324           | 52·12  | 236                                 | 187                                 |
| d Dumfries (Carruchan) .....               | Maj. J. M. Stewart .....       | 5           | 2      | 6   | 100    | 1179           | 46·41  | 224                                 | 170                                 |
| Lochrutton (Dumfries W.W.) ...             | J. Smellie, Esq. ....          | 5           | 1      | 0   | 273    | 1322           | 52·04  | 258                                 | ..                                  |
| d Dumfries (Lincluden House) ...           | Miss Young, M.B.E. ....        | 5           | 1      | 0   | 60     | 1129           | 44·45  | 221                                 | 179                                 |
| d Dumfries (Jardington) .....              | J. Rutherford, Esq. ....       | 5           | 1      | 0   | 50     | 1129           | 44·46  | 240                                 | 181                                 |
| Dumfries (Newton) .....                    | George Russell, Esq. ....      | 5           | 1      | 6   | ..     | 993            | 39·09  | ..                                  | ..                                  |
| DUMFRIES. (Area, 1074 sq. mi.)             |                                |             |        |     |        |                |        |                                     |                                     |
| 1.—CLYDE—Right Bank Tributaries. 5 sq. mi. |                                |             |        |     |        |                |        |                                     |                                     |
| 2.—URR. 6 sq. mi.                          |                                |             |        |     |        |                |        |                                     |                                     |
| 3.—NITH & C. 421 sq. mi.                   |                                |             |        |     |        |                |        |                                     |                                     |
| d Ruthwell (Comlongan Castle) ...          | Earl of Mansfield .....        | 5           | 1      | 0   | 74     | 996            | 39·21  | 203                                 | 165                                 |
| d Dumfries (Crichton Roy. Inst.)           | Mr. E. Joss .....              | 5           | 1      | 0   | 140    | 988            | 38·90  | 211                                 | 156                                 |
| Moniaive (Glencrosh) .....                 | Miss Macmillan .....           | 5           | 1      | 2   | 350    | 1522           | 59·90  | 233                                 | 192                                 |
| d Moniaive (Maxwelton House) ...           | Sir Claude V. E. Laurie, Bt. 5 | 1           | 6      | 400 | 1238   | 48·72          | ..     | ..                                  | 159                                 |
| d Thornhill (Waulkmill) .....              | John S. Rankin, Esq. ....      | 5           | 0      | 7   | 232    | 1197           | 47·13  | 211                                 | 169                                 |
| Durrisdeer (Drumlanrig Gdns.)              | Mr. D. Inglis .....            | 5           | 0      | 9   | 191    | 1293           | 50·91  | ..                                  | ..                                  |

## DIVISION XII.—SOUTHERN COUNTIES—(con.).

| STATIONS.  | AUTHORITIES.               | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|----------------------------|-------------|------------------|------------------------|-----|----------------|-------|-------------------------------------|-------------------------------------|
|  |                            | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |                                     |                                     |
| DUMFRIES—(con.).                                   |                            | in.         | ft.              | in.                    | ft. | mm.            | in.   |                                     |                                     |
| 4.—ANNAN. 367 sq. mi.                              |                            |             |                  |                        |     |                |       |                                     |                                     |
| Dalton (Whitcroft)                                 | W. Maitland-Heriot, Esq.   | 5           | 0                | 6                      | 240 | 1186           | 46·69 | 237                                 | 185                                 |
| d Hoddam Castle                                    | G. J. Booth, Esq.          | 5           | 1                | 4                      | 150 | 1133           | 44·61 | 209                                 | 174                                 |
| D Dalton (School House)                            | P. C. Copland, Esq.        | 5           | 1                | 0                      | 175 | 1114           | 43·87 | 257                                 | 165                                 |
| D Dalton (Kirkwood)                                | Arthur J. Steel, Esq.      | 5           | 0                | 8                      | 245 | 1437           | 56·56 | 242                                 | 196                                 |
| Lockerbie (Castle Milk)                            | Mr. J. T. Jeffrey          | 5           | 1                | 6                      | 199 | 1097           | 43·18 | 199                                 | 169                                 |
| D Lochmaben (Esthwaite)                            | W. J. Halliday, Esq.       | 5           | 1                | 0                      | 166 | 1115           | 43·90 | 226                                 | 184                                 |
| Amisfield (Glenae)                                 | H. Sharpe Gordon, Esq. OBE | 5           | 0                | 11                     | 300 | 1048           | 41·28 | ..                                  | ..                                  |
| Moffat (Craigielands)                              | Mr. Luke Fraser            | 5           | 1                | 0                      | 334 | 1464           | 57·63 | ..                                  | ..                                  |
| 5.—ESK. 275 sq. mi.                                |                            |             |                  |                        |     |                |       |                                     |                                     |
| M Canonbie (Byreburnfoot)                          | Mr. David Crabbe           | 3           | 0                | 9                      | 160 | 1314           | 51·75 | ..                                  | ..                                  |
| D Canonbie (Irvine House)                          | J. H. Milne Home, Esq.     | 5           | 0                | 9                      | 200 | 1292           | 50·86 | 218                                 | 181                                 |
| D Langholm (Broomholm)                             | W. C. Everley Taylor, Esq. | 5           | 1                | 0                      | 266 | 1361           | 53·60 | 213                                 | 183                                 |
| D Langholm (Drove Road)                            | Mrs. Jackson               | 5           | 0                | 9                      | 270 | 1386           | 54·58 | 209                                 | 178                                 |
| D Langholm (Craig)                                 | J. Little, Esq.            | 5           | 1                | 0                      | 450 | 1392           | 54·80 | 224                                 | 191                                 |
| Langholm (Ewes)                                    | Mrs. Lyall                 | 5           | 1                | 0                      | 445 | 1444           | 56·85 | ..                                  | ..                                  |
| D Eskdalemuir Observatory                          | Meteorological Office      | 11          | 2                | 0                      | 794 | 1651           | 64·99 | 245                                 | 197                                 |
| ROXBURGH. (Area, 666 sq. mi.)                      |                            |             |                  |                        |     |                |       |                                     |                                     |
| 1.—NORTH TYNE. 6 sq. mi.                           |                            |             |                  |                        |     |                |       |                                     |                                     |
| 2.—TWEED, LOWER—Right Bank Tributaries. 57 sq. mi. |                            |             |                  |                        |     |                |       |                                     |                                     |
| D Kelso (Lempitlaw)                                | J. Stirling, Esq.          | 5           | 1                | 0                      | 635 | 722            | 28·44 | 171                                 | 137                                 |
| Kelso (Springwood Seed Ground)                     | Messrs. Laing & Mather     | 5           | 1                | 0                      | 200 | 665            | 26·17 | 194                                 | 141                                 |
| 3.—TWEED—Teviot & c. 431 sq. mi.                   |                            |             |                  |                        |     |                |       |                                     |                                     |
| Hawick (Wolfelee)                                  | W. Steedman, Esq.          | 5           | 0                | 10                     | 537 | 1021           | 40·21 | 223                                 | 166                                 |
| D Hawick (Branxholme)                              | J. G. Winning, Esq.        | 5           | 0                | 6                      | 457 | 914            | 36·00 | 220                                 | 163                                 |
| D Denholm (Spital Tower)                           | Mr. A. Archibald           | 5           | 0                | 9                      | 410 | 842            | 33·17 | 202                                 | 157                                 |
| D Jedburgh (Jedneuk)                               | John Scott, Esq.           | 5           | 1                | 0                      | 271 | 682            | 26·86 | 207                                 | 135                                 |
| Ancrum (Monteviot)                                 | Bertram Talbot, Esq.       | 5           | 2                | 6                      | 200 | 743            | 29·24 | 190                                 | ..                                  |
| St. Boswells (Monksford)                           | Lt.-Col. A. Mitchell       | 5           | 0                | 11                     | 320 | 739            | 29·10 | ..                                  | ..                                  |
| D St. Boswells (The Fens)                          | J. J. Fairbairn, Esq.      | 5           | 1                | 6                      | 260 | 661            | 26·02 | 179                                 | 133                                 |
| Kelso (Springwood Park)                            | Mr. W. Chaplin             | 5           | 1                | 0                      | 130 | 585            | 23·02 | 187                                 | 119                                 |
| 4.—TWEED—Ettrick & c. 10 sq. mi.                   |                            |             |                  |                        |     |                |       |                                     |                                     |
| D Melrose (Asylum) .. gauge A                      | T. C. Mitchell, Esq.       | 5           | 0                | 6                      | 480 | 820            | 32·28 | 211                                 | 147                                 |
| D Melrose (Asylum) .. gauge B                      | T. C. Mitchell, Esq.       | 5           | 1                | 0                      | 480 | 780            | 30·69 | 211                                 | 147                                 |
| Old Melrose Gardens                                | Mr. S. Brookes             | 5           | 1                | 2                      | 400 | 771            | 30·37 | 179                                 | 137                                 |
| 5.—TWEED—Gala. 6 sq. mi.                           |                            |             |                  |                        |     |                |       |                                     |                                     |
| 6.—TWEED—Leader & c. 25 sq. mi.                    |                            |             |                  |                        |     |                |       |                                     |                                     |
| D Melrose (Drygrange)                              | T. J. S. Roberts, Esq.     | 5           | 1                | 0                      | 360 | 687            | 27·06 | 198                                 | 143                                 |
| 7.—TWEED, LOWER—Left Bank Tributaries. 25 sq. mi.  |                            |             |                  |                        |     |                |       |                                     |                                     |
| D Kelso (Broomlands)                               | J. C. Scott, Esq.          | 5           | 1                | 0                      | 193 | 583            | 22·95 | 193                                 | 116                                 |
| 8.—ESK. 106 sq. mi.                                |                            |             |                  |                        |     |                |       |                                     |                                     |

## DIVISION XIII.—SOUTH-EASTERN COUNTIES.

SELKIRK. (Area, 268 sq. mi.)

|   |                        |   |   |   |      |      |       |     |     |
|---|------------------------|---|---|---|------|------|-------|-----|-----|
| <b>1.—TWEED—Teviot &amp; c. 34 sq. mi.</b>                          |                        |   |   |   |      |      |       |     |     |
| D Selkirk (Whitmuir Hall) . . . . .                                 | C. W. Dunlop, Esq.     | 5 | 1 | 0 | 800  | 892  | 35·13 | 182 | 154 |
| <b>2.—TWEED—Ettrick &amp; c. 192 sq. mi.</b>                        |                        |   |   |   |      |      |       |     |     |
| D Ettrick Manse . . . . .   | Rev. A. Horn           | 1 | 1 | 0 | 796  | 1645 | 64·77 | 254 | 198 |
| M Edinburgh W.W. (Meggat Hd.) 1 Messrs. Leslie & Reid, C.E. . . . . |                        | 5 | 1 | 3 | 1496 | 1584 | 62·36 | ..  | ..  |
| d Selkirk (The Hangingshaw) . . . . .                               | Miss Johnstone of Alva | 5 | 0 | 6 | 670  | 890  | 35·02 | ..  | 130 |
| Selkirk (Lindean Reservoir) . . . . .                               | S. Pittillo, Esq.      | 5 | 1 | 0 | 900  | 833  | 32·81 | ..  | ..  |
| <b>3.—TWEED, UPPER—Right Bank Tributaries. 17 sq. mi.</b>           |                        |   |   |   |      |      |       |     |     |

## DIVISION XIII.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.   | AUTHORITIES.                     | Rain Gauge. |                  |                        |      | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |     |
|---|----------------------------------|-------------|------------------|------------------------|------|------------------------|--|--|-----|
|   |                                  | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      |                        |  |  |     |
| SELKIRK—(con.).                                     |                                  | in.         | ft.              | in.                    | ft.  | mm.                    | in.                                    |  |     |
| 4.—TWEED, UPPER—Left Bank Tributaries. 19 sq. mi.   |                                  |             |                  |                        |      |                        |  |  |     |
| D Caddonfoot (Fairnilee)                            | ..... Alex. F. Roberts, Esq.     | 5           | 1                | 0                      | 450  | 846                    | 33·29                                  | 188                                    | 144 |
| Galashiels (The Peel Clovenfords)                   | W. R. Ovens, Esq.                | 6           | 1                | 6                      | 500  | 897                    | 35·31                                  | ..                                     | ..  |
| 5.—TWEED—Gala. 6 sq. mi.                            |                                  |             |                  |                        |      |                        |  |  |     |
| D Galashiels (Abbotsford Road)                      | .. Dr. J. W. Somerville          | 5           | 0                | 8                      | 416  | 938                    | 36·92                                  | 197                                    | 160 |
| Galashiels (Stantling Craigs)                       | .. Mr. J. Murray                 | 12          | 1                | 3                      | 800  | 925                    | 36·42                                  | ..                                     | ..  |
| PEEBLES. (Area, 348 sq. mi.)                        |                                  |             |                  |                        |      |                        |  |  |     |
| 1.—TWEED, UPPER—Right Bank Tributaries. 127 sq. mi. |                                  |             |                  |                        |      |                        |  |  |     |
| Edin.W.W. (Ravenscraig)                             | 3 Messrs. Leslie & Reid, C.E.    | 5           | 1                | 3                      | 2258 | 2229                   | 87·76                                  | ..                                     | ..  |
| M Edin.WW (Gameshope Loch)                          | 4 Messrs. Leslie & Reid, C.E.    | 5           | 1                | 3                      | 1860 | 2100                   | 82·69                                  | ..                                     | ..  |
| M Edin.WW (Loch Craig Head)                         | 2 Messrs. Leslie & Reid, C.E.    | 5           | 1                | 0                      | 2627 | 2361                   | 92·94                                  | ..                                     | ..  |
| D Edin.WW (Gameshope Farm)                          | 5a Messrs. Leslie & Reid, C.E.   | 5           | 1                | 3                      | 1538 | 2010                   | 79·13                                  | 236                                    | 209 |
| M Edin.WW (Gameshope Farm)                          | 5 Messrs. Leslie & Reid, C.E.    | 8           | 1                | 3                      | 1538 | 1989                   | 78·30                                  | ..                                     | ..  |
| D Edin.WW (Talla Linns Foot)                        | 6a Messrs. Leslie & Reid, C.E.   | 5           | 1                | 3                      | 966  | 1727                   | 67·98                                  | 273                                    | 211 |
| M Edin.WW (Talla Linns Foot)                        | 6 Messrs. Leslie & Reid, C.E.    | 8           | 1                | 3                      | 966  | 1749                   | 68·85                                  | ..                                     | ..  |
| D Edin.WW (Quarter Hill) No.                        | 7a Messrs. Leslie & Reid, C.E.   | 5           | 1                | 3                      | 1196 | 1445                   | 56·89                                  | 244                                    | 193 |
| M Edin.WW (Quarter Hill) No.                        | 7 Messrs. Leslie & Reid, C.E.    | 8           | 1                | 3                      | 1196 | 1371                   | 53·99                                  | ..                                     | ..  |
| D Edin.WW (Victoria Lodge)                          | 8 Messrs. Leslie & Reid, C.E.    | 5           | 1                | 3                      | 904  | 1372                   | 54·00                                  | 250                                    | 189 |
| M Edin.WW (Victoria Lodge)                          | 8a Messrs. Leslie & Reid, C.E.   | 8           | 1                | 3                      | 904  | 1317                   | 51·87                                  | ..                                     | ..  |
| 2.—TWEED, UPPER—Left Bank Tributaries. 192 sq. mi.  |                                  |             |                  |                        |      |                        |  |  |     |
| Stobo Castle  | ..... Major J. Ainslie,          | 5           | 1                | 0                      | 590  | 1135                   | 44·69                                  | 228                                    | 181 |
| Innerleithen (Glen)                                 | ..... Mr. A. Black               | 5           | 0                | 10                     | 754  | 1164                   | 45·84                                  | 243                                    | 185 |
| D Dolphinton (Castlecraig)                          | ..... James Mann, Esq.           | 5           | 0                | 10                     | 820  | 1091                   | 42·96                                  | 223                                    | 177 |
| D West Linton (Woodlea Cottage)                     | Messrs. Leslie & Reid, C.E.      | 5           | 1                | 0                      | 801  | 887                    | 34·94                                  | 246                                    | 164 |
| D West Linton (Dalziel House)                       | .. Dr. J. R. Jeffrey             | 5           | 1                | 0                      | 770  | 1107                   | 43·58                                  | 231                                    | 182 |
| 3.—ESK. 23 sq. mi.                                  |                                  |             |                  |                        |      |                        |  |  |     |
| D Eddlestone (Portmore Res.)                        | ... Messrs. Leslie & Reid, C.E.  | 11          | 1                | 0                      | 1000 | 992                    | 39·06                                  | 237                                    | 171 |
| M Eddlestone (Portmore Res.)                        | ... Messrs. Leslie & Reid, C.E.  | 11          | 1                | 0                      | 1007 | 990                    | 38·96                                  | ..                                     | ..  |
| M Penicuik (N. Esk Reservoir)                       | .. Mr. W. Tod                    | 11          | 0                | 6                      | 1150 | 1220                   | 48·05                                  | ..                                     | ..  |
| 4.—CLYDE—Right Bank Tributaries. 6 sq. mi.          |                                  |             |                  |                        |      |                        |  |  |     |
| BERWICK. (Area, 457 sq. mi.)                        |                                  |             |                  |                        |      |                        |  |  |     |
| 1.—TWEED—Gala. 6 sq. mi.                            |                                  |             |                  |                        |      |                        |  |  |     |
| 2.—TWEED—Leader. 92 sq. mi.                         |                                  |             |                  |                        |      |                        |  |  |     |
| Earlston (Cowdenknowes)                             | ..... Mr. J. Smith               | 5           | 0                | 10                     | 360  | 742                    | 29·22                                  | ..                                     | ..  |
| Lauder (Burncastle)                                 | ..... J. S. S. Turnbull, Esq.    | 5           | 1                | 0                      | 900  | 785                    | 30·89                                  | ..                                     | ..  |
| M Earnsclough Burn (Blythe Rig)                     | J. S. S. Turnbull, Esq.          | 5           | 1                | 0                      | 1200 | 929                    | 36·58                                  | ..                                     | ..  |
| 3.—TWEED, LOWER—Left Bank Tributaries. 115 sq. mi.  |                                  |             |                  |                        |      |                        |  |  |     |
| Coldstream (Lochton)                                | ..... J. Aitchison, Esq.         | 5           | 1                | 0                      | 151  | 678                    | 26·68                                  | ..                                     | ..  |
| Coldstream (The Hirsell)                            | ..... Mr. D. Black               | 5           | 1                | 4                      | 130  | 664                    | 26·15                                  | 172                                    | ..  |
| D Swinton House                                     | ..... Snowdon Rev. A. E. Swinton | 5           | 1                | 2                      | 200  | 692                    | 27·25                                  | 199                                    | 121 |
| D Swinton House                                     | ..... Rev. A. E. Swinton         | 5           | 0                | 10                     | 200  | 703                    | 27·69                                  | 201                                    | 130 |
| 4.—TWEED—Whiteadder. 164 sq. mi.                    |                                  |             |                  |                        |      |                        |  |  |     |
| D Marchmont House                                   | ..... Mr. J. A. Wood             | 5           | 1                | 0                      | 498  | 830                    | 32·69                                  | 177                                    | 141 |
| D Duns Castle                                       | ..... Mr. P. Smith               | 5           | 3                | 0                      | 500  | 763                    | 30·04                                  | 185                                    | 131 |
| D Duns (Manderston)                                 | ..... Mr. F. J. Marshall         | 5           | 1                | 6                      | 356  | 815                    | 32·10                                  | 155                                    | 143 |
| West Foulden  | ..... J. Hewat Craw, Esq.        | 5           | 1                | 0                      | 240  | 591                    | 23·26                                  | ..                                     | ..  |
| 5.—EAST COAST STREAMS. 80 sq. mi.                   |                                  |             |                  |                        |      |                        |  |  |     |
| St. Abb's Head                                      | ..... Board of Northern Lights   | 8           | 4                | 3                      | 224  | 599                    | 23·57                                  | ..                                     | ..  |
| HADDINGTON. (Area, 267 sq. mi.)                     |                                  |             |                  |                        |      |                        |  |  |     |
| 1.—TWEED—Leader. 1 sq. mi.                          |                                  |             |                  |                        |      |                        |  |  |     |
| 2.—TWEED—Whiteadder. 35 sq. mi.                     |                                  |             |                  |                        |      |                        |  |  |     |

## DIVISION XIII.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.  | AUTHORITIES.                    | Rain Gauge. |                  |                        |      | Depth of Rain. |       | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|---------------------------------|-------------|------------------|------------------------|------|----------------|-------|-------------------------------------|-------------------------------------|
|  |                                 | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |       |                                     |                                     |
| HADDINGTON—(con.).                                       |                                 |             |                  |                        |      |                |       |                                     |                                     |
| 3.—EAST COAST STREAMS. 69 sq. mi.                        |                                 |             |                  |                        |      |                |       |                                     |                                     |
| Garvald (Donolly Reservoir) . . .                        | J. C. Miller, Esq., C.E. . . .  | 5           | 1                | 0                      | 550  | 1020           | 40·15 | ..                                  | ..                                  |
| Garvald (Thorster Reservoir) . . .                       | J. C. Miller, Esq., C.E. . . .  | 5           | 1                | 0                      | 700  | 723            | 28·45 | ..                                  | ..                                  |
| d Prestonkirk (Ninewar) . . . . .                        | W. S. Curr, Esq. . . . .        | 5           | 1                | 6                      | 125  | 617            | 24·30 | ..                                  | ..                                  |
| Barness Lighthouse . . . . .                             | Board of Northern Lights . .    | ..          | ..               | ..                     | 120  | 543            | 21·38 | 141                                 | ..                                  |
| 4.—TYNE & C. 114 sq. mi.                                 |                                 |             |                  |                        |      |                |       |                                     |                                     |
| LammermuirH.(StobshielRes.)A.J. Ross, Esq., C.E. . . . . |                                 | 5           | 1                | 0                      | 998  | 721            | 28·38 | ..                                  | ..                                  |
| LammermuirH.(StobshielRes.)B.J. Ross, Esq., C.E. . . . . |                                 | 5           | 1                | 0                      | 950  | 839            | 33·02 | ..                                  | ..                                  |
| d Prestonkirk (Knowes) . . . . .                         | Mr. J. Rattray . . . . .        | 5           | 1                | 0                      | 78   | 654            | 25·76 | 157                                 | 116                                 |
| Prestonkirk (Smeaton) . . . . .                          | Sir A. Buchan-Hepburn . .       | 7           | 7                | 10                     | 100  | 639            | 25·16 | 152                                 | 119                                 |
| 5.—FIRTH OF FORTH. 48 sq. mi.                            |                                 |             |                  |                        |      |                |       |                                     |                                     |
| d Gullane (The Warren) . . . . .                         | Miss E. M. Meek. . . . .        | 8           | 1                | 0                      | 115  | 567            | 22·32 | 179                                 | 121                                 |
| d North Berwick Reservoir . . . . .                      | J. C. Miller, Esq., C.E. . . .  | 5           | 1                | 6                      | 150  | 594            | 23·38 | 161                                 | 121                                 |
| 6.—INSULAR.  |                                 |             |                  |                        |      |                |       |                                     |                                     |
| MIDLOTHIAN. (Area, 369 sq. mi.)                          |                                 |             |                  |                        |      |                |       |                                     |                                     |
| 1.—TWEED—Gala. 68 sq. mi.                                |                                 |             |                  |                        |      |                |       |                                     |                                     |
| Stow (Cragdale) . . . . .                                | A. L. Pringle, Esq. . . . .     | 5           | 0                | 6                      | 642  | 954            | 37·55 | ..                                  | ..                                  |
| 2.—TYNE. 28 sq. mi.                                      |                                 |             |                  |                        |      |                |       |                                     |                                     |
| 3.—FIRTH OF FORTH. 3 sq. mi.                             |                                 |             |                  |                        |      |                |       |                                     |                                     |
| d Oxenford Castle Gardens . . . . .                      | Mr. A. C. Scott . . . . .       | 5           | 1                | 2                      | 452  | 816            | 32·14 | 159                                 | 135                                 |
| 4.—ESK. 116 sq. mi.                                      |                                 |             |                  |                        |      |                |       |                                     |                                     |
| M Moorfoot Hills (Bowbate) . . . .                       | Messrs. Leslie & Reid, C.E. . . | 11          | 0                | 6                      | 1260 | 1264           | 49·78 | ..                                  | ..                                  |
| d Moorfoot Hills (Gladhouse Res.)                        | Messrs. Leslie & Reid, C.E. . . | 5           | 0                | 8                      | 915  | 1021           | 40·19 | 247                                 | 187                                 |
| M Moorfoot Hills (Gladhouse Res.)                        | Messrs. Leslie & Reid, C.E. . . | 8           | 1                | 0                      | 915  | 996            | 39·22 | ..                                  | ..                                  |
| d Moorfoot Hills (Rosebery) . . . .                      | Messrs. Leslie & Reid, C.E. . . | 4           | 0                | 9                      | 750  | 907            | 35·71 | 238                                 | 163                                 |
| M Moorfoot Hills (Rosebery) . . . .                      | Messrs. Leslie & Reid, C.E. . . | 11          | 0                | 9                      | 750  | 867            | 34·15 | ..                                  | ..                                  |
| d Moorfoot Hills (Edgelaw) . . . . .                     | Messrs. Leslie & Reid, C.E. . . | 4           | 0                | 10                     | 654  | 925            | 36·40 | 238                                 | 159                                 |
| M Moorfoot Hills (Edgelaw) . . . . .                     | Messrs. Leslie & Reid, C.E. . . | 11          | 0                | 10                     | 654  | 895            | 35·25 | ..                                  | ..                                  |
| d Penicuik (Brunstane Cottage) . . .                     | Messrs. Leslie & Reid, C.E. . . | 5           | 1                | 0                      | 800  | 1113           | 43·80 | 242                                 | 166                                 |
| d Gorebridge (Deanbank) . . . . .                        | A. Wilson Spalding, Esq. . . .  | 5           | 1                | 0                      | 500  | 820            | 32·30 | 254                                 | 137                                 |
| Pentland Hills (Harehill) . . . . .                      | Messrs. Leslie & Reid, C.E. . . | 11          | 1                | 7                      | 1297 | 1117           | 43·99 | ..                                  | ..                                  |
| d Pentland Hills (Martyrs Cross) . . .                   | Messrs. Leslie & Reid, C.E. . . | 5           | 1                | 0                      | 750  | 985            | 38·80 | 246                                 | 159                                 |
| d Pentland Hills (Loganlea) . . . . .                    | Messrs. Leslie & Reid, C.E. . . | 5           | 1                | 0                      | 811  | 801            | 31·55 | 194                                 | 126                                 |
| M Pentland Hills (Loganlea) . . . . .                    | Messrs. Leslie & Reid, C.E. . . | 8           | 1                | 4                      | 813  | 1003           | 39·50 | ..                                  | ..                                  |
| d Pentland Hills (Glencorse Fil.) . . .                  | Messrs. Leslie & Reid, C.E. . . | 5           | 1                | 0                      | 638  | 967            | 38·08 | 214                                 | 153                                 |
| M Pentland Hills (Glencorse Fil.) . . .                  | Messrs. Leslie & Reid, C.E. . . | 11          | 1                | 0                      | 638  | 1040           | 40·95 | ..                                  | ..                                  |
| d Pentland Hills (Glen Cottage) . . .                    | Messrs. Leslie & Reid, C.E. . . | 5           | 1                | 2                      | 739  | 1014           | 39·94 | 214                                 | 153                                 |
| M Pentland Hills (Glen Cottage) . . .                    | Messrs. Leslie & Reid, C.E. . . | 8           | 1                | 2                      | 738  | 1008           | 39·70 | ..                                  | ..                                  |
| d Milton Bridge (Bush) . . . . .                         | J. S. Abernethy, Esq. . . . .   | 5           | 1                | 0                      | 600  | 949            | 37·36 | 204                                 | 153                                 |
| d Newbattle (Public School) . . . . .                    | W. Fowler, Esq. . . . .         | 5           | 4                | 3                      | 300  | 716            | 28·20 | ..                                  | ..                                  |
| d Dalkeith Gardens . . . . .                             | Mr. A. C. MacQueen . . . . .    | 5           | 1                | 0                      | 191  | 705            | 27·75 | 149                                 | 116                                 |
| 5.—ALMOND & C. 153 sq. mi.                               |                                 |             |                  |                        |      |                |       |                                     |                                     |
| d Pentland Hills (Crosswood) . . . .                     | Messrs. Leslie & Reid, C.E. . . | 5           | 1                | 0                      | 950  | 1153           | 45·38 | 204                                 | 184                                 |
| M Pentland Hills (Crosswood) . . . .                     | Messrs. Leslie & Reid, C.E. . . | 8           | 1                | 0                      | 950  | 1133           | 44·60 | ..                                  | ..                                  |
| d Pentland Hills (Harperrig) . . . . .                   | Messrs. Leslie & Reid, C.E. . . | 5           | 1                | 0                      | 900  | 1188           | 46·77 | 247                                 | 182                                 |
| M Pentland Hills (Harperrig) . . . . .                   | Messrs. Leslie & Reid, C.E. . . | 8           | 1                | 0                      | 900  | 1198           | 47·15 | ..                                  | ..                                  |
| d Pentland Hills (Morton) . . . . .                      | Messrs. Leslie & Reid, C.E. . . | 5           | 1                | 0                      | 749  | 1093           | 43·02 | 267                                 | 170                                 |
| d West Calder (Addiewell) . . . . .                      | Young's Oil Co., Ltd. . . . .   | 12          | 24               | 3                      | 620  | 1001           | 39·41 | 186                                 | 148                                 |
| d Balerno (Cockburn Hill) . . . . .                      | R. Cross, Esq. . . . .          | 5           | 1                | 0                      | 767  | 1064           | 41·88 | 167                                 | 145                                 |
| M Mid-Calder (Calder Hall) . . . . .                     | T. A. F. Hog, Esq. . . . .      | 5           | 1                | 2                      | 400  | 782            | 30·79 | 204                                 | 141                                 |
| d Pentland Hills (Harlaw Res.) . . . .                   | Messrs. Leslie & Reid, C.E. . . | 5           | 1                | 0                      | 800  | 924            | 36·39 | 218                                 | 160                                 |
| d Pentland Hills (Harlaw Res.) . . . .                   | Messrs. Leslie & Reid, C.E. . . | 11          | 0                | 9                      | 800  | 913            | 35·94 | ..                                  | ..                                  |
| M Pentland Hills (Bonally Res.) . . . .                  | Messrs. Leslie & Reid, C.E. . . | 11          | 0                | 6                      | 1112 | 901            | 35·48 | ..                                  | ..                                  |
| d Pentland Hills (ClubbiedeanRs.)                        | Messrs. Leslie & Reid, C.E. . . | 4           | 0                | 6                      | 773  | 835            | 32·87 | ..                                  | 117                                 |
| M Pentland Hills (ClubbiedeanRs.)                        | Messrs. Leslie & Reid, C.E. . . | 11          | 0                | 9                      | 773  | 794            | 31·25 | ..                                  | ..                                  |
| d Pentland Hills (Swanston) . . . . .                    | Messrs. Leslie & Reid, C.E. . . | 5           | 0                | 6                      | 550  | 732            | 28·82 | 194                                 | 124                                 |
| M Pentland Hills (Swanston) . . . . .                    | Messrs. Leslie & Reid, C.E. . . | 11          | 0                | 6                      | 550  | 819            | 32·26 | ..                                  | ..                                  |
| d Pentland Hills (Fairmilehead) . . .                    | Messrs. Leslie & Reid, C.E. . . | 5           | 1                | 0                      | 590  | 793            | 31·20 | 161                                 | 143                                 |

## DIVISION XIII.—SOUTH-EASTERN COUNTIES—(con.).

| STATIONS.                                   | AUTHORITIES.  | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|---|-------------|------------------|------------------------|-----|----------------|-------|--|--|
|   |   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |  |  |
| MIDLOTHIAN—(con.).                          |   | in.         | ft.              | in.                    | ft. | mm.            | in.   |  |  |
| 5.—ALMOND & C.—(con.)                       |   |             |                  |                        |     |                |       |  |  |
| D   | Colinton (Northfield) . . . . . J. C. Wright, Esq. . . . .              | 5           | 0                | 10                     | 403 | 787            | 30·97 | 160                                    | 115                                    |
| D   | Pentland Hills (Firhill Tank) . . . Messrs. Leslie & Reid, C.E. . . . . | 5           | 0                | 6                      | 412 | 776            | 30·55 | 199                                    | 130                                    |
| D   | Liberton (Alnwick Hill) . . . . . Messrs. Leslie & Reid, C.E. . . . .   | 5           | 1                | 0                      | 407 | 760            | 29·93 | 174                                    | 123                                    |
| M   | Liberton (Alnwick Hill) . . . . . Messrs. Leslie & Reid, C.E. . . . .   | 8           | 1                | 0                      | 407 | 766            | 30·16 | ..                                     | ..                                     |
|   | Liberton (College Garden) . . . . . A. McCallum, Esq. . . . .           | 5           | 1                | 0                      | 190 | 730            | 28·73 | 168                                    | 106                                    |
| D   | Liberton (The Inch) . . . . . (R) Gen. R. Gordon Gilmour, C.B. . . . .  | 8           | 2                | 9                      | 60  | 732            | 28·82 | 180                                    | 128                                    |
| D   | Edinburgh (Royal Observatory) Prof. R. A. Sampson, F.R.S. . . . .       | 8           | 1                | 0                      | 442 | 699            | 27·51 | 190                                    | 123                                    |
|   | Edinburgh (Napier Road) . . . . . John Harrison, Esq., C.B.E. . . . .   | 5           | 1                | 2                      | 230 | 719            | 28·29 | ..                                     | ..                                     |
| d   | Edinburgh (The Academy) . . . . . M. McC. Fairgrieve, Esq. . . . .      | 5           | 1                | 0                      | 68  | 697            | 27·44 | ..                                     | ..                                     |
| D   | Edinburgh (Univ. Engin. Lab.) . Prof. T. Hudson Beare . . . . .         | 5           | 1                | 0                      | 227 | 733            | 28·87 | 195                                    | 133                                    |
| M   | Edinburgh (Univ. Engin. Lab.) . Prof. T. Hudson Beare . . . . .         | 5           | 1                | 0                      | 224 | 727            | 28·61 | ..                                     | ..                                     |
|   | Edinburgh (St. Roque) . . . . . H. B. Waugh, Esq. . . . .               | 5           | 0                | 10                     | 270 | 753            | 29·65 | ..                                     | ..                                     |
| D   | Edinburgh (City Observatory) . Sir W. Peck . . . . .                    | 8           | 1                | 0                      | 348 | 634            | 24·98 | 169                                    | 109                                    |
|   | Edinburgh (Charlotte Square) . Messrs. Leslie & Reid, C.E. . . . .      | 11          | 1                | 6                      | 190 | 685            | 26·96 | ..                                     | ..                                     |
|   | Edinburgh (Charlotte Square) . Messrs. Leslie & Reid, C.E. . . . .      | 12          | 63               | 0                      | 300 | 560            | 22·04 | ..                                     | ..                                     |
| D   | Leith (Starbank Park) . . . . . Meteorological Office . . . . .         | 8           | 1                | 0                      | 30  | 719            | 28·30 | 211                                    | 125                                    |
|   | Leith (Navigation School) . . . . J. Bolam, Esq. . . . .                | 5           | 0                | 5                      | 76  | 675            | 26·58 | ..                                     | ..                                     |
| D   | Davidson's Mains (Broomfield) . Mr. C. Comfort . . . . .                | 5           | 0                | 10                     | 42  | 649            | 25·55 | 171                                    | 131                                    |
| 6.—CLYDE—Right Bank Tributaries. 1 sq. mi.  |   |             |                  |                        |     |                |       |  |  |
| LINLITHGOW. (Area, 120 sq. mi.)             |   |             |                  |                        |     |                |       |  |  |
| 1.—ALMOND & C. 60 sq. mi.                   |   |             |                  |                        |     |                |       |  |  |
| M   | Uphall . . . . . No. 7. Messrs. Leslie & Reid, C.E. . . . .             | 8           | 1                | 4                      | 790 | 909            | 35·80 | ..                                     | ..                                     |
| M   | Uphall . . . . . No. 8. Messrs. Leslie & Reid, C.E. . . . .             | 8           | 1                | 4                      | 577 | 917            | 36·90 | ..                                     | ..                                     |
| M   | Uphall . . . . . No. 6. Messrs. Leslie & Reid, C.E. . . . .             | 8           | 1                | 4                      | 680 | 877            | 34·52 | ..                                     | ..                                     |
| M   | Uphall . . . . . No. 3. Messrs. Leslie & Reid, C.E. . . . .             | 8           | 1                | 2                      | 711 | 907            | 35·73 | ..                                     | ..                                     |
| D   | Uphall (Bangour Asylum) . . . . Col. J. Keay . . . . .                  | 5           | 1                | 0                      | 587 | 835            | 32·87 | 202                                    | 151                                    |
|   | Uphall . . . . . Young's Oil Co., Ltd. . . . .                          | 8           | 0                | 10                     | 380 | 865            | 34·04 | ..                                     | ..                                     |
| D   | Dalmeny House. . . . . Mr. D. T. Johnston . . . . .                     | 5           | 0                | 8                      | 55  | 695            | 27·35 | 236                                    | 134                                    |
| D   | Bathgate (Filters) . . . . . No. 1. A. L. Reid, Esq. . . . .            | 5           | 0                | 9                      | 640 | 899            | 35·38 | 199                                    | 145                                    |
| M   | Bathgate (Petershill R.) . . . . . No. 2. A. L. Reid, Esq. . . . .      | 5           | 0                | 9                      | 710 | 811            | 31·93 | ..                                     | ..                                     |
| M   | Bathgate (Bellencriff R.) . . . . . No. 3. A. L. Reid, Esq. . . . .     | 5           | 0                | 9                      | 730 | 923            | 36·33 | ..                                     | ..                                     |
| 2.—FORTH—Right Bank Tributaries. 59 sq. mi. |   |             |                  |                        |     |                |       |  |  |
| M   | Torphichen (Lochcote) . . . . . John Louden, Esq. . . . .               | 5           | 0                | 4                      | 550 | 1038           | 40·87 | ..                                     | ..                                     |
| M   | Carribber Reservoir . . . . . John Louden, Esq. . . . .                 | 5           | 0                | 4                      | 400 | 984            | 38·76 | ..                                     | ..                                     |
| D   | Linlithgow (Grange) . . . . . H. M. Cadell, Esq. . . . .                | 5           | 0                | 9                      | 430 | 879            | 34·62 | 204                                    | 142                                    |
| D   | Linlithgow (Preston House) . . . . Mr. C. Blair . . . . .               | 5           | 1                | 0                      | 380 | 972            | 38·28 | 196                                    | 157                                    |
| D   | Linlithgow Academy . . . . . J. Beveridge, Esq. . . . .                 | 5           | 1                | 0                      | 170 | 1043           | 41·07 | 221                                    | 162                                    |
| M   | Linlithgow Academy . . . . . J. Beveridge, Esq. . . . .                 | 5           | 1                | 0                      | 170 | 1058           | 41·67 | ..                                     | ..                                     |
|   | Queensferry (Hopetoun) . . . . . Young's Oil Co., Ltd. . . . .          | 8           | 7                | 10                     | 327 | 748            | 29·45 | ..                                     | ..                                     |
|   | Bo'ness (Neidpath Cottage) . . . . Mr. J. Grant . . . . .               | 5           | 3                | 0                      | 200 | 790            | 31·10 | ..                                     | ..                                     |
| 3.—CLYDE—Right Bank Tributaries. 1 sq. mi.  |   |             |                  |                        |     |                |       |  |  |

## DIVISION XIV.—SOUTH-WESTERN COUNTIES.

|  |                               |   |   |   |     |      |       |     |     |
|--|-------------------------------|---|---|---|-----|------|-------|-----|-----|
| LANARK. (Area, 881 sq. mi.)                              |                               |   |   |   |     |      |       |     |     |
| <b>1.—TWEED, UPPER—Left Bank Tributaries. 20 sq. mi.</b> |                               |   |   |   |     |      |       |     |     |
| D Biggar . . . . .                                       | J. Eunson, Esq. . . . .       | 8 | 1 | 0 | 691 | 1003 | 39·50 | 224 | 179 |
| d Biggar (Cambus Wallace) . . . . .                      | T. W. M. Watson, Esq. . . . . | 6 | 0 | 6 | 748 | 945  | 37·21 | ..  | ..  |
| <b>2.—ALMOND. 14 sq. mi.</b>                             |                               |   |   |   |     |      |       |     |     |
| <b>3.—FORTH—Right Bank Tributaries. 9 sq. mi.</b>        |                               |   |   |   |     |      |       |     |     |
| M Airdrie (Forrestburn Reservoir) . . . . .              | J. Frew, Esq. . . . .         | 8 | 1 | 6 | 722 | 1036 | 40·80 | ..  | ..  |

## DIVISION XIV.—SOUTH-WESTERN COUNTIES—(con.).

| STATIONS.  | AUTHORITIES. | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|--|--------------|-------------|------------------|------------------------|------------------------|--|--|
|  |              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |
| LANARK—(con.).   |              | in.         | ft. in.          | ft.                    | mm.                    | in.                                    |  |
| 4.—CLYDE—Right Bank Tributaries. 378 sq. mi.                             |              |             |                  |                        |                        |  |  |
| M Coulter Reservoir . . . . . No. 2. W. Ross, Esq., C.E. . . . .         |              | 11          | 1                | 0                      | 1426                   | 56·13                                  | .. ..                                  |
| M Coulter Reservoir . . . . . No. 1. W. Ross, Esq., C.E. . . . .         |              | 11          | 1                | 0                      | 1534                   | 60·41                                  | .. ..                                  |
| Lamington (Cowgill Reservoir) J. Chisholm, Esq., C.E. . . . .            |              | 5           | 1                | 0                      | 1191                   | 46·88                                  | .. ..                                  |
| M Biggar (Shieldhill) . . . . . Miss Dunlop . . . . .                    |              | 5           | 1                | 2                      | 968                    | 38·13                                  | .. ..                                  |
| D Biggar (Shieldhill) . . . . . Miss Dunlop . . . . .                    |              | 5           | on roof          | 850                    | 847                    | 33·35                                  | 244 163                                |
| Lanark (Rhyber Lodge) . . . . . J. Swann, Esq. . . . .                   |              | 6           | 3                | 0                      | 932                    | 36·70                                  | .. ..                                  |
| D Cleghorn Gardens . . . . . Mrs. Elliott Lockhart. . . . .              |              | 5           | 0                | 6                      | 1031                   | 40·60                                  | 206 202                                |
| Carlukie (Coldstream Reservoir) W. Ross, Esq., C.E. . . . .              |              | 11          | 1                | 0                      | 984                    | 38·75                                  | .. ..                                  |
| Wishaw (Orchardlea) . . . . . T. Swinnerton, Esq. . . . .                |              | 6           | 1                | 6                      | 922                    | 36·30                                  | .. ..                                  |
| Glasgow (Tollcross Park) . . . . . J. Whitton, Esq. . . . .              |              | 5           | 0                | 6                      | 1089                   | 42·86                                  | 237 199                                |
| Glasgow Green . . . . . J. Whitton, Esq. . . . .                         |              | 5           | 0                | 6                      | 1044                   | 41·11                                  | 221 188                                |
| Glasgow (Alexandra Park) . . . . . J. Whitton, Esq. . . . .              |              | 5           | 0                | 6                      | 1063                   | 41·84                                  | 241 196                                |
| Glasgow Observatory . . . . . (R) J. Connell, Esq. . . . .               |              | 11          | 2                | 0                      | 1115                   | 43·88                                  | 230 169                                |
| Glasgow (Botanic Gardens) . . . . . J. Whitton, Esq. . . . .             |              | 5           | 0                | 6                      | 992                    | 39·07                                  | 217 161                                |
| Glasgow (Kelvingrove Park) . . . . . J. Whitton, Esq. . . . .            |              | 5           | 0                | 6                      | 983                    | 38·71                                  | 204 182                                |
| Glasgow (Victoria Park) . . . . . J. Whitton, Esq. . . . .               |              | 5           | 0                | 6                      | 1124                   | 44·25                                  | 229 175                                |
| Glasgow (Ruchill Park) . . . . . J. Whitton, Esq. . . . .                |              | 5           | 0                | 6                      | 1033                   | 40·68                                  | 223 176                                |
| Glasgow (Springburn Park) . . . . . J. Whitton, Esq. . . . .             |              | 5           | 0                | 6                      | 1155                   | 45·46                                  | 261 192                                |
| D Airdrie (Broomknoll Street) . . . . . J. Chisholm, Esq., C.E. . . . .  |              | 5           | 1                | 0                      | 1002                   | 39·45                                  | 226 186                                |
| D Airdrie (Hillend Reservoir) . . . . . Mr. W. A. Ritchie . . . . .      |              | 5           | 3                | 6                      | 1023                   | 40·29                                  | 233 197                                |
| Clarkston (Roughrigg Res.) . . . . . J. Chisholm, Esq., C.E. . . . .     |              | 5           | 1                | 0                      | 974                    | 38·36                                  | .. ..                                  |
| D Gartcosh (Gartloch Hospital) . . . . . Mr. James McEwen . . . . .      |              | 5           | 1                | 1                      | 1118                   | 44·00                                  | 251 196                                |
| 5.—CLYDE—Left Bank Tributaries. 448 sq. mi.                              |              |             |                  |                        |                        |  |  |
| Leadhills . . . . . J. McFarlane Esq. . . . .                            |              | 5           | 1                | 1                      | 1979                   | 77·92                                  | 258 235                                |
| Strathaven (Glengavel Res.) . . . . . J. McMillan, Esq., C.E. . . . .    |              | 5           | 1                | 0                      | 1372                   | 54·03                                  | 233 202                                |
| Strathaven (Dungavel) . . . . . J. D. Wallace, Esq. . . . .              |              | 5           | 1                | 0                      | 1664                   | 65·50                                  | 232 209                                |
| Strathaven (Kype Reservoir) . . . . . W. H. Purdie, Esq., C.E. . . . .   |              | 11          | 3                | 0                      | 1339                   | 52·70                                  | .. ..                                  |
| Strathaven (Dunside Res.) . . . . . J. McMillan, Esq., C.E. . . . .      |              | 5           | 0                | 10                     | 1425                   | 56·12                                  | 224 201                                |
| D Strathaven (East Overton Ho.) H. Lee Dykes, Esq. . . . .               |              | 5           | 1                | 0                      | 1268                   | 49·93                                  | 237 190                                |
| D Stonehouse Sanatorium . . . . . James Watson, Esq. . . . .             |              | 5           | 1                | 0                      | 1144                   | 45·06                                  | 230 181                                |
| Stonehouse (Glassford Filters) . . . . . J. McMillan, Esq., C.E. . . . . |              | 5           | 0                | 9                      | 1123                   | 44·21                                  | 237 197                                |
| d Hamilton W. W. (Townhill) . . . . . W. H. Purdie, Esq., C.E. . . . .   |              | 7           | 1                | 0                      | 1055                   | 41·55                                  | .. 187                                 |
| D Hamilton (Laighstone Hall) . . . . . Rev. T. M. B. Paterson . . . . .  |              | 5           | 1                | 9                      | 1063                   | 41·86                                  | 254 195                                |
| D Hamilton (St. James's Manse) . . . . . Rev. J. A. Lees . . . . .       |              | 5           | 1                | 0                      | 958                    | 37·72                                  | 212 168                                |
| Busby (Thornton Hall) . . . . . A. H. Bishop, Esq. . . . .               |              | 5           | 1                | 0                      | 1155                   | 45·46                                  | 241 185                                |
| D Carmunnock (Carnbooth) . . . . . R. Robertson, Esq., C.E. . . . .      |              | 5           | 1                | 0                      | 1215                   | 47·82                                  | 259 196                                |
| Cambusland (Greenlees Filters) J. McMillan, Esq., C.E. . . . .           |              | 5           | 1                | 0                      | 1221                   | 48·09                                  | 242 182                                |
| Glasgow (Bellahouston Park) . . . . . J. Whitton, Esq. . . . .           |              | 5           | 0                | 6                      | 1074                   | 42·30                                  | 240 183                                |
| Glasgow (Elder Park) . . . . . J. Whitton, Esq. . . . .                  |              | 5           | 0                | 6                      | 1156                   | 45·50                                  | 211 194                                |
| 6.—IRVINE. 2 sq. mi.   |              |             |                  |                        |                        |  |  |
| 7.—AYR. 1 sq. mi.  |              |             |                  |                        |                        |  |  |
| 8.—NITH. 2 sq. mi.   |              |             |                  |                        |                        |  |  |
| 9.—ANNAN. 7 sq. mi.  |              |             |                  |                        |                        |  |  |
| AYR. (Area, 1135 sq. mi.)  |              |             |                  |                        |                        |  |  |
| 1.—CLYDE—Left Bank Tributaries. 20 sq. mi.                               |              |             |                  |                        |                        |  |  |
| D Glengarnock (Chemical Works) A. Shanks, Esq. . . . .                   |              | 8           | 1                | 6                      | 1599                   | 62·95                                  | 237 196                                |
| 2.—FIRTH OF CLYDE. 60 sq. mi.  |              |             |                  |                        |                        |  |  |
| D Skelmorlie (West Park) . . . . . J. Wilkinson, Esq. . . . .            |              | 5           | 1                | 6                      | 1457                   | 57·35                                  | 223 198                                |
| Shaws W.W. (Kelly Dam) . . . . . J. Macalister, Esq., C.E. . . . .       |              | 6           | 1                | 0                      | 1867                   | 73·50                                  | .. ..                                  |
| Shaws W.W. (Knockencorsan) J. Macalister, Esq., C.E. . . . .             |              | 6           | 1                | 0                      | 1869                   | 73·60                                  | .. ..                                  |
| 3.—IRVINE & C. 283 sq. mi.   |              |             |                  |                        |                        |  |  |
| Ayr (Collier Row, St. Quinox) . . . . . Allan Stevenson, Esq. . . . .    |              | 5           | 1                | 6                      | 930                    | 36·61                                  | .. ..                                  |
| Troon (Collenan Res.) . . . . . Adam Simpson, Esq., C.E. . . . .         |              | 11          | 0                | 10                     | 772                    | 30·40                                  | .. ..                                  |
| D Irvine (Gables) . . . . . H. W. Aitken, Esq. . . . .                   |              | 5           | 1                | 0                      | 1126                   | 44·33                                  | 222 180                                |
| Kilmarnock (Agricultural Coll.) . . . . . Prof. R. A. Berry . . . . .    |              | 8           | 1                | 2                      | 1115                   | 43·90                                  | 219 177                                |
| Kilmarnock (North Craig Res.) . . . . . R. Blackwood, Esq. . . . .       |              | 12          | 1                | 0                      | 1161                   | 45·70                                  | .. ..                                  |
| D Kilwinning (Eglinton Castle) . . . . . Mr. W. Priest . . . . .         |              | 5           | 1                | 0                      | 1147                   | 45·14                                  | 198 186                                |

## DIVISION XIV.—SOUTH-WESTERN COUNTIES—(con.).

| STATIONS.                                   | AUTHORITIES.                 | Rain Gauge. |                  |                        | Depth of Rain. |       | Days with<br>·01 in<br>or<br>more. | Days with<br>·04 in<br>or<br>more. |
|---|------------------------------|-------------|------------------|------------------------|----------------|-------|------------------------------------|------------------------------------|
|   |                              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |       |                                    |                                    |
|   |                              | in.         | ft. in.          | ft.                    | mm.            | in.   |                                    |                                    |
| AYR.—(con.).                                |                              |             |                  |                        |                |       |                                    |                                    |
| 3.—IRVINE & C.—(con.).                      |                              |             |                  |                        |                |       |                                    |                                    |
| D Stevenston (Greenhead Filters)            | Gilbert Christie, Esq., C.E. | 5           | 1 0              | 186                    | 1166           | 45·91 | 240                                | 193                                |
| D Dalry (Blair Gardens)                     | Mr. J. Fairley               | 5           | 1 0              | 155                    | 1249           | 49·17 | 223                                | 204                                |
| D Dalry (Munnock Reservoir)                 | Gilbert Christie, Esq., C.E. | 5           | 1 0              | 325                    | 1432           | 56·37 | 229                                | 202                                |
| D Dalry (Caaf Reservoir)                    | Gilbert Christie, Esq., C.E. | 5           | 1 3              | 515                    | 1514           | 59·61 | 229                                | 204                                |
| D Dalry W. W. (Filters)                     | Mr. W. Wightman              | 5           | 1 0              | 320                    | 1435           | 56·49 | 237                                | 205                                |
| M Dalry W. W. (Thirdpart)                   | Mr. W. Wightman              | 5           | 1 0              | 560                    | 1513           | 59·56 | ..                                 | ..                                 |
| D Dalry (Camphill Reservoir)                | James Lee, Esq., C.E.        | 12          | 1 6              | 611                    | 1723           | 67·85 | ..                                 | ..                                 |
| D Beith (Filter Station)                    | W. C. Dale, Esq.             | 5           | 6 0              | 384                    | 1322           | 52·05 | 219                                | 200                                |
| 4.—AYR. 222 sq. mi.                         |                              |             |                  |                        |                |       |                                    |                                    |
| Ayr (Glendrishaig)                          | Miss Jean Murdoch            | 10          | 3 0              | 42                     | 1112           | 43·76 | ..                                 | ..                                 |
| D Ayr Cemetery                              | J. Young, Esq., C.E.         | 5           | 1 0              | 40                     | 934            | 36·79 | 193                                | 169                                |
| D Muirkirk (Kannshill)                      | Dugald Baird, Esq.           | 5           | 2 0              | 750                    | 1212           | 47·72 | 234                                | 196                                |
| 5.—DOON. 119 sq. mi.                        |                              |             |                  |                        |                |       |                                    |                                    |
| Loch Finlas                                 | J. Young, Esq., C.E.         | 5           | 1 0              | 849                    | 1438           | 56·61 | ..                                 | ..                                 |
| M Maybole (Knockdon Farm)                   | A. Cross, Esq.               | 5           | 1 6              | 352                    | 1145           | 45·08 | ..                                 | ..                                 |
| M Maybole (Knockdon Farm)                   | A. Cross, Esq.               | 8           | 1 6              | 352                    | 1049           | 41·28 | ..                                 | ..                                 |
| D Patna (Kerse Filters)                     | W. Gray, Esq., C.E.          | 11          | 1 0              | 743                    | 1278           | 50·32 | 251                                | 217                                |
| D Ayr (Doonholm)                            | J. Kennedy, Esq.             | 5           | 1 0              | 90                     | 1158           | 45·57 | 248                                | 188                                |
| 6.—CULZEAN BAY & C. 32 sq. mi.              |                              |             |                  |                        |                |       |                                    |                                    |
| Turnberry (Hotel)                           | J. H. Thomas, Esq.           | 5           | 1 0              | 97                     | 903            | 35·55 | 190                                | 175                                |
| D Maybole (Culzean Castle Gdns)             | Mr. A. T. Harrison           | 8           | 2 10             | 150                    | 1069           | 42·10 | 217                                | 180                                |
| 7.—GIRVAN. 105 sq. mi.                      |                              |             |                  |                        |                |       |                                    |                                    |
| Girvan (Glendoune Gardens)                  | Mr. J. Simons                | 5           | 1 0              | 100                    | 1198           | 47·18 | 190                                | ..                                 |
| D Girvan (Sunnyside, Golf Course)           | D. Macdonald, Esq.           | 5           | 1 0              | 27                     | 1050           | 41·35 | 230                                | 172                                |
| Loch Bradan                                 | Adam Simpson, Esq., C.E.     | 11          | 1 0              | 991                    | 1565           | 61·62 | ..                                 | ..                                 |
| 8.—STINCHAR & C. 155 sq. mi.                |                              |             |                  |                        |                |       |                                    |                                    |
| Colmonell (Knockdolian)                     | Mr. A. Ogg                   | 5           | 1 0              | 170                    | 1235           | 48·62 | 229                                | 193                                |
| D Pinmore                                   | Miss Hamilton                | 5           | 0 5              | 207                    | 1330           | 52·35 | 252                                | 210                                |
| Barr Manse                                  | Rev. G. Dods                 | 5           | 1 0              | 330                    | 1285           | 50·58 | 233                                | 208                                |
| 9.—LOCH RYAN. 12 sq. mi.                    |                              |             |                  |                        |                |       |                                    |                                    |
| 10.—LUCE BAY. 15 sq. mi.                    |                              |             |                  |                        |                |       |                                    |                                    |
| Ballantrae (Lagafater Lodge)                | C. R. Boulton, Esq.          | 5           | 0 11             | 792                    | 1817           | 71·52 | 211                                | ..                                 |
| 11.—GREE. 40 sq. mi.                        |                              |             |                  |                        |                |       |                                    |                                    |
| 12.—DEE. 9 sq. mi.                          |                              |             |                  |                        |                |       |                                    |                                    |
| 13.—NITH. 62 sq. mi.                        |                              |             |                  |                        |                |       |                                    |                                    |
| D New Cumnock (Ayr Sanator'm)               | Dr. E. E. Prest              | 5           | 1 0              | 850                    | 1573           | 61·93 | 264                                | 211                                |
| D New Cumnock (Power Station)               | James Jack, Esq.             | 5           | 1 0              | 764                    | 1683           | 66·27 | 226                                | 187                                |
| 14.—INSULAR. 1 sq. mi.                      |                              |             |                  |                        |                |       |                                    |                                    |
| Ailsa Craig                                 | Board of Northern Lights     | 3           | 5 0              | ..                     | 782            | 30·78 | 124                                | ..                                 |
| RENFREW (Area, 241 sq. mi.)                 |                              |             |                  |                        |                |       |                                    |                                    |
| 1.—CLYDE—Right Bank Tributaries. 3 sq. mi.  |                              |             |                  |                        |                |       |                                    |                                    |
| 2.—CLYDE—Left Bank Tributaries. 194 sq. mi. |                              |             |                  |                        |                |       |                                    |                                    |
| Lochwinnoch (Garthland)                     | H. Macdowall, Esq.           | 5           | 0 11             | 150                    | 1928           | 75·92 | 240                                | ..                                 |
| GorbalsDist.W.W.(Nether Cairn)              | J. R. Sutherland, Esq., C.E. | 12          | 0 5              | 700                    | 1608           | 63·30 | ..                                 | ..                                 |
| GorbalsDist.W.W.(Middleton)                 | J. R. Sutherland, Esq., C.E. | 12          | 0 5              | 550                    | 1519           | 59·80 | ..                                 | ..                                 |
| GorbalsDist.W.W.(Ryat Lynn)                 | J. R. Sutherland, Esq., C.E. | 8           | 0 5              | 310                    | 1406           | 55·35 | ..                                 | ..                                 |
| GorbalsDist.W.W.(Waulk Glen)                | J. R. Sutherland, Esq., C.E. | 12          | 0 5              | 280                    | 1364           | 53·70 | ..                                 | ..                                 |
| Paisley W.W. (Muirhead)                     | James Lee, Esq., C.E.        | 12          | 1 0              | 482                    | 1690           | 66·53 | ..                                 | ..                                 |
| Paisley W.W. (Springside)                   | James Lee, Esq., C.E.        | 12          | 1 0              | 532                    | 1905           | 74·99 | ..                                 | ..                                 |
| PaisleyWW(BackThornleymuir)                 | James Lee, Esq., C.E.        | 12          | 1 0              | 646                    | 1524           | 60·00 | ..                                 | ..                                 |
| Paisley W.W. (Staneley)                     | James Lee, Esq., C.E.        | 12          | 1 0              | 190                    | 1244           | 48·99 | ..                                 | ..                                 |
| D Howwood (Midton House)                    | Andrew McNab, Esq.           | 5           | 1 6              | 231                    | 1816           | 71·50 | 228                                | 197                                |
| Pollokshaws (Rouken Glen)                   | J. Whittton, Esq.            | 5           | 0 6              | 156                    | 1328           | 52·30 | 264                                | 195                                |



## DIVISION XIV.—SOUTH-WESTERN COUNTIES—(con.).

| STATIONS.                               | AUTHORITIES.                  | Rain Gauge. |                  |                        | Depth of Rain. |      | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |     |
|---|-------------------------------|-------------|------------------|------------------------|----------------|------|--|--|-----|
|   |                               | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |      |  |  |     |
| RENFREW—(con.).                         |                               | in.         | ft.              | in.                    | ft.            | mm.  | in.                                    |  |     |
| 2.—CLYDE— Left Bank Tributaries.—(con.) |                               |             |                  |                        |                |      |  |  |     |
| D Pollokshaws (Pollok House) . . .      | Sir J. Stirling Maxwell, Bt.  | 5           | 1                | 0                      | 45             | 1091 | 42·95                                  | 231                                    | 179 |
| D Glasgow (Queen's Park) . . . . .      | J. Whitton, Esq. . . . .      | 8           | 0                | 9                      | 145            | 1038 | 40·86                                  | 227                                    | 180 |
| Glasgow (Maxwell Park) . . . . .        | J. Whitton, Esq. . . . .      | 5           | 0                | 6                      | 69             | 1071 | 42·18                                  | 227                                    | 190 |
| D Kilbarchan (Milliken Park) . . .      | M. Douglas Anderson, Esq.     | 5           | 1                | 6                      | 75             | 1483 | 58·37                                  | 226                                    | 207 |
| D Kilbarchan (Glentyan) . . . (R)       | R. H. Hunter, Esq. . . . .    | 8           | 3                | 9                      | 285            | 1608 | 63·30                                  | 250                                    | 209 |
| D Paisley(The Coats Observatory) .      | Observatory Committee . .     | 8           | 1                | 0                      | 107            | 1274 | 50·14                                  | 235                                    | 186 |
| D Houston Manse . . . . .               | Rev. Geo. Muir. . . . .       | 5           | 1                | 0                      | 103            | 1414 | 55·68                                  | 239                                    | 195 |
| Shaws W.W. (Duchall Moor) . . . .       | J. Macalister, Esq., C.E. . . | 6           | 1                | 0                      | 1150           | 2050 | 80·70                                  | ..                                     | ..  |
| Shaws W.W. (Creuch Hill) . . . . .      | J. Macalister, Esq., C.E. . . | 6           | 1                | 0                      | 1350           | 1958 | 77·10                                  | ..                                     | ..  |
| Shaws W.W. (Green Water) . . . .        | J. Macalister, Esq., C.E. . . | 6           | 1                | 0                      | 788            | 2019 | 79·50                                  | ..                                     | ..  |
| Kilmalcolm . . . . .                    | Mr. R. Blackwood. . . . .     | 5           | 1                | 0                      | 300            | 1601 | 63·04                                  | ..                                     | 205 |
| D Shaws W.W. (Gryfe Reservoir) . .      | J. Macalister, Esq., C.E. . . | 6           | 1                | 0                      | 640            | 1847 | 72·70                                  | 257                                    | 212 |
| D Shaws W.W. (Mansfield) . . . . .      | J. Macalister, Esq., C.E. . . | 5           | 1                | 0                      | 573            | 1817 | 71·53                                  | 256                                    | 215 |
| Shaws W.W. (Darndaff Moor) . . .        | J. Macalister, Esq., C.E. . . | 5           | 1                | 0                      | 850            | 1819 | 71·61                                  | ..                                     | ..  |
| Bishopton (Ingliston) . . . . .         | D. Cross, Esq. . . . .        | 5           | 1                | 0                      | 195            | 1270 | 49·99                                  | ..                                     | ..  |
| 3.—FIRTH OF CLYDE. 34 sq. mi.           |                               |             |                  |                        |                |      |  |  |     |
| Shaws W.W. (Largs Road) . . . . .       | J. Macalister, Esq., C.E. . . | 5           | 1                | 0                      | 910            | 1594 | 62·77                                  | ..                                     | ..  |
| w Dougliehill Filters (Pt. Glas. W.W.)  | James Murray, Esq. . . . .    | 8           | 1                | 6                      | 540            | 1521 | 59·88                                  | ..                                     | ..  |
| w Parkhill Filters (Pt. Glas. W.W.) .   | James Murray, Esq. . . . .    | 8           | 1                | 6                      | 275            | 1410 | 55·50                                  | ..                                     | ..  |
| D Shaws W.W. (Compens. Res.) . . .      | J. Macalister, Esq., C.E. . . | 5           | 1                | 0                      | 600            | 1913 | 75·31                                  | 257                                    | 221 |
| D Shaws W.W. (Loch Thom) . . . . .      | J. Macalister, Esq., C.E. . . | 5           | 1                | 0                      | 643            | 1986 | 78·21                                  | 257                                    | 221 |
| Shaws W.W. (Shielhill) . . . . .        | J. Macalister, Esq., C.E. . . | 6           | 1                | 0                      | 962            | 2065 | 81·30                                  | ..                                     | ..  |
| Shaws W.W. (Spango Burn) . . . .        | J. Macalister, Esq., C.E. . . | 6           | 1                | 0                      | 757            | 2009 | 79·10                                  | ..                                     | ..  |
| D Shaws W.W. (Hole Glen) . . . . .      | J. Macalister, Esq., C.E. . . | 5           | 1                | 0                      | 603            | 1893 | 74·52                                  | 279                                    | 215 |
| D Shaws W.W. (New Yett's Dam) . .       | J. Macalister, Esq., C.E. . . | 5           | 1                | 0                      | 800            | 1857 | 73·11                                  | 279                                    | 218 |
| D Greenock (Prospect Hill) . . . .      | J. Macalister, Esq., C.E. . . | 5           | 1                | 0                      | 200            | 1832 | 72·11                                  | 255                                    | 208 |
| M Langbank (East Bank Gardens) .        | A. Cross, Esq. . . . .        | 5           | 2                | 6                      | 250            | 1417 | 55·77                                  | ..                                     | ..  |
| 4.—IRVINE. 10 sq. mi.                   |                               |             |                  |                        |                |      |  |  |     |

## DIVISION XV.—WEST MIDLAND COUNTIES.

DUMBARTON. (Area, 270 sq. mi.).

**1.—FORTH—Right Bank Tributaries. 10 sq. mi.****2.—FIRTH OF CLYDE & COWAL. 52 sq. mi.**

|                                     |                                |   |   |   |     |      |       |     |     |
|-------------------------------------|--------------------------------|---|---|---|-----|------|-------|-----|-----|
| D Cardross (Kilmaheew) . . . . .    | Capt. Claud A. Allan . . . .   | 5 | 1 | 0 | 130 | 1158 | 45·61 | 212 | 191 |
| D Helensburgh (Ferniegair) . . . .  | J. N. Stirling, Esq., C.E. . . | 8 | 1 | 0 | 22  | 1554 | 61·18 | 245 | 205 |
| D Helensburgh (Valve House) . . . . | J. N. Stirling, Esq., C.E. . . | 5 | 1 | 0 | 293 | 1604 | 63·13 | 247 | 208 |
| Garlochhead (Aikenshaw) . . . . .   | Mr. W. S. Turnbull . . . . .   | 6 | 1 | 0 | 32  | 1740 | 68·50 | ..  | ..  |
| D Arrochar (Glen Loin) . . . . .    | Mrs. Little . . . . .          | 5 | 1 | 0 | 17  | 2322 | 91·41 | 296 | 232 |

**3.—CLYDE—Leven. 149 sq. mi.**

|                                       |                                 |    |   |   |      |      |       |     |     |
|---------------------------------------|---------------------------------|----|---|---|------|------|-------|-----|-----|
| Dumbarton (Leven Shipyard) . . . .    | Messrs. W. Denny & Bros. . .    | 5  | 1 | 0 | 11   | 1218 | 47·97 | 221 | 196 |
| M Kilpatrick H. (Burncrooks Res.) . . | T. L. Rae, Esq., C.E. . . . .   | 5  | 1 | 0 | 959  | 1497 | 58·94 | ..  | ..  |
| M Kilpatrick H. (Burncrooks Res.) . . | T. L. Rae, Esq., C.E. . . . .   | 5  | 1 | 0 | 920  | 1509 | 59·42 | ..  | ..  |
| M Kilpatrick H. (Burncrooks Res.) . . | T. L. Rae, Esq., C.E. . . . .   | 5  | 1 | 0 | 835  | 1482 | 58·36 | ..  | ..  |
| D Renton (Carman Filters) . . . . .   | Mr. Chas. Brown . . . . .       | 8  | 4 | 0 | 292  | 1355 | 53·34 | 238 | 196 |
| D Glen Finlas Reservoir . . . . .     | No. 7 George Beaton, Esq. . . . | 12 | 0 | 9 | 820  | 2334 | 91·89 | 244 | 221 |
| M Glen Finlas Reservoir . . . . .     | No. 1 George Beaton, Esq. . . . | 5  | 0 | 9 | 820  | 2127 | 83·73 | ..  | ..  |
| M Glen Finlas Reservoir . . . . .     | No. 2 George Beaton, Esq. . . . | 5  | 0 | 9 | 1200 | 2058 | 81·04 | ..  | ..  |
| M Glen Finlas Reservoir . . . . .     | No. 3 George Beaton, Esq. . . . | 5  | 0 | 9 | 1600 | 2270 | 89·35 | ..  | ..  |
| M Glen Finlas Reservoir . . . . .     | No. 4 George Beaton, Esq. . . . | 5  | 0 | 9 | 2000 | 2213 | 87·14 | ..  | ..  |
| M Glen Finlas Reservoir . . . . .     | No. 5 George Beaton, Esq. . . . | 5  | 0 | 9 | 1600 | 2152 | 84·73 | ..  | ..  |
| M Glen Finlas Reservoir . . . . .     | No. 6 George Beaton, Esq. . . . | 5  | 0 | 9 | 1200 | 2063 | 81·22 | ..  | ..  |

**4.—CLYDE—Right Bank Tributaries. 59 sq. mi.**

|                                       |                               |   |   |   |     |      |       |     |     |
|---------------------------------------|-------------------------------|---|---|---|-----|------|-------|-----|-----|
| D Drumchapel (Wasdale) . . . . .      | F. C. Thomson, Esq. . . . .   | 5 | 1 | 0 | 49  | 1121 | 44·12 | 253 | 185 |
| Milngavie (Dougalston) . . . . .      | Major R. M. Ker . . . . .     | 5 | 1 | 0 | 157 | 1263 | 49·74 | 230 | ..  |
| D Duntocher (Cochno Filters) . . . .  | T. L. Rae, Esq., C.E. . . . . | 5 | 1 | 0 | 400 | 1376 | 54·16 | 238 | 201 |
| Kilpatrick Hills (Greenside Res.) . . | T. L. Rae, Esq., C.E. . . . . | 5 | 1 | 0 | 876 | 1537 | 60·51 | ..  | ..  |
| Kilpatrick Hills (Loch Cochno) . . .  | T. L. Rae, Esq., C.E. . . . . | 5 | 1 | 0 | 909 | 1546 | 60·87 | ..  | ..  |
| Kilpatrick Hills (Jaw Reservoir) . .  | T. L. Rae, Esq., C.E. . . . . | 5 | 1 | 0 | 912 | 1643 | 64·70 | ..  | ..  |

## DIVISION XV.—WEST MIDLAND COUNTIES—(con.).

| STATIONS.   | AUTHORITIES.                           | Rain Gauge. |                  |                        |      | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|--|-------------|------------------|------------------------|------|------------------------|--|--|
|   |  | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      |                        |  |  |
| STIRLING. (Area, 463 sq. mi.)                       |  | in.         | ft.              | in.                    | ft.  | mm.                    | in.                                    |  |
| 1.—FORTH—Right Bank Tributaries. 263 sq. mi.        |  |             |                  |                        |      |                        |  |  |
| d Linlithgow (Muiravonside Ho) . . . . .            | Mr. C. Leeder . . . . .                | 5           | 4                | 8                      | 175  | 1006                   | 39·59                                  | ..                                     |
| d Polmont (Vellore) . . . . .                       | W. Brown, Esq. . . . .                 | 8           | 0                | 8                      | 320  | 962                    | 37·87                                  | 234 157                                |
| d Falkirk (Inglewood, Laurieston) . . . . .         | W. Ballantine, Esq. . . . .            | 5           | 1                | 3                      | 133  | 959                    | 37·75                                  | 192 161                                |
| d Falkirk (Westbank) . . . . .                      | Garden. A. Nimmo, Esq. . . . .         | 5           | 0                | 9                      | 75   | 1005                   | 39·57                                  | 212 164                                |
| m Falkirk (Westbank) . . . . .                      | Lawn. A. Nimmo, Esq. . . . .           | 5           | 0                | 9                      | 105  | 963                    | 37·90                                  | ..                                     |
| d Falkirk (Burgh Chambers) . . . . .                | W. Gibson, Esq. . . . .                | 5           | 1                | 0                      | 107  | 997                    | 39·24                                  | 167 143                                |
| Falkirk (Kerse) . . . . .                           | C. Brown, Esq. . . . .                 | 8           | 1                | 0                      | 18   | 886                    | 34·90                                  | ..                                     |
| Little Denny Reservoir . . . . .                    | C. Massie, Esq. . . . .                | 8           | 1                | 0                      | 326  | 1328                   | 52·30                                  | ..                                     |
| Little Denny Filters . . . . .                      | C. Massie, Esq. . . . .                | 8           | 1                | 0                      | 268  | 1326                   | 52·22                                  | ..                                     |
| Kilsyth (Faughlin Res.) . . . . .                   | C. Massie, Esq. . . . .                | 8           | 1                | 0                      | 707  | 1775                   | 69·87                                  | ..                                     |
| Earlsburn Reservoir . . . . .                       | C. Massie, Esq. . . . .                | 8           | 1                | 0                      | 1202 | 1767                   | 69·58                                  | ..                                     |
| d Stirling (Touch W.W.) . . . . .                   | No. 3 A. H. Goudie, Esq. . . . .       | 8           | 1                | 9                      | 759  | 1569                   | 61·78                                  | 234 199                                |
| d Stirling (Touch W.W.) . . . . .                   | No. 2 A. H. Goudie, Esq. . . . .       | 8           | 1                | 4                      | 707  | 1500                   | 59·05                                  | 234 194                                |
| d Stirling (Touch Res.) . . . . .                   | No. 1A. H. Goudie, Esq. . . . .        | 8           | 1                | 0                      | 455  | 1542                   | 60·70                                  | 235 196                                |
| Stirling (Touch House) . . . . .                    | Sir D. A. S. Steuart, Bart. . . . .    | 5           | 1                | 0                      | 35   | 1466                   | 57·70                                  | ..                                     |
| d Stirling (Sauchie House) . . . . .                | J. Fyfe, Esq., C.S.I. . . . .          | 5           | 1                | 0                      | 151  | 1083                   | 42·63                                  | 210 158                                |
| Stirling (Victoria Place) . . . . .                 | R. Kidston, Esq., F.R.S. . . . .       | 5           | 2                | 10                     | 100  | 1135                   | 44·70                                  | ..                                     |
| Gargunnoch House . . . . .                          | C. Stirling, Esq. . . . .              | 5           | 1                | 6                      | 85   | 1158                   | 45·60                                  | ..                                     |
| d Kippen (Arngomery) . . . . .                      | Mr. P. McCowan . . . . .               | 5           | 4                | 6                      | 150  | 1348                   | 53·05                                  | .. 171                                 |
| w Duchray Valley (Ben Lomond) . . . . .             | J. R. Sutherland, Esq., C.E. . . . .   | 8           | 0                | 6                      | 1800 | 2438                   | 96·00                                  | ..                                     |
| d Duchray Valley (Glen Dhu) . . . . .               | J. R. Sutherland, Esq., C.E. . . . .   | 8           | 1                | 0                      | 500  | 2485                   | 97·85                                  | .. 217                                 |
| d Duchray Valley (Comer) . . . . .                  | J. R. Sutherland, Esq., C.E. . . . .   | 8           | 1                | 0                      | 600  | 2531                   | 99·65                                  | .. 215                                 |
| w Duchray Valley (Achaids Burn) . . . . .           | J. R. Sutherland, Esq., C.E. . . . .   | 8           | 1                | 0                      | 1200 | 2925                   | 115·15                                 | ..                                     |
| w Duchray Val. (Hd. of Main Stream) . . . . .       | J. R. Sutherland, Esq., C.E. . . . .   | 8           | 1                | 0                      | 950  | 2769                   | 109·00                                 | ..                                     |
| 2.—FORTH—Teith. 5 sq. mi.                           |  |             |                  |                        |      |                        |  |  |
| d Stronachlachlar (Invergyle) . . . . .             | J. R. Sutherland, Esq., C.E. . . . .   | 8           | 1                | 0                      | 376  | 2507                   | 98·70                                  | .. 225                                 |
| 3.—FORTH—Left Bank Tributaries. 15 sq. mi.          |  |             |                  |                        |      |                        |  |  |
| d Bridge of Allan (The Lea) . . . . .               | Laurence Pullar, Esq. . . . .          | 5           | 1                | 0                      | 80   | 988                    | 38·89                                  | ..                                     |
| 4.—CLYDE—Leven. 128 sq. mi.                         |  |             |                  |                        |      |                        |  |  |
| Strathblane (Blane field) . . . . .                 | J. R. Sutherland, Esq., C.E. . . . .   | 8           | 1                | 0                      | 250  | 1492                   | 58·75                                  | ..                                     |
| d Killearn (Achnagowan) . . . . .                   | Miss A. L. Guthrie-Smith . . . . .     | 5           | 0                | 10                     | 332  | 1754                   | 69·04                                  | 210 200                                |
| w Loch Arklet (Corriehichon) . . . . .              | J. R. Sutherland, Esq., C.E. . . . .   | 8           | 0                | 6                      | 870  | 2709                   | 106·65                                 | ..                                     |
| w Loch Arklet (Corriearklet) . . . . .              | J. R. Sutherland, Esq., C.E. . . . .   | 8           | 0                | 6                      | 950  | 2727                   | 107·35                                 | ..                                     |
| 5.—CLYDE—Right Bank Tributaries. 52 sq. mi.         |  |             |                  |                        |      |                        |  |  |
| Strathblane (Mugdock Res.) . . . . .                | J. R. Sutherland, Esq., C.E. . . . .   | 8           | 0                | 6                      | 320  | 1386                   | 54·55                                  | ..                                     |
| m Strathblane (Craigbarnet) . . . . .               | Capt. Miller Stirling, R.N. . . . .    | 5           | 1                | 0                      | 300  | 1574                   | 61·95                                  | ..                                     |
| d Kilsyth (Innsbridge) . . . . .                    | J. I. Little, Esq. . . . .             | 5           | 11               | 0                      | 202  | 1548                   | 60·96                                  | 223 198                                |
| Kilsyth (Corrie Reservoir) . . . . .                | J. I. Little, Esq. . . . .             | ..          | ..               | ..                     | 856  | 1806                   | 71·10                                  | ..                                     |
| BUTE. (Area, 218 sq. mi.)                           |  |             |                  |                        |      |                        |  |  |
| 1.—ISLE OF BUTE. 50 sq. mi.                         |  |             |                  |                        |      |                        |  |  |
| d Rothesay (Ardencraig) . . . . .                   | J. J. Davidson, Esq. . . . .           | 5           | 1                | 0                      | 201  | 1594                   | 62·74                                  | 276 226                                |
| Rothesay (Ardencraig) . . . . .                     | J. J. Davidson, Esq. . . . .           | 5           | 1                | 0                      | 200  | 1574                   | 61·98                                  | 276 226                                |
| Port Bannatyne (Ettrickdale) . . . . .              | Lt.-Col. M. R. Gray Buchanan . . . . . | 5           | 1                | 0                      | 190  | 1436                   | 56·55                                  | 258 215                                |
| 2.—CUMBRAES. 4 sq. mi.                              |  |             |                  |                        |      |                        |  |  |
| d Millport (Marine Biog. Stat.) . . . . .           | R. Elmhurst, Esq. . . . .              | 5           | 1                | 0                      | 12   | 1175                   | 46·25                                  | 260 208                                |
| Millport (Cliff House) . . . . .                    | R. Elmhurst, Esq. . . . .              | ..          | ..               | ..                     | ..   | 1255                   | 49·41                                  | 248 ..                                 |
| 3.—ARRAN. 164 sq. mi.                               |  |             |                  |                        |      |                        |  |  |
| Pladda . . . . .                                    | Board of Northern Lights . . . . .     | ..          | ..               | ..                     | 130  | 1243                   | 48·94                                  | 220 ..                                 |
| Holy Island (Pillar Rock) . . . . .                 | Board of Northern Lights . . . . .     | 3           | 0                | 3                      | 46   | 871                    | 34·29                                  | 195 ..                                 |
| d Dougarie Lodge . . . . .                          | David Reside, Esq. . . . .             | 5           | 1                | 0                      | 10   | 1309                   | 51·52                                  | 249 198                                |
| ARGYLL. (Area, 3181 sq. mi.)                        |  |             |                  |                        |      |                        |  |  |
| 1.—TAY—Tummel. 36 sq. mi.                           |  |             |                  |                        |      |                        |  |  |
| 2.—SOUND OF ARISAIG, SOUND OF MULL & C. 317 sq. mi. |  |             |                  |                        |      |                        |  |  |
| Morvern (Ardtornish) . . . . .                      | G. Craig Sellar, Esq. . . . .          | 5           | 1                | 0                      | 48   | 2100                   | 82·68                                  | 255 224                                |
| Morvern (Drimnin) . . . . .                         | Mrs. Gordon . . . . .                  | 5           | 1                | 0                      | 225  | 1633                   | 64·29                                  | 252 ..                                 |
| d Loch Sunart (Glenborrodale) . . . . .             | T. J. A. Armstrong, Esq. . . . .       | 5           | 0                | 2                      | 60   | 1901                   | 74·84                                  | 222 208                                |
| Ardnamurchan . . . . .                              | Board of Northern Lights . . . . .     | 8           | 4                | 3                      | 180  | 1336                   | 52·60                                  | ..                                     |

## DIVISION XV.—WEST MIDLAND COUNTIES—(con.).

| STATIONS.   | AUTHORITIES.                 | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |     |     |
|---|------------------------------|-------------|------------------|------------------------|------------------------|--|--|-----|-----|
|   |                              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |     |     |
| ARGYLL—(con.).  |                              | in.         | ft.              | in.                    | ft.                    | mm.                                    | in.                                    |     |     |
| <b>3.—LOCH LINNHE—Right Bank Tributaries. 139 sq. mi.</b> |                              |             |                  |                        |                        |  |  |     |     |
| D Morvern (Kingairloch)                                   | G. Herbert Strutt, Esq.      | 5           | 1                | 0                      | 40                     | 2809                                   | 110·58                                 | 232 | 220 |
| D Ardgor House  | Capt. Maclean of Ardgor      | 5           | 0                | 10                     | 60                     | 2967                                   | 116·82                                 | 261 | 230 |
| <b>4.—LOCH LINNHE—Left Bank Tributaries. 165 sq. mi.</b>  |                              |             |                  |                        |                        |  |  |     |     |
| Duror (The Rectory)                                       | Rev. E. J. Benwell           | 5           | 1                | 0                      | 120                    | 2196                                   | 86·47                                  | 244 | 217 |
| D Duror (Achara)  | Mr. W. D. Stewart            | 5           | 1                | 2                      | 45                     | 2034                                   | 80·08                                  | 239 | 218 |
| D Glenleven (Blackwater House)                            | 4 British Aluminium Co. Ltd. | 8           | 1                | 0                      | 1069                   | 2356                                   | 92·74                                  | ..  | ..  |
| D Glenleven (Blackwater Dam, S.)                          | 2 British Aluminium Co. Ltd. | 8           | 1                | 0                      | 1072                   | 2510                                   | 98·82                                  | 265 | 221 |
| D Glenleven (Kinlochleven) No. 1                          | British Aluminium Co. Ltd.   | 8           | 1                | 0                      | 140                    | 2462                                   | 96·95                                  | 216 | 204 |
| Corran Lighthouse   | Board of Northern Lights.    | 3           | 1                | 6                      | 38                     | 2529                                   | 99·56                                  | 226 | ..  |
| <b>5.—LOCH ETIVE. 197 sq. mi.</b>                         |                              |             |                  |                        |                        |  |  |     |     |
| D Connel Ferry (Ach-na-cloich)                            | W. D. Fordyce, Esq.          | 5           | 1                | 0                      | 20                     | 1736                                   | 68·36                                  | 224 | 210 |
| d Glen Etive  | W. D. Fordyce Esq.           | 5           | 1                | 0                      | 50                     | 2905                                   | 114·36                                 | ..  | 198 |
| <b>6.—LOCH ETIVE—Loch Awe. 319 sq. mi.</b>                |                              |             |                  |                        |                        |  |  |     |     |
| Loch Awe (Ford)   | A. Cumming, Esq.             | 8           | 1                | 0                      | 149                    | 1981                                   | 78·00                                  | 266 | 221 |
| D Loch Awe (Dalavich)                                     | A. Cumming, Esq.             | 8           | 1                | 0                      | 260                    | 2367                                   | 93·18                                  | 262 | 214 |
| D Dalmally (Manse of Glenorchy)                           | Rev. Farquhar MacRae         | 5           | 1                | 0                      | 150                    | 2361                                   | 92·94                                  | 242 | 217 |
| <b>7.—FIRTH OF LORNE. 112 sq. mi.</b>                     |                              |             |                  |                        |                        |  |  |     |     |
| Kilmelfort (Arduaine)                                     | J. A. Campbell, Esq.         | 5           | 0                | 10                     | 23                     | 1684                                   | 66·30                                  | ..  | ..  |
| D Oban  | D. Galloway, Esq.            | 8           | 1                | 0                      | 17                     | 1502                                   | 59·12                                  | 228 | 198 |
| <b>8.—SOUND OF JURA. 163 sq. mi.</b>                      |                              |             |                  |                        |                        |  |  |     |     |
| D Lochgilphead (Poltalloch)                               | Mr. D.S. Melville            | 5           | 1                | 2                      | 135                    | 1640                                   | 64·58                                  | 263 | 215 |
| <b>9.—KINTYRE, WEST. 146 sq. mi.</b>                      |                              |             |                  |                        |                        |  |  |     |     |
| Mull of Kintyre   | Board of Northern Lights.    | ..          | ..               | ..                     | 279                    | 1043                                   | 41·07                                  | 204 | ..  |
| D Muasdale (Killeen Manse)                                | Rev. D. J. Macdonald         | 5           | 1                | 0                      | 10                     | 1152                                   | 45·35                                  | 253 | 200 |
| D Largie Castle   | J. R. M. Macdonald, Esq.     | 5           | 1                | 1                      | 160                    | 1408                                   | 55·43                                  | 245 | ..  |
| D Carse   | J. Birkmyre, Esq.            | 6           | 1                | 6                      | 20                     | 1142                                   | 44·95                                  | 272 | 217 |
| <b>10.—KINTYRE, EAST. 177 sq. mi.</b>                     |                              |             |                  |                        |                        |  |  |     |     |
| D Campbeltown (South Park)                                | J. A. Gardiner, Esq.         | 8           | 0                | 10                     | 20                     | 1490                                   | 58·65                                  | 257 | 197 |
| D Campbeltown (Devaar)                                    | Board of Northern Lights.    | ..          | 3                | 4                      | 120                    | 1355                                   | 53·35                                  | 195 | ..  |
| D Skipness Castle   | R. F. Graham, Esq.           | 5           | 1                | 1                      | 14                     | 1428                                   | 56·23                                  | 238 | 207 |
| <b>11.—LOCH FYNE. 264 sq. mi.</b>                         |                              |             |                  |                        |                        |  |  |     |     |
| D Ardrishaig (Canal Office)                               | L. J. Groves, Esq., C.E.     | 5           | 1                | 6                      | 48                     | 1777                                   | 69·97                                  | 239 | 217 |
| D Loch Fyne (Castle Lachlan)                              | M. Park, Esq.                | 5           | 1                | 0                      | 42                     | 1848                                   | 72·77                                  | 254 | 228 |
| D Crarae (Kennels)  | Mr. W. T. Rae.               | 5           | 1                | 0                      | 20                     | 2152                                   | 84·71                                  | ..  | ..  |
| d Loch Fyne (Brenchoillie)                                | A. E. Lewis, Esq.            | 5           | 1                | 0                      | 240                    | 2068                                   | 81·42                                  | ..  | 173 |
| D Inveraray Castle Gardens                                | A. E. Lewis, Esq.            | 5           | 1                | 0                      | 40                     | 2434                                   | 95·81                                  | 250 | 235 |
| d Ardkinglas  | Mr. J. Payne                 | 8           | 1                | 6                      | 37                     | 2398                                   | 94·41                                  | 234 | 223 |
| <b>12.—FIRTH OF CLYDE &amp; COWAL. 242 sq. mi.</b>        |                              |             |                  |                        |                        |  |  |     |     |
| D Toward (Knockdon Gdns)                                  | Sir Norman Lamont, Bt.       | 5           | 1                | 6                      | 140                    | 1871                                   | 73·66                                  | 240 | 219 |
| D Tighnabruaich (Wellpark)                                | R. Paton, Esq.               | 12          | 7                | 0                      | 50                     | 1540                                   | 60·65                                  | 204 | 193 |
| D Dunoon (Reservoir)                                      | W. Rodger, Esq., C.E.        | 12          | 3                | 6                      | 245                    | 2110                                   | 83·08                                  | 226 | 205 |
| D Dunoon (Redhurst)                                       | Dr. J. Banks                 | 5           | 1                | 0                      | 60                     | 2107                                   | 82·94                                  | 238 | 209 |
| D Holy Loch (Ardnadam)                                    | Rev. J. Cairns Mitchell.     | 5           | 1                | 0                      | 66                     | 2141                                   | 84·29                                  | 242 | 206 |
| d Loch Eck (Benmore)                                      | Mr. R. R. Greenlaw           | 5           | 1                | 3                      | 40                     | 2533                                   | 99·71                                  | ..  | 213 |
| D Lochgoilhead (Nuthill)                                  | H. L. K. Knox, Esq.          | 5           | 1                | 0                      | 15                     | 2222                                   | 87·49                                  | 259 | 226 |
| D Lochgoilhead (Ardgoil)                                  | J. Whitton, Esq.             | 5           | 0                | 6                      | 20                     | 2461                                   | 96·88                                  | 246 | 219 |
| <b>13.—CLYDE—Leven. 4 sq. mi.</b>                         |                              |             |                  |                        |                        |  |  |     |     |
| <b>14.—INSULAR. 900 sq. mi.</b>                           |                              |             |                  |                        |                        |  |  |     |     |
| D Islay (Ardbeg)  | Colin E. Hay, Esq.           | 5           | 7                | 0                      | 46                     | 1244                                   | 48·97                                  | 256 | 214 |
| D Islay (Rhinn)   | Board of Northern Lights.    | 7           | 3                | 6                      | 150                    | 1054                                   | 41·48                                  | 229 | ..  |
| D Islay (Lochindaul)                                      | Board of Northern Lights.    | 3           | 0                | 6                      | 52                     | 1337                                   | 52·64                                  | 207 | ..  |
| D Islay (McArthur's Head)                                 | Board of Northern Lights.    | 3           | 0                | 4                      | 128                    | 1455                                   | 57·27                                  | ..  | ..  |
| D Islay (Eallabus)  | James MacKillop, Esq.        | 5           | 1                | 0                      | 68                     | 1497                                   | 58·94                                  | 272 | 233 |
| D Islay (Rhuvaal)   | Board of Northern Lights.    | 3           | 1                | 3                      | 147                    | 812                                    | 31·96                                  | 190 | ..  |

## DIVISION XV.—WEST MIDLAND COUNTIES—(con.).

| STATIONS.                    | AUTHORITIES.               | Rain Gauge. |                  |                        |     | Depth of Rain<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |     |
|------------------------------|----------------------------|-------------|------------------|------------------------|-----|-----------------------|--|--|-----|
|                              |                            | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     |                       |  |  |     |
| ARGYLL—(con.).               |                            | in.         | ft.              | in.                    | ft. | mm.                   | in.                                    |  |     |
| 14.—INSULAR—(con.).          |                            |             |                  |                        |     |                       |  |  |     |
| D Jura (Ardfin) .....        | Colin Campbell, Esq. ....  | 5           | 1                | 0                      | 160 | 1534                  | 60·41                                  | 245                                    | 207 |
| Fladda Lighthouse .....      | Board of Northern Lights.. | 3           | 1                | 0                      | 42  | 1400                  | 55·12                                  | 195                                    | ..  |
| Lismore (Mousedale) .....    | Board of Northern Lights.. | 7           | 3                | 10                     | 105 | 1197                  | 47·13                                  | 208                                    | ..  |
| D Eriska (Ledaig) .....      | Mr. J. M. Webster .....    | 5           | 1                | 6                      | 30  | 1833                  | 72·17                                  | 212                                    | 209 |
| D Mull (Iona Manse) .....    | Rev. A. Macmillan .....    | 5           | 1                | 2                      | 45  | 1265                  | 49·79                                  | 229                                    | 204 |
| Mull (Bunessan) .....        | Duncan Cameron, Esq. ...   | 5           | 1                | 2                      | 50  | 1383                  | 54·45                                  | ..                                     | ..  |
| D Mull (Ulva) .....          | F. W. Clark, Esq. ....     | 5           | 1                | 0                      | 30  | 1751                  | 68·95                                  | 258                                    | 224 |
| Mull (Knock) .....           | Duncan Cameron, Esq. ...   | 5           | 1                | 2                      | 50  | 2408                  | 94·79                                  | ..                                     | ..  |
| Mull (Glencannel) .....      | Duncan Cameron, Esq. ....  | 5           | 1                | 2                      | 140 | 3508                  | 138·10                                 | ..                                     | ..  |
| D Mull (Gruline) .....       | J. W. Melles, Esq. ....    | 8           | 1                | 0                      | 101 | 2177                  | 85·72                                  | 249                                    | 217 |
| D Mull (Quinish) .....       | J. N. Forsyth, Esq. ....   | 5           | 1                | 3                      | 35  | 1622                  | 63·87                                  | 254                                    | 211 |
| Mull (Glengorm Castle) ..... | Miss M. Lithgow .....      | 6           | 1                | 0                      | 360 | 1494                  | 58·80                                  | ..                                     | ..  |
| Mull, Sound of .....         | Board of Northern Lights.. | 3           | 1                | 4                      | 55  | 1906                  | 75·05                                  | 225                                    | ..  |

## DIVISION XVI.—EAST MIDLAND COUNTIES.

## CLACKMANNAN. (Area 55 sq. mi.)

**1.—FORTH, LOWER—Left Bank Tributaries. 55 sq. mi.**

|   |                                    |                             |    |   |   |     |      |       |     |     |
|---|------------------------------------|-----------------------------|----|---|---|-----|------|-------|-----|-----|
| D | Alloa House Gardens . . . . .      | Earl of Mar & Kellie, K.T.  | 5  | 2 | 6 | 40  | 830  | 32·69 | 175 | 140 |
| w | Alloa W.W. (Gartmorn Res.) . .     | Andrew Mackie, Esq., C.E..  | 11 | 1 | 0 | 172 | 955  | 37·60 | ..  | ..  |
| D | Tilliecultry (Westbourne) . . . .  | Mrs. Willison . . . . .     | 5  | 1 | 0 | 66  | 868  | 34·17 | 218 | 155 |
| D | Dollar (Wellhall, Dollarbeg) . . . | James Bleloch, Esq. . . . . | 5  | 0 | 9 | 265 | 1024 | 40·30 | 231 | 153 |

## KINROSS. (Area, 87 sq. mi.)

**1.—FORTH, LOWER—Left Bank Tributaries. 15 sq. mi.**

|                                |                          |   |   |   |     |      |       |     |     |
|--------------------------------|--------------------------|---|---|---|-----|------|-------|-----|-----|
| Dollar (Blairingone Manse) ... | Rev. J. F. Cameron ..... | 5 | 1 | 6 | 296 | 1084 | 42·67 | 224 | 180 |
|--------------------------------|--------------------------|---|---|---|-----|------|-------|-----|-----|

**2.—LEVEN & C. 67 sq. mi.**

|                                 |                       |   |   |   |     |      |       |     |     |
|---------------------------------|-----------------------|---|---|---|-----|------|-------|-----|-----|
| M Kelty (Blairadam Woods) ..... | D. H. Shaw, Esq. .... | 5 | 1 | 0 | 670 | 910  | 35·84 | ..  | ..  |
| D Loch Leven Sluice .....       | Mr. David Hay .....   | 8 | 0 | 9 | 306 | 851  | 33·49 | 182 | 140 |
| d Milnathort (Ledlanet) .....   | H. Young, Esq. ....   | 5 | 1 | 0 | 750 | 1318 | 51·89 | ..  | 167 |

**3.—EDEN. 2 sq. mi.****4.—TAY—Earn. 3 sq. mi.**

## FIFE. (Area, 505 sq. mi.)

**1.—FORTH, LOWER—Left Bank Tributaries. 66 sq. mi.**

|                                   |                                 |   |   |     |     |       |       |     |     |
|-----------------------------------|---------------------------------|---|---|-----|-----|-------|-------|-----|-----|
| D Rosyth (H. M. Dockyard) ....    | The Supt. Engineer .....        | 8 | 1 | 0   | 53  | 688   | 27·08 | 171 | 127 |
| D Dunfermline (Broomhall Gdns) .. | Mr. James Mitchell .....        | 5 | 1 | 0   | 15  | 750   | 29·52 | 156 | 134 |
| D Kincardine (Tulliallan) .....   | J. C. Wilson, Esq. ....         | 5 | 1 | 0   | 80  | 917   | 36·09 | 170 | 153 |
| D Dunfermline (Victoria Place) .. | J. Blyth, Esq. ....             | 5 | 1 | 2   | 365 | 852   | 33·55 | 191 | 143 |
| Culross (Westgrange) .....        | J. J. Dalgleish, Esq. ....      | 5 | 0 | 2   | 116 | 847   | 33·33 | ..  | ..  |
| Culross (Luscar House) ...        | No.1 Lt.-Col. A. Mitchell ..... | 5 | 0 | 10  | 430 | 871   | 34·29 | ..  | ..  |
| Culross (Luscar House) ...        | No.2 Lt.-Col. A. Mitchell ..... | 5 | 0 | 10  | 430 | 872   | 34·32 | ..  | ..  |
| Carnock (Craigluscar) .....       | R. Muir Morton, Esq. .... 12    | 0 | 4 | 280 | 922 | 36·30 | ..    | ..  | ..  |

**2.—LEVEN & C. 208 sq. mi.**

|                                      |                               |   |   |   |     |      |       |     |     |
|--------------------------------------|-------------------------------|---|---|---|-----|------|-------|-----|-----|
| Dunfermline (Fordell House) . . .    | Earl of Buckinghamshire . .   | 5 | 1 | 0 | 250 | 800  | 31·48 | ..  | ..  |
| D Kirkcaldy (Munro St.) . . . . .    | F. Braid, Esq. . . . .        | 5 | 1 | 0 | 67  | 710  | 27·96 | 178 | 130 |
| D Cowdenbeath (Stenhouse St.) . .    | D. H. Shaw, Esq. . . . .      | 5 | 1 | 0 | 474 | 905  | 35·61 | 173 | 149 |
| D Cleish Hills (Deanhead Farm) . .   | D. H. Shaw, Esq. . . . .      | 5 | 1 | 0 | 725 | 898  | 35·37 | 175 | 138 |
| M Cleish Hills (Craiggaival) . . . . | D. H. Shaw, Esq. . . . .      | 5 | 1 | 0 | 760 | 1072 | 42·20 | ..  | ..  |
| M Cleish Hills (Roscobie Res.) . . . | D. H. Shaw, Esq. . . . .      | 5 | 1 | 0 | 660 | 997  | 39·25 | ..  | ..  |
| M Cleish Hills (Lochglow Res.) . . . | D. H. Shaw, Esq. . . . .      | 5 | 1 | 0 | 900 | 843  | 33·19 | ..  | ..  |
| D Leven (The Rectory) . . . . .      | Rev. F. C. Newbery . . . .    | 5 | 1 | 0 | 25  | 633  | 24·93 | 185 | 120 |
| D Leslie (Lothrie Reservoir) . . . . | R. Ritchie, Esq. . . . .      | 5 | 0 | 6 | 702 | 925  | 36·43 | 216 | 151 |
| D Elie (The Castle) . . . . .        | Miss E. E. Scott Moncrieff    | 5 | 0 | 5 | 9   | 622  | 24·47 | 181 | 126 |
| D Elie (The Terrace) . . . . .       | C. D. Broadfoot, Esq. . . . . | 5 | 1 | 0 | 32  | 658  | 25·90 | 167 | 127 |
| D Colinsburgh (Balcarres) . . . . .  | Mr. J. M. Paul . . . . .      | 5 | 1 | 0 | 300 | 724  | 28·49 | 178 | 132 |
| d Carnbee (Ovenstone W.W.) . . . .   | A. P. Watson, Esq. . . . .    | 5 | 1 | 0 | 168 | 620  | 24·41 | ..  | 112 |

## DIVISION XVI.—EAST MIDLAND COUNTIES—(con.).

| STATIONS.  | AUTHORITIES.                              | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|--|---|-------------|------------------|------------------------|------------------------|--|--|
|  |   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |
| FIFE—(con.).                                       |   | in.         | ft. in.          | ft.                    | mm.                    | in.                                    |  |
| 3.—EDEN & C. 205 sq. mi.                           |   |             |                  |                        |                        |  |  |
| Ceres (Woodburne)                                  | Ralph Richardson, Esq. . . . .            | 5           | 0 9              | 300                    | 746                    | 29·35                                  | ..                                     |
| Ceres (Castlebank)                                 | Mr. Alex. Smith . . . . .                 | 5           | 2 0              | 280                    | 765                    | 30·13                                  | 202 147                                |
| Ceres (St. Helen's)                                | Rev. Robert Dick . . . . .                | 5           | 1 6              | 265                    | 760                    | 29·90                                  | 185 147                                |
| Cameron Water Works                                | W. Watson, Esq., C.E. . . . .             | 5           | 1 0              | 478                    | 762                    | 30·02                                  | 179 140                                |
| Cupar (Rankeillour)                                | Mr. J. McLaren . . . . .                  | 5           | 1 0              | 240                    | 651                    | 25·65                                  | ..                                     |
| Cupar (Rankeillour)                                | Major J. Kerr . . . . .                   | 5           | 1 0              | 240                    | 773                    | 30·43                                  | 200 140                                |
| Cupar (Fife & Kinross Asylum)                      | Dr. J. H. Skeen . . . . .                 | 5           | 1 0              | 210                    | 655                    | 25·77                                  | 191 122                                |
| St. Andrews (Water Works)                          | W. Watson, Esq., C.E. . . . .             | 5           | 1 0              | 217                    | 684                    | 26·91                                  | 185 134                                |
| St. Andrews (Queen's Gardens)                      | Miss I. J. R. Macadam . . . . .           | 5           | 1 0              | 55                     | 660                    | 25·98                                  | 169 120                                |
| St. Andrews  | W. Watson, Esq., C.E. . . . .             | 5           | 1 0              | 20                     | 685                    | 26·97                                  | 164 135                                |
| Kilmany (Lochmalony)                               | W. Marshall, Esq. . . . .                 | 5           | 0 6              | 260                    | 731                    | 28·77                                  | ..                                     |
| 4.—FIRTH OF TAY. 25 sq. mi.                        |   |             |                  |                        |                        |  |  |
| Newport (Tayfield)                                 | W. Berry, Esq. . . . .                    | 5           | 0 7              | 100                    | 701                    | 27·60                                  | .. 120                                 |
| Tayport (Lighthouse)                               | J. H. Thompson, Esq., C.E. . . . .        | 5           | 1 0              | 27                     | 717                    | 28·24                                  | 191 131                                |
| 5.—TAY—Earn. 1 sq. mi.                             |   |             |                  |                        |                        |  |  |
| 6.—INSULAR.  |   |             |                  |                        |                        |  |  |
| Inchkeith  | Board of Northern Lights . . . . .        | ..          | ..               | 160                    | 444                    | 17·47                                  | ..                                     |
| Isle of May  | Board of Northern Lights . . . . .        | 6           | 3 0              | ..                     | 503                    | 19·79                                  | ..                                     |
| PERTH. (Area, 2535 sq. mi.)                        |   |             |                  |                        |                        |  |  |
| 1.—FORTH—Right Bank Tributaries. 17 sq. mi.        |   |             |                  |                        |                        |  |  |
| 2.—FORTH, UPPER—Left Bank Tributaries. 64 sq. mi.  |   |             |                  |                        |                        |  |  |
| Aberfoyle (The Inn)                                | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 0 6              | 60                     | 1581                   | 62·25                                  | .. 220                                 |
| Loch Dhu   | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 0 6              | 325                    | 2365                   | 93·10                                  | .. 219                                 |
| Ledard   | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 0 6              | 1500                   | 2002                   | 78·80                                  | ..                                     |
| 3.—FORTH—Teith. 221 sq. mi.                        |   |             |                  |                        |                        |  |  |
| Loch Drunkie                                       | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 0 6              | 420                    | 1911                   | 75·25                                  | ..                                     |
| Invertrossachs                                     | Sir James R. Wilson, Bt. . . . .          | 5           | 1 0              | 350                    | 1814                   | 71·43                                  | ..                                     |
| Ben Venue (Glasahole)                              | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 1 0              | 1150                   | 2435                   | 95·85                                  | ..                                     |
| Loch Venachar                                      | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 0 6              | 275                    | 1606                   | 63·25                                  | .. 200                                 |
| Bridge of Turk                                     | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 0 6              | 275                    | 1688                   | 66·45                                  | .. 184                                 |
| Loch Katrine (Tunnel Hill Top)                     | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 0 6              | 830                    | 2424                   | 95·45                                  | ..                                     |
| Ben Ledi   | No.2 J. R. Sutherland, Esq., C.E. . . . . | 8           | 0 6              | 1400                   | 1853                   | 72·95                                  | ..                                     |
| Achnahard  | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 1 0              | 474                    | 1849                   | 72·80                                  | .. 193                                 |
| Callander (Leny House)                             | Capt. M. Murray Buchanan . . . . .        | 5           | 0 6              | 340                    | 1633                   | 64·30                                  | ..                                     |
| Strone Bridge                                      | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 1 0              | 380                    | 2162                   | 85·11                                  | ..                                     |
| Glen Meann   | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 1 0              | 800                    | 2261                   | 89·00                                  | ..                                     |
| Glen Finglas                                       | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 1 0              | 1200                   | 2256                   | 88·80                                  | ..                                     |
| Glengyle   | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 0 6              | 380                    | 2671                   | 105·15                                 | .. 235                                 |
| Upper Glengyle                                     | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 1 0              | 750                    | 2906                   | 114·40                                 | ..                                     |
| Allt a' Choin                                      | J. R. Sutherland, Esq., C.E. . . . .      | 8           | 1 0              | 1250                   | 2642                   | 104·00                                 | ..                                     |
| Balquhidder (Blaircreach)                          | J. Carnegie, Esq. . . . .                 | 5           | 1 0              | 460                    | 2818                   | 110·96                                 | ..                                     |
| Balquhidder (Stronvar)                             | J. Carnegie, Esq. . . . .                 | 5           | 1 0              | 422                    | 2154                   | 84·79                                  | 216 206                                |
| 4.—FORTH, LOWER—Left Bank Tributaries. 107 sq. mi. |   |             |                  |                        |                        |  |  |
| Dunblane (Kippenross)                              | A. H. Anderson, Esq. . . . .              | 8           | 1 0              | 237                    | 1138                   | 44·80                                  | 222 174                                |
| Dunblane   | A. Reid, Esq. . . . .                     | 5           | 1 0              | 250                    | 1131                   | 44·52                                  | 151 139                                |
| Dunblane (Kippendavie)                             | A. H. Anderson, Esq. . . . .              | 8           | 2 9              | 300                    | 1194                   | 47·01                                  | ..                                     |
| Glendevon (Glenquey Res.)                          | H. F. Hodge, Esq., C.E. . . . .           | 11          | 0 11             | 945                    | 1453                   | 57·20                                  | .. 172                                 |
| Glendevon (Tormaukin)                              | Mr. W. Phillips . . . . .                 | 5           | 1 6              | 770                    | 1377                   | 54·23                                  | 198 177                                |
| Glendevon (Glensherup)                             | R. Muir Morton, Esq. . . . .              | 12          | 0 4              | 945                    | 1609                   | 63·35                                  | ..                                     |
| 5.—LEVEN. 1 sq. mi.                                |   |             |                  |                        |                        |  |  |
| 6.—EDEN. 4 sq. mi.                                 |   |             |                  |                        |                        |  |  |
| 7.—TAY—Earn. 376 sq. mi.                           |   |             |                  |                        |                        |  |  |
| Gleneagles House                                   | Mr. Andrew Todd . . . . .                 | 8           | 1 0              | 447                    | 1141                   | 44·92                                  | 250 169                                |
| Slateford Burn (Shire End)                         | Messrs. Leslie & Reid, C.E. . . . .       | 8           | 1 0              | 930                    | 1159                   | 45·65                                  | ..                                     |
| Slateford Burn (Whitehill)                         | Messrs. Leslie & Reid, C.E. . . . .       | 8           | 1 0              | 810                    | 1124                   | 44·25                                  | ..                                     |
| Upper Farg (Plains)                                | Messrs. Leslie & Reid, C.E. . . . .       | 8           | 1 0              | 900                    | 993                    | 39·10                                  | ..                                     |

## DIVISION XVI.—EAST MIDLAND COUNTIES—(con.).

| STATIONS.  | AUTHORITIES.                | Rain Gauge. |                  |                        |      | Depth of Rain |       | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|-----------------------------|-------------|------------------|------------------------|------|---------------|-------|-------------------------------------|-------------------------------------|
|  |                             | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920          |       |                                     |                                     |
| PERTH—(con.).                                    |                             |             |                  |                        |      |               |       |                                     |                                     |
| 7.—TAY—Earn—(con.).                              |                             |             |                  |                        |      |               |       |                                     |                                     |
| Upper Farg (Heatherieleys Q'ry)                  | Messrs. Leslie & Reid, C.E. | 8           | 1                | 0                      | 715  | 1000          | 39·37 | ..                                  | ..                                  |
| Upper Farg (Main Bank)                           | Messrs. Leslie & Reid, C.E. | 5           | 1                | 0                      | ..   | 800           | 31·48 | ..                                  | ..                                  |
| Dunning (Kippen House)                           | Lady Wilson                 | 5           | 1                | 0                      | 450  | 1152          | 45·34 | ..                                  | ..                                  |
| Auchterarder (Belhie)                            | Miss D. Cairns              | 5           | 0                | 10                     | 100  | 871           | 34·28 | 180                                 | 156                                 |
| Bridge of Earn (Ballendrick)                     | Capt. O. A. Taylor          | 5           | 1                | 2                      | 30   | 798           | 31·42 | 195                                 | ..                                  |
| d Lochearnhead (Edenchip)                        | Sir Malcolm MacGregor, Bt.  | 5           | 1                | 0                      | 513  | 2083          | 82·02 | 248                                 | 216                                 |
| Crieff (Strathearn Hydro.)                       | Dr. G. Meikle               | 5           | 1                | 0                      | 478  | 1101          | 43·34 | 222                                 | 168                                 |
| 8.—TAY—Almond & c. 149 sq. mi.                   |                             |             |                  |                        |      |               |       |                                     |                                     |
| d Perth (Wellshill Cemetery)                     | J. Ritchie, Esq., jun.      | 5           | 1                | 0                      | 77   | 741           | 29·17 | 160                                 | 138                                 |
| w Logiealmond Lodge                              | Earl of Mansfield           | 5           | 0                | 11                     | 1020 | 1345          | 52·96 | ..                                  | ..                                  |
| 9.—TAY—Strathtay below Dunkeld. 33 sq. mi.       |                             |             |                  |                        |      |               |       |                                     |                                     |
| Murthly (Douglasfield)                           | W. A. Rae, Esq.             | 5           | 0                | 6                      | 237  | 994           | 39·13 | ..                                  | ..                                  |
| Murthly (Glendelvine)                            | A. P. Lyle, Esq.            | 5           | 0                | 9                      | 240  | 847           | 33·36 | ..                                  | ..                                  |
| d Dunkeld (Snaigow)                              | W. H. Cox, Esq.             | 5           | 1                | 0                      | 370  | 1002          | 39·47 | 206                                 | 155                                 |
| 10.—TAY—Bran. 81 sq. mi.                         |                             |             |                  |                        |      |               |       |                                     |                                     |
| d Dunkeld (Inver)                                | Charles McIntosh, Esq.      | 5           | 1                | 0                      | 183  | 1163          | 45·77 | 246                                 | 154                                 |
| 11. TAY—Strathtay above Dunkeld. 95 sq. mi.      |                             |             |                  |                        |      |               |       |                                     |                                     |
| d Aberfeldy (Dall Avon)                          | Dr. N. D. Mackay            | 5           | 1                | 0                      | 320  | 1105          | 43·49 | 232                                 | 154                                 |
| d Grandtully (Dunros)                            | H. W. Johnston, Esq.        | 5           | 1                | 0                      | 400  | 1006          | 39·59 | 231                                 | 162                                 |
| 12.—TAY—Loch Tay. 241 sq. mi.                    |                             |             |                  |                        |      |               |       |                                     |                                     |
| Killin (The Manse)                               | Rev. G. W. Mackay           | 5           | 1                | 0                      | 400  | 1988          | 78·25 | 194                                 | 187                                 |
| Killin (Morenish Lodge)                          | Mr. J. Stewart              | 5           | 0                | 9                      | 200  | 1440          | 56·70 | 162                                 | ..                                  |
| Kenmore (The Manse)                              | Rev. W. A. Gillies          | 5           | 1                | 0                      | 450  | 1405          | 55·32 | 220                                 | 178                                 |
| 13.—TAY—Lyon. 142 sq. mi.                        |                             |             |                  |                        |      |               |       |                                     |                                     |
| Glenlyon (Meggernie Castle)                      | Mr. James Glasheen          | 5           | 1                | 0                      | 760  | 1718          | 67·65 | ..                                  | ..                                  |
| w Fortingall (Glenlyon House)                    | Mr. J. W. Ford              | 5           | 1                | 0                      | 425  | 1268          | 49·90 | ..                                  | ..                                  |
| 14.—TAY—Tummel. 587 sq. mi.                      |                             |             |                  |                        |      |               |       |                                     |                                     |
| d Loch Rannoch (The Barracks)                    | Mr. D. Macdonald            | 5           | 1                | 0                      | 690  | 1340          | 52·76 | 201                                 | 181                                 |
| d Loch Rannoch (Dall)                            | Mr. D. Robertson, jun.      | 5           | 1                | 0                      | 722  | 1400          | 55·12 | 228                                 | 183                                 |
| d Pitlochry (Dunfallandy)                        | D. Stewart-Fergusson, Esq.  | 5           | 1                | 10                     | 405  | 981           | 38·64 | 180                                 | 167                                 |
| d Pitlochry (Bonskeid)                           | Dr. G. F. Barbour           | 5           | 1                | 0                      | 540  | 991           | 39·01 | 238                                 | 172                                 |
| d Fincastle House                                | Mr. N. McKay                | 5           | 1                | 0                      | 980  | 961           | 37·85 | 205                                 | 143                                 |
| d Trinafour (Druimchruidh)                       | A. D. Cameron, Esq.         | 5           | 1                | 0                      | 850  | 1388          | 54·66 | 240                                 | 185                                 |
| d Blair Atholl                                   | George Forrest, Esq.        | 5           | 1                | 0                      | 420  | 939           | 36·96 | 212                                 | 161                                 |
| 15.—TAY—Isla. 282 sq. mi.                        |                             |             |                  |                        |      |               |       |                                     |                                     |
| d Coupar Angus (Public School)                   | A. Reid, Esq.               | 5           | 2                | 2                      | 183  | 747           | 29·42 | 176                                 | 141                                 |
| Blairgowrie (Kinloch Manse)                      | Ian Milne, Esq.             | 5           | 1                | 0                      | 280  | 790           | 31·10 | 219                                 | 155                                 |
| d Kirkmichael (Ballintuim Ho.)                   | Miss M. A. Macdonald        | 5           | 1                | 4                      | 700  | 1100          | 43·32 | 237                                 | 176                                 |
| 16.—TAY—Left Bank Tributaries. 51 sq. mi.        |                             |             |                  |                        |      |               |       |                                     |                                     |
| Kinfauns (Balthayock)                            | R. Wylie Hill, Esq.         | 5           | 1                | 6                      | 323  | 872           | 34·31 | ..                                  | ..                                  |
| d Scone Palace                                   | Earl of Mansfield           | 5           | 0                | 11                     | 62   | 809           | 31·85 | 200                                 | 151                                 |
| 17.—FIRTH OF TAY. 45 sq. mi.                     |                             |             |                  |                        |      |               |       |                                     |                                     |
| 18.—SPEY—Right Bank Tributaries. 1 sq. mi.       |                             |             |                  |                        |      |               |       |                                     |                                     |
| 19.—LOCH LINNHE—Left Bank Tributaries. 2 sq. mi. |                             |             |                  |                        |      |               |       |                                     |                                     |
| 20.—CLYDE—Leven. 36 sq. mi.                      |                             |             |                  |                        |      |               |       |                                     |                                     |
| FORFAR. (Area, 875 sq. mi.)                      |                             |             |                  |                        |      |               |       |                                     |                                     |
| 1.—TAY—Isla. 211 sq. mi.                         |                             |             |                  |                        |      |               |       |                                     |                                     |
| d Kettins School                                 | W. Andrew, Esq.             | 5           | 1                | 0                      | 218  | 776           | 30·55 | 197                                 | 139                                 |
| Glamis Castle                                    | Mr. D. McInnes              | 5           | 0                | 9                      | 250  | 801           | 31·52 | ..                                  | 128                                 |
| d Forfar (Lilvfield)                             | D. M. Mackie, Esq.          | 5           | 0                | 5                      | 225  | 824           | 32·43 | 185                                 | 143                                 |
| Forfar (Orchardbank Sew. Farm)                   | A. Watterston, Esq., C.E.   | 4           | 1                | 0                      | 214  | 760           | 29·90 | ..                                  | ..                                  |
| d Kirriemuir (Lintrathen)                        | G. Baxter, Esq., C.E.       | 8           | 1                | 0                      | 700  | 893           | 35·16 | 211                                 | 150                                 |

## DIVISION XVI.—EAST MIDLAND COUNTIES—(con.).

| STATIONS.                       | AUTHORITIES.                        | Rain Gauge. |                  |                        |      | Depth of Rain. |         | Days with<br>·01 in.<br>or more. | Days with<br>·04 in.<br>or more. |
|---------------------------------|-------------------------------------|-------------|------------------|------------------------|------|----------------|---------|----------------------------------|----------------------------------|
|                                 |                                     | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |         |                                  |                                  |
| FORFAR—(con.).                  |                                     | in.         | ft.              | in.                    | ft.  | mm.            | in.     |                                  |                                  |
| 1.—TAY—Isle—(con.).             |                                     |             |                  |                        |      |                |         |                                  |                                  |
| M Kirriemuir (Lintrathen)       | .....G. Baxter, Esq., C.E.          | 8           | 1                | 0                      | 700  | 917            | 36·10   | ..                               | ..                               |
| M Kirriemuir (Balnakeilly)      | .....G. Baxter, Esq., C.E.          | 8           | 1                | 0                      | 700  | 935            | 36·80   | ..                               | ..                               |
| M Kirriemuir (Creich Hill, S.)  | ...G. Baxter, Esq., C.E.            | 8           | 1                | 0                      | 1482 | 899            | 35·40   | ..                               | ..                               |
| M Kirriemuir (Creich Hill, Top) | ...G. Baxter, Esq., C.E.            | 8           | 1                | 0                      | 1500 | 841            | 33·10   | ..                               | ..                               |
| M Kirriemuir (Creich Hill, N.)  | ...G. Baxter, Esq., C.E.            | 8           | 1                | 0                      | 1491 | 970            | 38·20   | ..                               | ..                               |
| 2.—FIRTH OF TAY. 80 sq. mi.     |                                     |             |                  |                        |      |                |         |                                  |                                  |
| Buddonness (Low Light)          | .....J. H. Thompson, Esq., C.E.     | 5           | 1                | 0                      | 27   | 757            | 29·81   | 165                              | 121                              |
| Dundee (Harbour)                | .....J. H. Thompson, Esq., C.E.     | 5           | 0                | 11                     | 14   | 689            | 27·13   | 179                              | 126                              |
| Dundee (Eastern Necropolis)     | ...Mr. A. Macrae                    | 3           | 1                | 0                      | 199  | 748            | 29·46   | ..                               | 170                              |
| D Dundee (Eastern Necropolis)   | ...Mr. A. Macrae                    | 5           | 1                | 0                      | 199  | 754            | 29·67   | 202                              | 148                              |
| Dundee (Dens Works)             | .....Messrs. Baxter, Bros., Ltd.    | 5           | on roof          |                        | 119  | 709            | 27·90   | ..                               | 129                              |
| d Dundee (Camperdown Works)     | .....Messrs. Cox, Bros., Ltd.       | 5           | 1                | 2                      | 290  | 778            | 30·61   | 209                              | 131                              |
| Dundee (Inniscarra)             | .....H. G. Walker, Esq.             | 5           | 1                | 0                      | 130  | 713            | 28·08   | ..                               | ..                               |
| d Dundee (Balruddery)           | .....J. Martin White, Esq.          | 5           | 1                | 0                      | 266  | 755            | 29·71   | 165                              | 130                              |
| Dundee (Kirkton of Mains)       | ...James Aimer, Esq.                | 8           | 1                | 0                      | 244  | 735            | 28·94   | 197                              | 142                              |
| Murroes (Craig Mills)           | .....John Grant, Esq.               | 5           | 1                | 6                      | 310  | 814            | 32·06   | ..                               | ..                               |
| 3.—SOUTH ESK & C. 371 sq. mi.   |                                     |             |                  |                        |      |                |         |                                  |                                  |
| D Carnoustie                    | .....D. Maxwell, Esq., C.E.         | 8           | 1                | 0                      | 39   | 618            | 24·34   | 176                              | 117                              |
| D Craigton                      | .....G. Baxter, Esq., C.E.          | 8           | 1                | 0                      | 484  | 833            | 32·78   | 177                              | 140                              |
| M Craigton                      | .....G. Baxter, Esq., C.E.          | 8           | 3                | 0                      | 484  | 792            | 31·16   | ..                               | ..                               |
| M Craigton (Hillhead)           | .....G. Baxter, Esq., C.E.          | 8           | 3                | 0                      | 570  | 772            | 30·38   | ..                               | ..                               |
| M Crombie Reservoir             | .....G. Baxter, Esq., C.E.          | 8           | 3                | 0                      | 522  | 909            | 35·78   | ..                               | ..                               |
| M Monikie (Fallows)             | .....G. Baxter, Esq., C.E.          | 8           | 3                | 0                      | 585  | 870            | 34·26   | ..                               | ..                               |
| D Arbroath (Dishland Hill)      | .....Mr. J. Campbell                | 5           | 1                | 0                      | 69   | 579            | 22·78   | 173                              | 119                              |
| Arbroath (Muirheads Res.)       | ...T. L. Brown, Esq.                | 5           | 1                | 0                      | 251  | 784            | 30·87   | ..                               | ..                               |
| Forfar (Pitscandly)             | .....W. T. Farquhar, Esq.           | 5           | 1                | 9                      | 300  | 801            | 31·52   | ..                               | ..                               |
| Montroseness                    | .....Board of Northern Lights       | 3           | 1                | 0                      | 124  | 518            | 20·38   | ..                               | ..                               |
| Montrose                        | .....S. L. Christie, Esq.           | 5           | 1                | 0                      | 16   | 640            | 25·20   | 182                              | 125                              |
| d Montrose (Melville Gardens)   | .....S. L. Christie, Esq.           | 5           | 8                | 0                      | 20   | 638            | 25·13   | ..                               | 120                              |
| D Forfar W.W. (Den of Ogil)     | ...A. Watterston, Esq., C.E. 12 x 4 | 0           | 3                |                        | 633  | 1041           | 40·99   | 186                              | 151                              |
| D Glenogil Waterworks           | .....T. L. Brown, Esq.              | 5           | 1                | 0                      | 700  | 1094           | 43·09   | 208                              | 151                              |
| D Glen Prosen (Pearsie House)   | ...Mr. J. Scott                     | 5           | 1                | 0                      | 600  | 1011           | 39·80   | 201                              | 160                              |
| Glen Prosen (Lednathie)         | .....Mr. W. G. Lindsay              | 5           | 1                | 0                      | 720  | 1323           | 52·08   | 174                              | 161                              |
| d Glen Prosen (Balnaboth Gdns.) | Mrs. Ogilvie                        | 5           | 1                | 0                      | 975  | 1347           | 53·04   | ..                               | 145                              |
| 4.—NORTH ESK & C. 213 sq. mi.   |                                     |             |                  |                        |      |                |         |                                  |                                  |
| D Brechin (Trinity)             | .....Miss E. A. Steventon           | 8           | 1                | 0                      | 295  | 785            | 30·91   | 196                              | 141                              |
| D Montrose (Sunnyside Asylum)   | ...C. K. Alexander, Esq.            | 5           | 1                | 0                      | 200  | 657            | 25·88   | 151                              | 125                              |
| D Montrose (Kinnaber W.W.)      | ...S. L. Christie, Esq.             | 5           | 1                | 0                      | 38   | 658            | 25·91   | 180                              | 132                              |
| Brechin (Stracathro Gardens)    | ...Mr. A. Dunlop                    | 5           | 1                | 0                      | 250  | 749            | 29·49 ? | ..                               | ..                               |

## DIVISION XVII.—NORTH-EASTERN COUNTIES.

## KINCARDINE. (Area, 382 sq. mi.)

|   |                                     |   |   |   |     |      |       |     |     |
|---|-------------------------------------|---|---|---|-----|------|-------|-----|-----|
| <b>1.—NORTH ESK &amp; C. 99 sq. mi.</b>       |                                     |   |   |   |     |      |       |     |     |
| D Fettercairn (Police Station) . . . . .      | Mr. J. F. Brown . . . . .           | 5 | 1 | 0 | 230 | 880  | 34·66 | 182 | 145 |
| <b>2.—BERVIE, COWIE, &amp; C. 130 sq. mi.</b> |                                     |   |   |   |     |      |       |     |     |
| Todhead . . . . .                             | Board of Northern Lights . . . . .  | 3 | 4 | 0 | 135 | 731  | 28·78 | ..  | ..  |
| D Stonehaven (Mains of Cowie) . . . . .       | John Hart, Esq. . . . .             | 5 | 1 | 0 | 93  | 609  | 23·96 | 195 | 135 |
| <b>3.—DEE. 144 sq. mi.</b>                    |                                     |   |   |   |     |      |       |     |     |
| Strachan (Bridge of Dye) . . . . .            | Sir J. R. Gladstone . . . . .       | 5 | 1 | 0 | 515 | 1097 | 43·20 | ..  | ..  |
| D Crathes (Crossroad, Durris) . . . . .       | A. Macdonald, Esq. . . . .          | 5 | 1 | 0 | 420 | 636  | 36·83 | 223 | 160 |
| Drum oak (Durris House) . . . . .             | (R) Mr. A. Reid . . . . .           | 5 | 3 | 6 | 200 | 847  | 33·34 | ..  | ..  |
| D Banchory (Invercannie) . . . . .            | George Mitchell, Esq., C.E. . . . . | 5 | 1 | 0 | 205 | 900  | 35·44 | 177 | 161 |
| Crathes (Pinewood) . . . . .                  | James Smith, Esq. . . . .           | 5 | 1 | 0 | 145 | 846  | 33·31 | 197 | 134 |

## DIVISION XVII.—NORTH-EASTERN COUNTIES—(con.).

| STATIONS.                                   | AUTHORITIES.                 | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|------------------------------|-------------|------------------|------------------------|------------------------|--|--|
|   |                              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |
| ABERDEEN. (Area, 1974 sq. mi.)              |                              | in.         | ft.              | in                     | mm.                    | in.                                    |  |
| 1.—DEE. 672 sq. mi.                         |                              |             |                  |                        |                        |  |  |
| D Glen Muick .....                          | George Mitchell, Esq., C.E.  | 5           | 1                | 0 1370                 | 1370                   | 53·94                                  | 217 178                                |
| D Glen Tanner (Aitnach) .....               | George Mitchell, Esq., C.E.  | 5           | 1                | 0 1260                 | 1232                   | 48·50                                  | 160 144                                |
| D Braemar (Bank) .....                      | A. M. Shirran, Esq. ....     | 5           | 1                | 0 1114                 | 1002                   | 39·43                                  | 179 164                                |
| D Braemar (Derry Lodge) .....               | George Mitchell, Esq., C.E.  | 5           | 1                | 0 1400                 | 897                    | 35·31                                  | 230 170                                |
| D Balmoral Castle Gardens .....             | Mr. R. F. Chalmers .....     | 5           | 1                | 0 927                  | 881                    | 34·70                                  | 229 144                                |
| D Abergeldie Castle .....                   | Mr. J. Durran .....          | 5           | 1                | 0 ..                   | 855                    | 33·64                                  | .. ..                                  |
| D Ballater (Irrigation Farm) .....          | George Mitchell, Esq., C.E.  | 5           | 1                | 0 637                  | 928                    | 36·54                                  | 191 145                                |
| M Bienn Bhreac .....                        | George Mitchell, Esq., C.E.  | 5           | 1                | 0 2700                 | 1116                   | 43·94                                  | .. ..                                  |
| D Glen Gairn (GairnShielLodge) ..           | George Mitchell, Esq., C.E.  | 5           | 1                | 0 1100                 | 834                    | 32·83                                  | 208 157                                |
| D Aboyne .....                              | George Mitchell, Esq., C.E.  | 5           | 1                | 0 412                  | 826                    | 32·52                                  | 154 134                                |
| D Torphins (School House) .....             | Dr. George Davidson .....    | 5           | 1                | 6 480                  | 745                    | 29·34                                  | 151 127                                |
| Lumphanan .....                             | George Mitchell, Esq., C.E.  | 5           | 1                | 0 490                  | 811                    | 31·92                                  | .. ..                                  |
| D Drumoak (Drum Castle) .....               | A. F. Irvine, Esq. ....      | 5           | 0                | 8 320                  | 735                    | 28·95                                  | 196 128                                |
| D Logie Coldstone School .....              | J. B. Anderson, Esq. ....    | 5           | 1                | 0 608                  | 764                    | 30·07                                  | 218 137                                |
| D Logie Coldstone (Loanhead) ..             | Mr. A. Farquharson .....     | 5           | 1                | 0 743                  | 680                    | 26·77                                  | 214 126                                |
| D Aberdeen (Mannofield Res.) ..             | George Mitchell, Esq., C.E.  | 5           | 1                | 0 171                  | 697                    | 27·43                                  | 201 134                                |
| D Aberdeen (Cranford House) .....           | Mr. W. C. Smith .....        | 5           | 1                | 0 120                  | 735                    | 28·95                                  | 186 137                                |
| Aberdeen (Cornhill Road) .....              | J. B. Innes, Esq. ....       | 5           | 1                | 0 150                  | 718                    | 28·26                                  | .. ..                                  |
| 2.—DON. 512 sq. mi.                         |                              |             |                  |                        |                        |  |  |
| D Aberdeen (King's College) .....           | Meteorological Office .....  | 11          | 2                | 0 44                   | 696                    | 27·40                                  | 181 125                                |
| Strathdon (Estates Office) .....            | C. Christie, Esq. ....       | 5           | 1                | 2 990                  | 819                    | 32·23                                  | 166 138                                |
| D Dyce (Parkhill House) .....               | J. E. Crombie, Esq. ....     | 8           | 0                | 11 170                 | 773                    | 30·42                                  | 196 139                                |
| New Machar (Straloch) .....                 | Mrs. Irvine .....            | ..          | 4                | 0 320                  | 766                    | 30·14                                  | .. ..                                  |
| D Inverurie (Westfield) .....               | James Skinner, Esq. ....     | 5           | 1                | 0 ..                   | 652                    | 25·69                                  | 193 115                                |
| 3.—YTHAN & C. 285 sq. mi.                   |                              |             |                  |                        |                        |  |  |
| D Ellon (Esslemont House) .....             | Col. J. Wolrige-Gordon, CMG  | 5           | 1                | 6 100                  | 737                    | 29·01                                  | 199 138                                |
| D House of Schivas .....                    | Earl of Haddo .....          | 5           | 0                | 9 200                  | 725                    | 28·54                                  | 180 129                                |
| D Fyvie Castle .....                        | Col. C. R. Burn, M.P. ....   | 5           | 0                | 6 200                  | 696                    | 27·41                                  | 146 127                                |
| 4.—UGIE & C. 257 sq. mi.                    |                              |             |                  |                        |                        |  |  |
| Buchanness .....                            | Board of Northern Lights .   | 3           | 3                | 0 130                  | 539                    | 21·21                                  | .. ..                                  |
| D New Deer School House .....               | H. Cowie, Esq. ....          | 5           | 1                | 0 397                  | 682                    | 26·84                                  | 187 136                                |
| D Peterhead (Stock Bridge) .....            | J. T. Robertson, Esq. ....   | 5           | 1                | 6 ..                   | 647                    | 25·47                                  | 166 127                                |
| D Peterhead (Mains of Buthlaw) ..           | W. Johnston, Esq. ....       | 5           | 1                | 6 120                  | 670                    | 26·38                                  | 191 133                                |
| D Peterhead (Forehill Works) ..             | J. Dickie, Esq., C.E. ....   | 5           | 0                | 7 133                  | 739                    | 29·09                                  | 176 133                                |
| D Brucklay Castle .....                     | A. Dingwall Fordyce, Esq. MP | 8           | 1                | 0 300                  | 846                    | 33·30                                  | 157 127                                |
| Kinnairdhead .....                          | Board of Northern Lights .   | 3           | 2                | 6 120                  | 457                    | 17·98 ?                                | 146 ..                                 |
| 5.—DEVERON & C. 248 sq. mi.                 |                              |             |                  |                        |                        |  |  |
| D Drumblade Public School .....             | G. Harper, Esq. ....         | 5           | 1                | 0 485                  | 708                    | 27·88                                  | 209 144                                |
| Huntly (Union Bank) .....                   | Alex. Smith, Esq. ....       | 5           | 1                | 0 405                  | 719                    | 28·30                                  | .. ..                                  |
| Huntly (Cruchie) .....                      | Miss A. Joss .....           | 5           | 3                | 6 400                  | 703                    | 27·68                                  | 175 139                                |
| BANFF. (Area, 630 sq. mi.)                  |                              |             |                  |                        |                        |  |  |
| 1.—YTHAN. 1 sq. mi.                         |                              |             |                  |                        |                        |  |  |
| 2.—DEVERON & C. 344 sq. mi.                 |                              |             |                  |                        |                        |  |  |
| D Drummair Castle .....                     | T. Gordon Duff, Esq. ....    | 5           | 1                | 0 605                  | 777                    | 30·59                                  | 204 149                                |
| D Keith Station .....                       | Mr. A. Kennedy .....         | 5           | 1                | 0 364                  | 788                    | 31·03                                  | 167 125                                |
| Buckie (Roughonnie) ..                      | No. 2 W. Hendry, Esq. ....   | 5           | 1                | 4 350                  | 571                    | 22·47                                  | .. ..                                  |
| Buckie (Roughonnie) ..                      | No. 1 W. Hendry, Esq. ....   | 5           | 1                | 4 334                  | 598                    | 23·54                                  | .. ..                                  |
| Buckie (West Church Street) ..              | W. Hendry, Esq. ....         | 5           | 1                | 4 76                   | 535                    | 21·05                                  | .. ..                                  |
| Banff (Duff House) .....                    | A. J. Leigh, Esq. ....       | 5           | 1                | 0 7                    | 568                    | 22·37                                  | 190 124                                |
| Cullen House Gardens .....                  | Mr. F. Low .....             | 5           | 0                | 11 100                 | 613                    | 24·12                                  | .. ..                                  |
| 3.—SPEY—Right Bank Tributaries. 285 sq. mi. |                              |             |                  |                        |                        |  |  |
| D Dufftown (Fife Street) .....              | Miss B. Walker .....         | 5           | 1                | 9 579                  | 810                    | 31·91                                  | 215 150                                |
| D Aberlour Orphanage .....                  | J. G. White, Esq. ....       | 5           | 1                | 0 350                  | 725                    | 28·54                                  | 185 134                                |
| MORAY. (Area, 477 sq. mi.)                  |                              |             |                  |                        |                        |  |  |
| 1.—DEVERON & C. 7 sq. mi.                   |                              |             |                  |                        |                        |  |  |
| 2.—SPEY—Right Bank Tributaries. 35 sq. mi.  |                              |             |                  |                        |                        |  |  |
| Gordon Castle .....                         | Mr. C. Webster .....         | 5           | 1                | 0 107                  | 611                    | 24·06                                  | 181 120                                |



## DIVISION XVII.—NORTH-EASTERN COUNTIES—(con.).

| STATIONS.                                  | AUTHORITIES.           | Rain Gauge. |                  |                        |            | Depth of Rain. |            | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|------------------------|-------------|------------------|------------------------|------------|----------------|------------|-------------------------------------|-------------------------------------|
|  |                        | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920       |                |            |                                     |                                     |
| MORAY—(con.).                              |                        | <i>in.</i>  | <i>ft.</i>       | <i>in.</i>             | <i>ft.</i> | <i>mm.</i>     | <i>in.</i> |                                     |                                     |
| 3.—SPEY—Left Bank Tributaries. 133 sq. mi. |                        |             |                  |                        |            |                |            |                                     |                                     |
| D Grantown-on-Spey                         | W. Duncan, Esq.        | 5           | 1                | 1                      | 700        | 647            | 25·49      | 183                                 | 149                                 |
| Knockando (Schoolhouse)                    | Charles Watt, Esq.     | 5           | 1                | 0                      | 600        | 624            | 24·55      | 187                                 | 126                                 |
| 4.—LOSSIE & C. 154 sq. mi.                 |                        |             |                  |                        |            |                |            |                                     |                                     |
| D Lhanbryde (Blackhills House)             | M. Christie, Esq.      | 5           | 3                | 6                      | 310        | 691            | 27·21      | 206                                 | 142                                 |
| Elgin (The Manse)                          | Rev. Dr. R. Macpherson | 6           | 1                | 3                      | 38         | 504            | 19·84      | ..                                  | ..                                  |
| D Duffus House                             | Mr. W. Ogg             | 5           | 1                | 0                      | 55         | 554            | 21·83      | 165                                 | 137                                 |
| 5.—FINDHORN & C. 148 sq. mi.               |                        |             |                  |                        |            |                |            |                                     |                                     |
| D Darnaway Castle Gardens                  | Earl of Moray          | 5           | 1                | 3                      | 200        | 633            | 24·91      | 206                                 | 140                                 |
| D Brodie (Earlsmill House)                 | James Fenwick, Esq.    | 5           | 0                | 10                     | 135        | 620            | 24·43      | 209                                 | 141                                 |
| Forres (Knockonnie)                        | W. Fraser, Esq.        | 6           | 0                | 10                     | 100        | 584            | 23·00      | ..                                  | ..                                  |
| NAIRN. (Area, 163 sq. mi.)                 |                        |             |                  |                        |            |                |            |                                     |                                     |
| 1.—FINDHORN & C. 102 sq. mi.               |                        |             |                  |                        |            |                |            |                                     |                                     |
| d Ardcloch (Glenferness)                   | Mr. A. McKenzie        | 8           | 1                | 6                      | 750        | 784            | 30·88      | ..                                  | 160                                 |
| 2.—NAIRN & C. 61 sq. mi.                   |                        |             |                  |                        |            |                |            |                                     |                                     |
| Cawdor Castle                              | (R) Mr. D. Chapman     | 8           | 4                | 3                      | 225        | 662            | 26·08      | ..                                  | 130                                 |
| D Nairn (Balblair)                         | Major H. C. H. Allanby | 4           | 1                | 0                      | 94         | 536            | 21·10      | 212                                 | 129                                 |
| D Nairn (Achareidh)                        | H. A. Clarke, Esq.     | 8           | 1                | 0                      | 59         | 554            | 21·79      | 214                                 | 128                                 |
| D Nairn (Delnies)                          | Meteorological Office  | 8           | 1                | 9                      | 84         | 530            | 20·88      | 227                                 | 126                                 |

## DIVISION XVIII.—NORTH-WESTERN COUNTIES.

INVERNESS. (Area, 4146 sq. mi.)

|  |                            |   |   |   |      |      |        |     |     |
|--|----------------------------|---|---|---|------|------|--------|-----|-----|
| <b>1.—TAY—Tummel. 28 sq. mi.</b>                   |                            |   |   |   |      |      |        |     |     |
| <b>2.—SPEY—Right Bank Tributaries. 437 sq. mi.</b> |                            |   |   |   |      |      |        |     |     |
| Nethy Bridge (U.F. Manse)                          | Rev. A. Sutherland         | 5 | 1 | 0 | 750  | 642  | 25·26  | 160 | ..  |
| <b>3.—SPEY—Left Bank Tributaries. 257 sq. mi.</b>  |                            |   |   |   |      |      |        |     |     |
| D Cluny Castle                                     | Mr. A. Macdonald           | 5 | 1 | 1 | 900  | 1084 | 42·66  | 255 | 190 |
| D Alvie Gardens                                    | Mr. J. G. Fraser           | 5 | 1 | 3 | 800  | 884  | 34·80  | 207 | 166 |
| Alvie Manse  | Rev. Dugald Maclean        | 5 | 1 | 0 | 760  | 726  | 28·57  | 232 | ..  |
| Aviemore (Rothiemurchus)                           | W. Dempster, Esq.          | 5 | 1 | 0 | 706  | 787  | 30·98  | ..  | ..  |
| <b>4.—FINDHORN. 164 sq. mi.</b>                    |                            |   |   |   |      |      |        |     |     |
| <b>5.—NAIRN &amp; C. 131 sq. mi.</b>               |                            |   |   |   |      |      |        |     |     |
| Gollanfield House                                  | The MacKinnon of Mackinnon | 5 | 0 | 8 | 80   | 581  | 22·87  | 183 | 129 |
| <b>6.—NESS—Right Bank Tributaries. 252 sq. mi.</b> |                            |   |   |   |      |      |        |     |     |
| Loch Ness (Killin, Whitebridge)                    | British Aluminium Co. Ltd. | 8 | 1 | 0 | 1200 | 1489 | 58·61  | ..  | ..  |
| D Loch Ness (Garthbeg)                             | British Aluminium Co. Ltd. | 8 | 1 | 0 | 645  | 1124 | 44·24  | 231 | 164 |
| Loch Ness (Foyers)                                 | British Aluminium Co. Ltd. | 8 | 1 | 0 | 52   | 1069 | 42·08  | 205 | 161 |
| Loch Ness (Aberchalder)                            | British Aluminium Co. Ltd. | 8 | 1 | 0 | 700  | 899  | 35·39  | ..  | ..  |
| <b>7.—NESS—Garry &amp; c. 185 sq. mi.</b>          |                            |   |   |   |      |      |        |     |     |
| M Loch Quoich (Loan)                               | Col. D. W. Cameron         | 5 | 1 | 0 | 650  | 4778 | 188·10 | ..  | ..  |
| d Loch Quoich (Kinlochquoich)                      | Col. D. W. Cameron         | 5 | 1 | 0 | 560  | 3704 | 145·81 | ..  | ..  |
| D Loch Quoich (Glenquoich)                         | Mr. C. Macrae              | 5 | 1 | 2 | 569  | 3164 | 124·57 | 236 | 233 |
| Glen Garry (Inchlaggan)                            | Mr. M. Matheson            | 5 | 1 | 0 | 370  | 1435 | 56·51  | 199 | 172 |
| Invergarry Gardens                                 | Mr. G. Robertson           | 5 | 1 | 0 | 130  | 2314 | 91·10  | ..  | ..  |
| Invergarry Schoolhouse                             | W. M. Aitken, Esq.         | 5 | 1 | 0 | 180  | 1839 | 72·38  | ..  | ..  |
| <b>8.—NESS—Moriston. 120 sq. mi.</b>               |                            |   |   |   |      |      |        |     |     |
| <b>9.—NESS—Enrick. 131 sq. mi.</b>                 |                            |   |   |   |      |      |        |     |     |
| D Drumnadrochit                                    | Mrs. Grant                 | 5 | 1 | 0 | 138  | 812  | 31·96  | 221 | 148 |
| d Inverness (District Asylum)                      | Dr. T. C. Mackenzie        | 5 | 1 | 0 | 330  | 665  | 26·19  | 220 | 163 |
| Inverness (High School)                            | V. M. Galbraith, Esq.      | 5 | 1 | 0 | 98   | 623  | 24·54  | 210 | 144 |

## DIVISION XVIII.—NORTH-WESTERN COUNTIES—(con.).

| STATIONS.   | AUTHORITIES.                          | Rain Gauge. |                  |                        |      | Depth of Rain. |        | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|---------------------------------------|-------------|------------------|------------------------|------|----------------|--------|--|--|
|   |                                       | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |        |  |  |
| INVERNESS—(con.).   |                                       | in.         | ft.              | in.                    | ft.  | mm.            | in.    |  |  |
| <b>10.—BEAULY. 341 sq. mi.</b>                            |                                       |             |                  |                        |      |                |        |  |  |
| D Kirkhill (Moniack) .....                                | R. Robertson, Esq., C.E....           | 5           | 1                | 0                      | 65   | 703            | 27·68  | 205                                    | 151                                    |
| <b>11.—CROMARTY FIRTH. 13 sq. mi.</b>                     |                                       |             |                  |                        |      |                |        |  |  |
| <b>12.—SOUND OF SLEAT. 259 sq. mi.</b>                    |                                       |             |                  |                        |      |                |        |  |  |
| D Loch Nevis (Inverie Gardens) .....                      | Mr. J. Huggins .....                  | 5           | 0                | 6                      | 15   | 2230           | 87·78  | 252                                    | 222                                    |
| D Glenelg Manse .....                                     | Rev. A. Mactaggart .....              | 5           | 1                | 0                      | 85   | 1339           | 52·71  | 230                                    | 210                                    |
| <b>13.—SOUND OF ARISAIG. 126 sq. mi.</b>                  |                                       |             |                  |                        |      |                |        |  |  |
| D Moidart (Kinlochmoidart) ....                           | M. J. C. Stewart, Esq. ....           | 5           | 1                | 0                      | 13   | 2025           | 79·71  | 231                                    | 226                                    |
| D Moidart (Roshven) .....                                 | Mrs. Wm. Blackburn .....              | 5           | 1                | 0                      | 40   | 1959           | 77·12  | 254                                    | 225                                    |
| D Arisaig (Faire-na-Sguir) .....                          | Miss C. C. Astley .....               | 5           | 1                | 0                      | 30   | 1622           | 63·87  | 255                                    | 217                                    |
| D Arisaig House .....                                     | Mr. W. Grant.....                     | 5           | 1                | 0                      | 30   | 1697           | 66·78  | 245                                    | 228                                    |
| <b>14.—LOCH LINNHE—Right Bank Tributaries. 48 sq. mi.</b> |                                       |             |                  |                        |      |                |        |  |  |
| D Loch Eil (Achdaluie) .....                              | Col. D. W. Cameron .....              | 5           | 1                | 0                      | 100  | 1843           | 72·56  | 235                                    | 209                                    |
| <b>15.—LOCHY—Right Bank Tributaries. 143 sq. mi.</b>      |                                       |             |                  |                        |      |                |        |  |  |
| D Loch Arkaig (Achnacarry).....                           | Col. D. W. Cameron .....              | 5           | 1                | 0                      | 120  | 2635           | 103·74 | 240                                    | 225                                    |
| D Loch Arkaig (Glen Dessary) .....                        | Col. D. W. Cameron .....              | 5           | 1                | 0                      | 300  | 3079           | 121·21 | ..                                     | 214                                    |
| D Clunes .....  | Col. D. W. Cameron .....              | 5           | 1                | 0                      | 128  | 2090           | 82·29  | 225                                    | 204                                    |
| <b>16.—LOCHY—Left Bank Tributaries. 362 sq. mi.</b>       |                                       |             |                  |                        |      |                |        |  |  |
| M Loch Pattaig.....                                       | Sir J. F. Ramsden, Bt.....            | 5           | 0                | 6                      | 1442 | 1283           | 50·50? | ..                                     | ..                                     |
| M Loch Laggan (Ardverikie) ....                           | Sir J. F. Ramsden, Bt. ....           | 5           | 0                | 6                      | 860  | 1391           | 54·75? | ..                                     | ..                                     |
| <b>17.—LOCH LINNHE—Left Bank Tributaries. 120 sq. mi.</b> |                                       |             |                  |                        |      |                |        |  |  |
| D North Ballachulish (Alltshellach) ..                    | B. Chinnery-Haldane, Esq. ....        | 5           | 2                | 1                      | 80   | 2239           | 88·16  | 254                                    | 230                                    |
| D Glenleven (Blackwater Dam, N) ..                        | British Aluminium Co. Ltd. ....       | 8           | 1                | 0                      | 1072 | 2382           | 93·80  | ..                                     | ..                                     |
| D Kinlochleven (Kinlochmore Lo.) ..                       | Brian Bibby, Esq.....                 | 5           | 1                | 0                      | 115  | 2900           | 114·17 | 261                                    | 231                                    |
| Kinlochleven (Mamore Lodge) ..                            | Mr. John Clark .....                  | 8           | 1                | 0                      | 600  | 2723           | 107·20 | ..                                     | ..                                     |
| Glenleven (Invercaim) ..                                  | No. 6 British Aluminium Co. Ltd. .... | 8           | 1                | 0                      | 1070 | 2322           | 91·43  | ..                                     | ..                                     |
| Glenleven (Chiaron Ho.) ..                                | No. 3 British Aluminium Co. Ltd. .... | 8           | 1                | 0                      | 1200 | 2590           | 101·96 | ..                                     | ..                                     |
| Glenleven (Loch Eilde Mòr) ..                             | British Aluminium Co. Ltd. ....       | 8           | 1                | 1                      | 1130 | 2576           | 101·41 | ..                                     | ..                                     |
| Glenleven (Loch Eilde Beg) ..                             | British Aluminium Co. Ltd. ....       | 8           | 1                | 1                      | 1125 | 2469           | 97·20  | ..                                     | ..                                     |
| Glenleven (Corrour Stn.) ..                               | No. 5 British Aluminium Co. Ltd. .... | 8           | 1                | 0                      | 1260 | 2104           | 82·83  | ..                                     | ..                                     |
| D Fort William (Crolinne) .....                           | R. C. Malcolm, Esq. ....              | 5           | 1                | 2                      | 60   | 2445           | 96·24  | 262                                    | 215                                    |
| D Fort William (Atholl Bank) ...                          | W. T. Kilgour, Esq. ....              | 5           | 1                | 0                      | 171  | 2385           | 93·90  | 267                                    | 217                                    |
| <b>18.—INSULAR, INNER HEBRIDES. 786 sq. mi.</b>           |                                       |             |                  |                        |      |                |        |  |  |
| Hyskier .....   | Board of Northern Lights ..           | ..          | ..               | ..                     | ..   | 1323           | 52·07  | 214                                    | ..                                     |
| Skye (Oronsay) .....                                      | Board of Northern Lights ..           | ..          | 0                | 6                      | 58   | 1364           | 53·68  | 255                                    | ..                                     |
| Skye (Duisdale House) .....                               | R. Noël Paton, Esq.....               | 5           | 2                | 6                      | 80   | 2352           | 92·60  | ..                                     | ..                                     |
| D Skye (Kyleakin, Dunringell) ..                          | Maj. A. D. Mackinnon, C.M.G. ....     | 5           | 2                | 1                      | 100  | 1975           | 77·74  | 250                                    | 208                                    |
| Skye (Kyleakin Lighthouse) ..                             | Board of Northern Lights ..           | 5           | 4                | 6                      | 53   | 1587           | 62·49  | 215                                    | ..                                     |
| D Skye (Scalpay Island) .....                             | Mr. D. Gunn .....                     | 5           | 1                | 0                      | 4    | 2260           | 88·96  | 252                                    | 232                                    |
| D Skye (Portree) .....                                    | D. Dewar, Esq. ....                   | 5           | 1                | 0                      | 65   | 1714           | 67·46  | 261                                    | 234                                    |
| D Skye (Dunvegan) .....                                   | Mrs. Mackenzie .....                  | 5           | 3                | 0                      | 47   | 2089           | 82·24  | 256                                    | 224                                    |
| Rona .....  | Board of Northern Lights ..           | 3           | 1                | 3                      | 212  | 826            | 32·50  | 226                                    | ..                                     |
| <b>19.—INSULAR, OUTER HEBRIDES. 243 sq. mi.</b>           |                                       |             |                  |                        |      |                |        |  |  |
| Barra (Barrahead) .....                                   | Board of Northern Lights ..           | 7           | 3                | 0                      | 683  | 858            | 33·77  | ..                                     | ..                                     |
| D Barra (Castle Bay) .....                                | Meteorological Office .....           | 8           | 1                | 0                      | 38   | 887            | 34·93  | 262                                    | 189                                    |
| South Uist (Ushenish) .....                               | Board of Northern Lights ..           | 3           | 1                | 0                      | 178  | 2014           | 79·29  | 229                                    | ..                                     |
| North Uist (Monach) .....                                 | Board of Northern Lights ..           | 8           | 5                | 6                      | 20   | 1301           | 51·22  | 234                                    | ..                                     |
| Harris (Island Glass) .....                               | Board of Northern Lights ..           | 7           | 4                | 2                      | 130  | 1081           | 42·55  | 204                                    | ..                                     |
| ROSS & CROMARTY. (Area 3237 sq. mi.)                      |                                       |             |                  |                        |      |                |        |  |  |
| <b>1.—NESS—Moriston. 35 sq. mi.</b>                       |                                       |             |                  |                        |      |                |        |  |  |
| <b>2.—BEAULY. 109 sq. mi.</b>                             |                                       |             |                  |                        |      |                |        |  |  |
| <b>3.—MORAY FIRTH COAST STREAMS. 64 sq. mi.</b>           |                                       |             |                  |                        |      |                |        |  |  |
| D Fortrose .....  | A. Thom, Esq. ....                    | 5           | 1                | 0                      | 69   | 525            | 20·65  | 171                                    | 126                                    |

## DIVISION XVIII.—NORTH-WESTERN COUNTIES—(con.).

| STATIONS.  | AUTHORITIES.   | Rain Gauge. |                  |                        |      | Depth of Rain. |        | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|--|-------------|------------------|------------------------|------|----------------|--------|-------------------------------------|-------------------------------------|
|  |  | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |      | 1920           |        |                                     |                                     |
| ROSS & CROMARTY—(con.).                                |  | in.         | ft.              | in.                    | ft.  | mm.            | in.    |                                     |                                     |
| <b>4.—CROMARTY FIRTH. 714 sq. mi.</b>                  |  |             |                  |                        |      |                |        |                                     |                                     |
|  | Achnashellach (Glenuaig) . . . . . W. M. Christy, Esq. . . . .         | 5           | 1                | 0                      | 1150 | 3124           | 123·00 | ..                                  | ..                                  |
| D  | Achnasheen (Ledgowan) . . . . . Mr. J. W. Macrae . . . . .             | 5           | 1                | 0                      | 500  | 2081           | 81·94  | 245                                 | 214                                 |
|  | Strathpeffer . . . . . W. Macrae, Esq. . . . .                         | 8           | 1                | 0                      | 125  | 855            | 33·65  | 157                                 | 147                                 |
|  | Cromarty House . . . . . Brig.-Gen. W. C. Ross, C.B. . . . .           | 5           | 1                | 0                      | 60   | 607            | 23·90  | 210                                 | ..                                  |
|  | Cromarty . . . . . Board of Northern Lights . . . . .                  | 3           | 1                | 0                      | 28   | 492            | 19·36  | 181                                 | ..                                  |
| D  | Invergordon (The Ord) . . . . . W. G. Paterson, Esq. . . . .           | 5           | 1                | 1                      | 50   | 550            | 21·67  | 182                                 | 130                                 |
| D  | Alness (Ardross Castle) . . . . . Mr. W. L. Minty . . . . .            | 5           | 1                | 0                      | 450  | 936            | 36·84  | 226                                 | 176                                 |
| <b>5.—DORNOCH FIRTH. 355 sq. mi.</b>                   |  |             |                  |                        |      |                |        |                                     |                                     |
|  | Tain (Castle Brae House) . . . . . G. D. Schofield, Esq. . . . .       | 5           | 1                | 0                      | ..   | 650            | 25·60  | ..                                  | ..                                  |
|  | Tarbatness . . . . . Board of Northern Lights . . . . .                | 8           | 4                | 0                      | 175  | 486            | 19·12  | ..                                  | ..                                  |
| <b>6.—ENARD BAY. 78 sq. mi.</b>                        |  |             |                  |                        |      |                |        |                                     |                                     |
| D  | Inverpollly Lodge . . . . . A. Taylor, Esq. . . . .                    | 5           | 4                | 0                      | 25   | 990            | 38·98  | ..                                  | 161                                 |
| <b>7.—LOCH BROOM &amp; C. 367 sq. mi.</b>              |  |             |                  |                        |      |                |        |                                     |                                     |
| <b>8.—LOCH EWE, LOCH TORRIDON &amp; C. 423 sq. mi.</b> |  |             |                  |                        |      |                |        |                                     |                                     |
| D  | Loch Torridon (Bendamph) . . . . . The Earl of Lovelace . . . . .      | 5           | 1                | 0                      | 20   | 2231           | 87·82  | 215                                 | 205                                 |
| D  | Poolewe (Inverewe Gardens) . . . . . Mr. R. B. Campbell . . . . .      | 5           | 0                | 6                      | 20   | 1645           | 64·77  | 205                                 | 195                                 |
|  | Rudh Ré Lighthouse . . . . . Board of Northern Lights. . . . .         | ..          | ..               | ..                     | ..   | 1106           | 43·53  | 229                                 | ..                                  |
| <b>9.—LOCH CARRON, LOCH ALSH &amp; C. 401 sq. mi.</b>  |  |             |                  |                        |      |                |        |                                     |                                     |
| M  | Glen Shiel (Shiel House) . . . . . Mr. Colin Campbell . . . . .        | 5           | 1                | 6                      | 30   | 2210           | 87·01  | ..                                  | ..                                  |
| D  | Loch Carron (Plockton) . . . . . Mrs. Anstruther Mackay . . . . .      | 5           | 1                | 0                      | 4    | 1296           | 51·03  | ..                                  | ..                                  |
|  | Applecross Gardens . . . . . Mr. D. McCowan . . . . .                  | 5           | 1                | 0                      | 70   | 1567           | 61·70  | ..                                  | ..                                  |
| D  | Glencarron Lodge . . . . . Mr. D. D. Munro . . . . .                   | 5           | 1                | 0                      | 504  | 2091           | 82·33  | 242                                 | 205                                 |
| M  | Glencarron Lodge . . . . . Mr. D. D. Munro . . . . .                   | 5           | 1                | 0                      | 504  | 2389           | 94·05  | ..                                  | ..                                  |
| <b>10.—INSULAR, OUTER HEBRIDES. 691 sq. mi.</b>        |  |             |                  |                        |      |                |        |                                     |                                     |
|  | Stornoway Lighthouse . . . . . Board of Northern Lights. . . . .       | 8           | 4                | 9                      | 20   | 1062           | 41·79? | ..                                  | ..                                  |
| D  | Stornoway . . . . . Meteorological Office . . . . .                    | 8           | 1                | 0                      | 52   | 1432           | 56·36  | 259                                 | 221                                 |
|  | Tiupanhead . . . . . Board of Northern Lights. . . . .                 | ..          | ..               | ..                     | 170  | 1049           | 41·29? | 181                                 | ..                                  |
|  | Stornoway (Butt of Lewis) . . . . . Board of Northern Lights . . . . . | 8           | 4                | 6                      | 170  | 856            | 33·68? | 236                                 | ..                                  |

## DIVISION XIX.—NORTHERN COUNTIES.

SUTHERLAND. (Area, 2080 sq. mi.)

**1.—DORNOCH FIRTH. 413 sq. mi.****2.—FLEET, BRORA & C. 309 sq. mi.**

|   |  |   |   |   |     |     |       |     |     |
|---|--|---|---|---|-----|-----|-------|-----|-----|
| d | Dornoch (St. Gilbert's) . . . . . G. J. Campbell, Esq. . . . . | 5 | 1 | 0 | 35  | 591 | 23·27 | 171 | 138 |
| d | Golspie (Technical School) . . . . . E. W. Read, Esq. . . . .  | 6 | 1 | 9 | 105 | 733 | 28·85 | 193 | 133 |
| d | Dunrobin Castle . . . . . The Duke of Sutherland . . . . .     | 5 | 1 | 6 | 14  | 640 | 25·18 | 160 | 124 |

**3.—HELMSDALE & C. 226 sq. mi.****4.—NORTH COAST STREAMS. 736 sq. mi.**

|   |  |   |   |   |     |      |       |     |     |
|---|--|---|---|---|-----|------|-------|-----|-----|
| d | Tongue Manse . . . . . Rev. David Lundie . . . . .       | 5 | 1 | 0 | 180 | 835  | 32·86 | 226 | 169 |
| d | Melvich Schoolhouse . . . . . Mr. A. MacIntosh . . . . . | 5 | 1 | 0 | ..  | 739  | 29·09 | ..  | 130 |
|   | Cape Wrath . . . . . Board of Northern Lights . . . . .  | 7 | 4 | 8 | 400 | 1340 | 52·77 | 202 | ..  |

**5.—LOCH LAXFORD & C. 256 sq. mi.**

|   |  |   |   |   |     |      |       |     |     |
|---|--|---|---|---|-----|------|-------|-----|-----|
| d | Loch More (Achfary) . . . . . Mr. J. Munro . . . . . | 5 | 1 | 0 | 137 | 1953 | 76·89 | 245 | 221 |
|---|--|---|---|---|-----|------|-------|-----|-----|

**6.—ENARD BAY. 138 sq. mi.**

|  |   |    |    |    |    |     |       |    |    |
|--|---|----|----|----|----|-----|-------|----|----|
|  | Stour Head . . . . . Board of Northern Lights . . . . . | .. | .. | .. | .. | 797 | 31·37 | .. | .. |
|--|---|----|----|----|----|-----|-------|----|----|

**7.—INSULAR. 2 sq. mi.**

CAITHNESS. (Area, 696 sq. mi.)

**1.—BERRIEDALE, DUNBEATH & C. 169 sq. mi.**

|  |  |    |    |    |    |     |       |     |    |
|--|--|----|----|----|----|-----|-------|-----|----|
|  | Clythness . . . . . Board of Northern Lights . . . . . | .. | .. | .. | .. | 639 | 25·15 | 148 | .. |
|--|--|----|----|----|----|-----|-------|-----|----|

## DIVISION XIX.—NORTHERN COUNTIES—(con.).

| STATIONS.                             | AUTHORITIES.                | Rain Gauge. |                  |                        |            | Depth of Rain. |     | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|---------------------------------------|-----------------------------|-------------|------------------|------------------------|------------|----------------|-----|-------------------------------------|-------------------------------------|
|                                       |                             | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |            | 1920           |     |                                     |                                     |
| CAITHNESS—(con.).                     |                             | <i>in.</i>  | <i>ft. in.</i>   | <i>ft.</i>             | <i>mm.</i> | <i>in.</i>     |     |                                     |                                     |
| <b>2.—WICK &amp; C. 184 sq. mi.</b>   |                             |             |                  |                        |            |                |     |                                     |                                     |
| D Wick .....                          | Meteorological Office ..... | 8           | 1 2              | 82                     | 664        | 26·14          | 211 | 157                                 |                                     |
| Nosshead .....                        | Board of Northern Lights .. | 7           | 4 7              | 175                    | 577        | 22·71          | ..  | ..                                  |                                     |
| <b>3.—THURSO &amp; C. 238 sq. mi.</b> |                             |             |                  |                        |            |                |     |                                     |                                     |
| D Thurso (Buckies) .....              | J. H. M. Davidson, Esq. ..  | 5           | 0 11             | 240                    | 871        | 34·30          | 230 | 174                                 |                                     |
| Thurso (Holburn Head) .....           | Board of Northern Lights .. | 3           | 0 8              | 75                     | 655        | 25·79          | 167 | ..                                  |                                     |
| Dunnet Head .....                     | Board of Northern Lights .. | 3           | 1 0              | 246                    | 793        | 31·23          | ..  | ..                                  |                                     |
| <b>4.—FORSS &amp; C. 104 sq. mi.</b>  |                             |             |                  |                        |            |                |     |                                     |                                     |
| D Reay (The Manse).....               | Rev. Dugald Carmichael ..   | 8           | 1 0              | 49                     | 816        | 32·11          | 229 | 176                                 |                                     |
| <b>5.—INSULAR. 1 sq. mi.</b>          |                             |             |                  |                        |            |                |     |                                     |                                     |
| Stroma .....                          | Board of Northern Lights .. | ..          | .. ..            | 104                    | 548        | 21·58          | ..  | ..                                  |                                     |
| Pentland Skerries .....               | Board of Northern Lights .. | 7           | 3 9              | 170                    | 986        | 38·83          | 182 | ..                                  |                                     |
| ORKNEY. (Area, 389 sq. mi.)           |                             |             |                  |                        |            |                |     |                                     |                                     |
| Hoy (Cantickhead) .....               | Board of Northern Lights .. | 3           | 1 0              | 115                    | 636        | 25·03          | 183 | ..                                  |                                     |
| Hoy (Graemsay Sound, High) ..         | Board of Northern Lights .. | 5           | 0 4              | 115                    | 739        | 29·10          | 184 | ..                                  |                                     |
| Hoy (Graemsay Sound, Low) ..          | Board of Northern Lights .. | 8           | 4 3              | 55                     | 913        | 35·95          | 198 | ..                                  |                                     |
| Copinsay .....                        | Board of Northern Lights .. | ..          | .. ..            | ..                     | 530        | 20·88          | 200 | ..                                  |                                     |
| Pomona (Deerness) .....               | W. Delday, Esq. ....        | 5           | 4 0              | 161                    | 914        | 35·99          | 242 | 170                                 |                                     |
| Pomona (Kirkwall) .....               | Rev. J. S. Bagg. ....       | 5           | 1 0              | 75                     | 957        | 37·69          | 249 | 179                                 |                                     |
| Hellyar Holm .....                    | Board of Northern Lights .. | 3           | 1 0              | 60                     | 705        | 27·76          | ..  | ..                                  |                                     |
| Shapinsay (Balfour Castle) ....       | Mr. W. Liddell .....        | 5           | 0 6              | 50                     | 796        | 31·33          | ..  | ..                                  |                                     |
| Auskerry .....                        | Board of Northern Lights .. | 3           | 2 6              | 10                     | 555        | 21·85          | ..  | ..                                  |                                     |
| Sanday (Start Point) .....            | Board of Northern Lights .. | 3           | 1 0              | 80                     | 799        | 31·45          | 197 | ..                                  |                                     |
| Westray (Noup Head) .....             | Board of Northern Lights .. | 3           | 1 0              | 260                    | 753        | 29·66          | 181 | ..                                  |                                     |
| North Ronaldshay .....                | Board of Northern Lights .. | 3           | 0 4              | 140                    | 749        | 29·49          | 194 | ..                                  |                                     |
| Sule Skerry .....                     | Board of Northern Lights .. | 3           | 0 6              | 113                    | 804        | 31·65          | 167 | ..                                  |                                     |
| SHETLAND. (Area, 558 sq. mi.)         |                             |             |                  |                        |            |                |     |                                     |                                     |
| Fair Isle, North .....                | Board of Northern Lights .. | ..          | .. ..            | 262                    | 588        | 23·17          | 178 | ..                                  |                                     |
| Sumburgh Head .....                   | Board of Northern Lights .. | ..          | .. ..            | ..                     | 510        | 20·08          | ..  | ..                                  |                                     |
| Bressay .....                         | Board of Northern Lights .. | 3           | 1 0              | 105                    | 715        | 28·15          | 171 | ..                                  |                                     |
| D Lerwick .....                       | Meteorological Office ..... | 8           | 1 0              | 59                     | 1012       | 39·85          | 243 | 196                                 |                                     |
| D Fetlar (The Manse) .....            | Rev. J. A. Campbell .....   | 5           | 1 0              | 30                     | 810        | 31·89          | 196 | 172                                 |                                     |
| Unst (Balta Sound, Halligarth) ..     | Dr. T. E. Saxby .....       | 5           | 1 0              | 31                     | 1169       | 46·02          | 261 | 200                                 |                                     |

## IRELAND.

## DIVISION XX.—MUNSTER.

| STATIONS.                                    | AUTHORITIES.                     | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|--|----------------------------------|-------------|------------------|------------------------|-----|----------------|-------|--|--|
|  |                                  | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |  |  |
|  |                                  | in.         | ft.              | in.                    | ft. | mm.            | in.   |  |  |
| CORK. (Area, 2873 sq. mi.)                   |                                  |             |                  |                        |     |                |       |  |  |
| 1.—SHANNON—Left Bank Tributaries. 79 sq. mi. |                                  |             |                  |                        |     |                |       |  |  |
| 2.—DINGLE BAY. 4 sq. mi.                     |                                  |             |                  |                        |     |                |       |  |  |
| 3.—KENMARE & C. 47 sq. mi.                   |                                  |             |                  |                        |     |                |       |  |  |
| 4.—BANTRY BAY. 197 sq. mi.                   |                                  |             |                  |                        |     |                |       |  |  |
| Bantry House .....                           | W. Stevens, Esq. ....            | 5           | 1                | 8                      | 20  | 1741           | 68·53 | 230                                    | ..                                     |
| d Garinish Island .....                      | J. A. Bryce, Esq. ....           | 5           | 1                | 0                      | 15  | 1890           | 74·39 | 192                                    | 182                                    |
| 5.—DUNMANUS BAY. 57 sq. mi.                  |                                  |             |                  |                        |     |                |       |  |  |
| 6.—BANDON & C. 694 sq. mi.                   |                                  |             |                  |                        |     |                |       |  |  |
| d Castletownshend (Glenbarrabane) ..         | Sir E. B. Coghill, Bart. ....    | 5           | 1                | 3                      | 100 | 1342           | 52·84 | 184                                    | 172                                    |
| d Castletownshend (Seafeld) ....             | Major H. Chavasse .....          | 5           | 0                | 8                      | 40  | 1399           | 55·08 | 217                                    | 181                                    |
| Skibbereen (Hollybrook) .....                | Col. A. H. Morgan, D.S.O. ....   | 8           | 1                | 2                      | 60  | 1620           | 63·77 | 230                                    | ..                                     |
| d Caheragh (The Rectory) .....               | Rev. A. W. Whitley .....         | 5           | 1                | 0                      | 98  | 1687           | 66·41 | 243                                    | 208                                    |
| d Clonakilty (Shannon Vale Ho.) ..           | T. J. Bennett, Esq. ....         | 5           | 1                | 3                      | 135 | 1264           | 49·77 | 215                                    | 177                                    |
| d Balineen (Kilmeen Rectory) ..              | F. W. Dobbin, Esq., M.D. ....    | 5           | 1                | 0                      | 350 | 1641           | 64·61 | 246                                    | 187                                    |
| d Dunmanway (The Rectory) ..                 | Rev. Canon A. Wilson .....       | 5           | 1                | 6                      | 205 | 1888           | 74·35 | 240                                    | 202                                    |
| Dunmanway (Carbery) .....                    | Dr. W. H. Fitzmaurice .....      | 5           | 1                | 6                      | 204 | 1932           | 76·05 | 243                                    | 209                                    |
| d Enniskean (Kilcoleman) .....               | Miss E. F. B. Longfield .....    | 5           | 2                | 0                      | 180 | 1429           | 56·25 | 192                                    | 166                                    |
| Innishannon (Dowdaniel) ..                   | Irish Rainfall Association ..    | ..          | ..               | ..                     | 110 | 1446           | 56·93 | ..                                     | ..                                     |
| 7.—CORK HARBOUR. 726 sq. mi.                 |                                  |             |                  |                        |     |                |       |  |  |
| d Roches Point .....                         | Meteorological Office .....      | 8           | 1                | 0                      | 33  | 1196           | 47·09 | 293                                    | 173                                    |
| d Ballinageary (Inchibeg) .....              | H. N. Walsh, Esq. ....           | 8           | 1                | 0                      | ..  | 2450           | 96·45 | 202                                    | 194                                    |
| d Ballintemple (Blackrock Road) ..           | Michael Murphy, Esq. ....        | 12          | 1                | 0                      | 96  | 1139           | 44·84 | 213                                    | 150                                    |
| d Cork (Corn Market) .....                   | D. J. O'Mahony, Esq. ....        | 5           | 1                | 0                      | 19  | 1174           | 46·20 | 192                                    | 152                                    |
| d Cork (Magazine Road) .....                 | Samuel R. Hosford, Esq. ....     | 5           | 1                | 3                      | 95  | 1198           | 47·17 | 220                                    | 175                                    |
| d Cork (University College) .....            | H. N. Walsh, Esq. ....           | 8           | 1                | 0                      | 65  | 1220           | 48·01 | 217                                    | 165                                    |
| d Cork (Wellington Road) .....               | R. C. Sikes, Esq., C.E. ....     | 5           | 2                | 2                      | 120 | 1209           | 47·59 | 189                                    | 162                                    |
| d Middleton (Ballinacurra) .....             | J. H. Bennett, Esq. ....         | 8           | 0                | 8                      | 25  | 1133           | 44·60 | 232                                    | 161                                    |
| d Queenstown (Fota Island) ..                | Mr. E. Beckett .....             | 5           | 1                | 6                      | 35  | 1366           | 53·80 | 255                                    | 185                                    |
| d Glanmire (Lota Lodge) .. No. 1 ..          | A. F. Sharman-Crawford Esq. .... | 5           | 1                | 0                      | 200 | 1281           | 50·44 | 234                                    | 171                                    |
| d Glanmire (Lota Lodge) .. No. 2 ..          | A. F. Sharman-Crawford Esq. .... | 5           | 1                | 0                      | 100 | 1242           | 48·91 | 234                                    | 169                                    |
| d Blarney (St. Anns Hill Hydro) ..           | Dr. R. H. Barter .....           | 8           | 1                | 0                      | 216 | 1121           | 44·14 | 166                                    | 149                                    |
| d Dripsey Woollen Mills .....                | H. N. Walsh, Esq. ....           | 5           | 1                | 0                      | ..  | 1193           | 46·97 | 268                                    | 175                                    |
| 8.—WOMANAGH & C. 118 sq. mi.                 |                                  |             |                  |                        |     |                |       |  |  |
| d Shanagarry (Kinoith) .....                 | Miss L. P. Strangman .....       | 5           | 1                | 0                      | 75  | 983            | 38·71 | ..                                     | 149                                    |
| 9.—BLACKWATER. 922 sq. mi.                   |                                  |             |                  |                        |     |                |       |  |  |
| d Mallow (Summer Hill) .....                 | J. F. Williamson, Esq. ....      | 5           | 1                | 10                     | 261 | 1280           | 50·39 | 239                                    | 180                                    |
| d Mallow (Longueville) .....                 | R. E. Longfield, Esq. ....       | 5           | 1                | 0                      | 315 | 1228           | 48·36 | 226                                    | 173                                    |
| Ballyhooley .....                            | H. Beddington, Esq. ....         | 5           | 0                | 9                      | ..  | 1336           | 52·59 | 192                                    | ..                                     |
| Kanturk (Castlecarr) .....                   | Mrs. Norton Barry .....          | ..          | ..               | ..                     | ..  | 1163           | 45·78 | 243                                    | 191                                    |
| d Mitchelstown Castle .....                  | W. D. Webber, Esq. ....          | 8           | 3                | 6                      | 345 | 1271           | 50·04 | 238                                    | 177                                    |
| 10.—SUIR. 3 sq. mi.                          |                                  |             |                  |                        |     |                |       |  |  |
| 11.—INSULAR. 26 sq. mi.                      |                                  |             |                  |                        |     |                |       |  |  |
| d Bere Island .....                          | Capt. H. Coleman .....           | 5           | 0                | 7                      | 40  | 1081           | 42·57 | 197                                    | 176                                    |

## DIVISION XX.—MUNSTER—(con.).

| STATIONS.  | AUTHORITIES.                     | Rain Gauge. |                  |                        | Depth of Rain. |      | Days with<br>-01 in.<br>or<br>more. | Days with<br>-04 in.<br>or<br>more. |
|--|----------------------------------|-------------|------------------|------------------------|----------------|------|-------------------------------------|-------------------------------------|
|  |                                  | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |      |                                     |                                     |
| KERRY. (Area, 1851 sq. mi.)  |                                  | in.         | ft.              | in.                    | ft.            | mm.  | in.                                 |                                     |
| 1.—SHANNON—Left Bank Tributaries. 372 sq. mi.                        |                                  |             |                  |                        |                |      |                                     |                                     |
| 2.—TRALEE BAY & C. 221 sq. mi.                                       |                                  |             |                  |                        |                |      |                                     |                                     |
| 3.—DINGLE BAY. 789 sq. mi.   |                                  |             |                  |                        |                |      |                                     |                                     |
| M Cahirciveen Water Works . . . . .                                  | L. H. G. Dines, Esq., C.E.       | 5           | 0                | 11                     | 420            | 1952 | 76·83                               | ..                                  |
| D Cahirciveen (Valentia Observty) Meteorological Office . . . . .    |                                  | 11          | 2                | 8                      | 30             | 1649 | 64·93                               | 274                                 |
| M Gap of Dunloe (Gearahameen) . . . . .                              | British Rainfall Organization    | 8           | 3                | 0                      | 75             | 2680 | 105·50                              | ..                                  |
| D Killarney (Flesk Mills) . . . . .                                  | D. E. McDonnell, Esq., C.E.      | 8           | 2                | 6                      | 95             | 1432 | 56·38                               | 206                                 |
| D Killarney (District Asylum) . . . . .                              | E. W. Griffin, Esq., M.D.        | 5           | 0                | 10                     | 178            | 1436 | 56·55                               | 273                                 |
| 4.—KENMARE & C. 426 sq. mi.  |                                  |             |                  |                        |                |      |                                     |                                     |
| D Darrynane Abbey . . . . .  | Miss M. O'Connell                | 5           | 1                | 0                      | 13             | 1601 | 63·04                               | 281                                 |
| D Kenmare (Derreen) . . . . .  | Mr. W. H. Arrowsmith             | 5           | 1                | 0                      | 74             | 2279 | 89·73                               | 259                                 |
| Kenmare (Sheen Falls) . . . . .                                      | Earl of Kerry                    | 5           | 0                | 8                      | 25             | 2089 | 82·24                               | 244                                 |
| Kenmare (Dunkerron Castle) . . . . .                                 | Miss L. Palmer                   | 5           | 1                | 6                      | 70             | 1823 | 71·76                               | 247                                 |
| D Kenmare (Dromore Castle) . . . . .                                 | Major E. Hood                    | 5           | 1                | 2                      | 90             | 1959 | 77·14                               | 271                                 |
| 5.—BLACKWATER. 30 sq. mi.  |                                  |             |                  |                        |                |      |                                     |                                     |
| 6.—INSULAR. 13 sq. mi.   |                                  |             |                  |                        |                |      |                                     |                                     |
| D Valentia (Glanleam) . . . . .                                      | Miss A. F. Payne                 | 8           | 1                | 0                      | 75             | 1765 | 69·49                               | 231                                 |
| WATERFORD. (Area, 715 sq. mi.)                                       |                                  |             |                  |                        |                |      |                                     |                                     |
| 1.—BLACKWATER. 243 sq. mi.   |                                  |             |                  |                        |                |      |                                     |                                     |
| d Lismore Castle . . . . .   | Duke of Devonshire               | 5           | 2                | 9                      | 115            | 1232 | 48·51                               | ..                                  |
| Cappoquin (Mt. Melleray Abbey) Irish Rainfall Association . . . . .  |                                  | 5           | 1                | 0                      | 760            | 1592 | 62·66                               | ..                                  |
| 2.—COLLIGAN & C. 259 sq. mi.   |                                  |             |                  |                        |                |      |                                     |                                     |
| D Tramore (Midvale) . . . . .  | E. B. Jacob, Esq.                | 5           | 1                | 0                      | 115            | 1072 | 42·22                               | 195                                 |
| D Tramore (Midvale) . . . . .  | E. B. Jacob, Esq.                | 11          | 6                | 0                      | 120            | 924  | 36·36                               | 195                                 |
| 3.—SUIR. 213 sq. mi.   |                                  |             |                  |                        |                |      |                                     |                                     |
| D Knockaderry Reservoir . . No. 1                                    | J. J. Fleming, Esq., C.E.        | 5           | 7                | 7                      | 247            | 1155 | 45·46                               | 226                                 |
| D Knockaderry Reservoir . . No. 2                                    | J. J. Fleming, Esq., C.E.        | 5           | 7                | 7                      | 248            | 1025 | 40·35                               | 225                                 |
| D Waterford (Brook Lodge) . . . . .                                  | C. P. Bolton, Esq., C.E.         | 5           | 1                | 0                      | 104            | 1161 | 45·71                               | 212                                 |
| d Waterford (Tycor Waterworks) . . . . .                             | J. J. Fleming, Esq., C.E.        | 5           | 0                | 7                      | 171            | 1107 | 43·57                               | ..                                  |
| D Waterford (De La Salle Coll.) . . . . .                            | Prof. M. J. Healy                | 8           | 1                | 0                      | 20             | 1219 | 48·00                               | 257                                 |
| D Waterford (Gortmore) . . . . .                                     | Mrs. N. H. White                 | 5           | 1                | 2                      | 137            | 1072 | 42·23                               | 183                                 |
| D Portlaw (Mayfield) . . . . .                                       | J. Anderson, Esq.                | 5           | 3                | 0                      | 70             | 1304 | 51·35                               | 229                                 |
| Portlaw (Curraghmore Gdns.) . . . . .                                | Mr. D. Crombie                   | 5           | 1                | 0                      | 95             | 1208 | 47·55                               | 184                                 |
| D Carrick-on-Suir (Seskin) . . . . .                                 | J. Ernest Grubb, Esq.            | 8           | 1                | 0                      | 542            | 1304 | 51·33                               | 250                                 |
| TIPPERARY. (Area, 1660 sq. mi.)                                      |                                  |             |                  |                        |                |      |                                     |                                     |
| 1.—SHANNON—Left Bank Tributaries. 582 sq. mi.                        |                                  |             |                  |                        |                |      |                                     |                                     |
| Cappaghwhite (Greenfields Stud) Irish Rainfall Association . . . . . |                                  | 5           | 1                | 0                      | 350            | 1004 | 39·51                               | ..                                  |
| D Killaloe (Ballina) . . . . .                                       | Office of Public Works           | 5           | 2                | 0                      | 126            | 1317 | 51·84                               | 262                                 |
| D Nenagh (Traverston) . . . . .                                      | Miss A. H. Norris                | 5           | 1                | 0                      | 333            | 1348 | 53·07                               | 295                                 |
| D Nenagh (Kilboy) . . . . .  | The Lady Dunalley                | 8           | 2                | 0                      | 326            | 1361 | 53·59                               | 250                                 |
| D Nenagh (St. Mary's Rectory) . . . . .                              | Rev. C. W. McDowell              | 5           | 1                | 0                      | ..             | 1008 | 39·67                               | 244                                 |
| D Nenagh (Castle Lough) . . . . .                                    | S. Parker-Hutchinson, Esq.       | 5           | 1                | 3                      | 120            | 1149 | 45·25                               | 261                                 |
| Terryglass (Slevoyre) . . . . .                                      | Maj.-Gen. Sir Wm. Hickie, K.C.B. | 8           | 1                | 6                      | 141            | 944  | 37·17                               | 223                                 |
| 2.—BLACKWATER. 21 sq. mi.  |                                  |             |                  |                        |                |      |                                     |                                     |
| 3.—SUIR. 965 sq. mi.   |                                  |             |                  |                        |                |      |                                     |                                     |
| Clogheen . . . . .   | Irish Rainfall Association       | 5           | 0                | 7                      | 180            | 1292 | 50·85                               | ..                                  |
| D Clonmel (Bruce Villa) . . . . .                                    | J. H. Grubb, Esq.                | 8           | 1                | 3                      | 110            | 1224 | 48·21                               | 237                                 |
| D Cahir (Bengurragh) . . . . .                                       | R. W. Smith, Esq., jun.          | 5           | 1                | 0                      | 199            | 1127 | 44·37                               | 231                                 |
| Cahir (Abbey) . . . . .  | Mrs. W. Rochfort                 | 5           | 1                | 0                      | 160            | 1116 | 43·95                               | 237                                 |
| D Tipperary (The Vale) . . . . .                                     | Major G. H. Pomeroy Colley       | 5           | 1                | 8                      | 350            | 1055 | 41·52                               | 222                                 |
| D Tipperary (Kingswell) . . . . .                                    | Irish Rainfall Association       | 5           | 1                | 0                      | 350            | 1143 | 45·01                               | 200                                 |
| D Fethard (Coolmore) . . . . .                                       | E. W. M. Murphy, Esq.            | 5           | 1                | 0                      | 347            | 1099 | 43·28                               | 239                                 |
| D Cashel (Ballinamona) . . . . .                                     | E. W. M. Murphy, Esq.            | 5           | 1                | 0                      | 257            | 979  | 38·53                               | 243                                 |
| Ardmayle . . . . .   | L. H. Grubb, Esq.                | 5           | 1                | 6                      | 260            | 922  | 36·32                               | 187                                 |
| D Thurles (Brittas Castle) . . . . .                                 | Mrs. Knox                        | 6           | 1                | 0                      | 360            | 1000 | 39·37                               | 166                                 |
| Templemore (Barnane) . . . . .                                       | Irish Rainfall Association       | 5           | 1                | 0                      | 650            | 1219 | 47·98                               | 237                                 |

## DIVISION XX.—MUNSTER—(con.).

| STATIONS.                                      | AUTHORITIES.  | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|---|-------------|------------------|------------------------|-----|----------------|-------|-------------------------------------|-------------------------------------|
|  |   | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |                                     |                                     |
| TIPPERARY—(con.).                              |   | in.         | ft.              | in.                    | ft. | mm.            | in.   |                                     |                                     |
| 4.—BARROW—Nore. 92 sq. mi.                     |   |             |                  |                        |     |                |       |                                     |                                     |
|  | Kilcooley Abbey.....T. B. Ponsonby, Esq.....              | 5           | 1                | 3                      | 500 | 983            | 38·70 | 211                                 | ..                                  |
| d  | Roscrea (Timoney Park) .....S. Parker-Hutchinson, Esq.    | 5           | 1                | 0                      | 475 | 925            | 36·41 | 205                                 | 181                                 |
| LIMERICK. (Area, 1040 sq. mi.)                 |   |             |                  |                        |     |                |       |                                     |                                     |
| 1.—SHANNON—Right Bank Tributaries. 7 sq. mi.   |   |             |                  |                        |     |                |       |                                     |                                     |
| 2.—SHANNON—Left Bank Tributaries. 944 sq. mi.  |   |             |                  |                        |     |                |       |                                     |                                     |
| d  | Knocklong (Kilfrush) .....F. J. B. Gubbins, Esq.....      | 5           | 0                | 9                      | 314 | 1117           | 43·99 | 249                                 | 188                                 |
|  | Glin (Shannon Lawn) .....C. V. Hickie, Esq. ....          | 4           | 3                | 0                      | 12  | 1140           | 44·87 | ..                                  | ..                                  |
| d  | Foynes (Coolnanes) .....Lord Monteagle .....              | 5           | 1                | 0                      | 50  | 1089           | 42·87 | 261                                 | 186                                 |
| d  | Foynes (National School) ....W. Purtill, Esq.....         | 5           | 2                | 0                      | 15  | 1109           | 43·66 | 236                                 | 190                                 |
|  | Limerick (O'Connell Street) ...R. Davison, Esq., C.E..... | 5           | 1                | 0                      | 51  | 990            | 38·97 | 240                                 | 182                                 |
|  | Limerick (Mulgrave Street)....Sir A. W. Shaw.....         | 5           | 1                | 1                      | 60  | 989            | 38·95 | ..                                  | ..                                  |
|  | Limerick (Strand) .....W. J. C. Horne, Esq.....           | 5           | 1                | 0                      | 50  | 991            | 39·00 | 244                                 | 185                                 |
| d  | Glenstal Castle.....Sir Charles Barrington, Bt.           | 8           | 1                | 0                      | 400 | 1138           | 44·82 | 229                                 | 197                                 |
| d  | Castleconnell Rectory .....Mrs. Davis .....               | 5           | 1                | 0                      | 88  | 1135           | 44·70 | 228                                 | 195                                 |
|  | Abbeyfeale (Springmount) ....J. F. O'Kelly, Esq. ....     | 8           | 1                | 0                      | 358 | 963            | 37·92 | 186                                 | 163                                 |
| 3.—BLACKWATER. 64 sq. mi.                      |   |             |                  |                        |     |                |       |                                     |                                     |
| 4.—SUIR. 25 sq. mi.                            |   |             |                  |                        |     |                |       |                                     |                                     |
|  | Galbally Rectory .....Rev. J. F. Young.....               | 5           | 1                | 0                      | 380 | 1309           | 51·55 | ..                                  | ..                                  |
| CLARE. (Area, 1270 sq. mi.)                    |   |             |                  |                        |     |                |       |                                     |                                     |
| 1.—GALWAY BAY, SOUTH. 100 sq. mi.              |   |             |                  |                        |     |                |       |                                     |                                     |
| 2.—MAL BAY & C. 294 sq. mi.                    |   |             |                  |                        |     |                |       |                                     |                                     |
| d  | Inagh (Mount Callan) .....Lt.-Col. F. Tottenham ....      | 5           | 1                | 0                      | 479 | 1746           | 68·75 | 263                                 | 223                                 |
| d  | Ennistymon House .....H. V. Macnamara, Esq. ...           | 5           | 1                | 0                      | 37  | 1360           | 53·54 | 253                                 | 225                                 |
| 3.—SHANNON—Right Bank Tributaries. 854 sq. mi. |   |             |                  |                        |     |                |       |                                     |                                     |
| d  | Limerick (Derravoher) .....Sir A. W. Shaw .....           | 5           | 1                | 0                      | 40  | 905            | 35·64 | 238                                 | 189                                 |
| d  | Newmarket-on-Fergus .....Mr. A. Barker .....              | 5           | 1                | 0                      | 86  | 1158           | 45·61 | 232                                 | 196                                 |
| d  | Broadford (Hurdlestown) .....Col. W. A. Bentley .....     | 5           | 1                | 0                      | 167 | 1220           | 48·01 | 265                                 | 211                                 |
| d  | Mountshannon (Woodpark)....R. F. Hibbert, Esq. ....       | 5           | 1                | 0                      | 170 | 1125           | 44·30 | 239                                 | 200                                 |
| 4.—INSULAR. 22 sq. mi.                         |   |             |                  |                        |     |                |       |                                     |                                     |
| DIVISION XXI.—LEINSTER.                        |   |             |                  |                        |     |                |       |                                     |                                     |
| WEXFORD. (Area, 902 sq. mi.)                   |   |             |                  |                        |     |                |       |                                     |                                     |
| 1.—BARROW. 43 sq. mi.                          |   |             |                  |                        |     |                |       |                                     |                                     |
| 2.—OWENDUFF & C. 240 sq. mi.                   |   |             |                  |                        |     |                |       |                                     |                                     |
| d  | Foulkesmill (Longraigue) ....Miss J. Deane .....          | 5           | 1                | 1                      | 220 | 1158           | 45·61 | 191                                 | 161                                 |
| 3.—SLANEY & C. 467 sq. mi.                     |   |             |                  |                        |     |                |       |                                     |                                     |
| d  | Templeudigan(BallindoneyHo.) Janssen Budgen, Esq. ....    | 5           | 1                | 0                      | 434 | 1219           | 47·99 | 208                                 | 164                                 |
| d  | Enniscorthy (Summerville) ....W. Waring, Esq. ....        | 5           | 6                | 0                      | 106 | 1059           | 41·68 | 216                                 | 158                                 |
|  | Enniscorthy (Monksgrange) ...Goddard H. Orpen, Esq....    | 5           | 1                | 0                      | 565 | 1394           | 54·88 | 198                                 | 177                                 |
|  | Enniscorthy (Woodbrook) ....E. C. Blacker, Esq. ....      | 5           | 1                | 0                      | 370 | 1389           | 54·69 | 226                                 | 190                                 |
| 4.—OWENAVORRAGH & C. 146 sq. mi.               |   |             |                  |                        |     |                |       |                                     |                                     |
| d  | Oulart (Wells) .....C. M. Doyne, Esq. ....                | 5           | 1                | 0                      | 220 | 1215           | 47·82 | 242                                 | 171                                 |
| d  | Gorey (Courtown House) .....Earl of Courtown .....        | 5           | 3                | 0                      | 60  | 1134           | 44·63 | 198                                 | 147                                 |
| 5.—OVOCA & C. 6 sq. mi.                        |   |             |                  |                        |     |                |       |                                     |                                     |
| KILKENNY. (Area 798 sq. mi.)                   |   |             |                  |                        |     |                |       |                                     |                                     |
| 1.—SUIR. 162 sq. mi.                           |   |             |                  |                        |     |                |       |                                     |                                     |
| d  | Piltown (Bessborough) .....Mr. T. E. Tomalin .....        | 8           | 3                | 7                      | 60  | 1087           | 42·80 | 234                                 | 167                                 |
| 2.—BARROW—Nore. 527 sq. mi.                    |   |             |                  |                        |     |                |       |                                     |                                     |
|  | Inistioge (Woodstock,Mt.Alto) Mrs. Tighe .....            | 8           | 1                | 0                      | 860 | 1050           | 41·33 | ..                                  | ..                                  |
| d  | Inistioge (Woodstock Gardens) Mrs. Tighe .....            | 5           | 1                | 0                      | 400 | 1152           | 45·36 | 202                                 | 174                                 |
| d  | Kilkenny Castle.....Marquis of Ormonde, K P.              | 8           | 1                | 6                      | 212 | 998            | 39·30 | 238                                 | 170                                 |
|  | Kilkenny (Lavistown House) ..Miss F. E. Butler .....      | 5           | 2                | 5                      | 170 | 937            | 36·89 | 199                                 | 167                                 |
| d  | Castlecomer House .....R.H.Prior-Wandesforde,Esq.         | 5           | 1                | 0                      | 380 | 1138           | 44·80 | 235                                 | 192                                 |

## DIVISION XXI.—LEINSTER—(con.).

| STATIONS.                                     | AUTHORITIES.                    | Rain Gauge. |                  |                        | Depth of Rain.<br>1920 | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |     |     |
|---|---------------------------------|-------------|------------------|------------------------|------------------------|--|--|-----|-----|
|   |                                 | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |                        |  |  |     |     |
| KILKENNY—(con.).                              |                                 | in.         | ft.              | in.                    | ft.                    | mm.                                    | in.                                    |     |     |
| 3.—BARROW. 109 sq. mi.                        |                                 |             |                  |                        |                        |  |  |     |     |
| d Goresbridge (Barraghscore House)            | H. de M. Fleming, Esq. . .      | 5           | 1                | 0                      | 130                    | 959                                    | 37·77                                  | 225 | 163 |
| WICKLOW. (Area, 781 sq. mi.)                  |                                 |             |                  |                        |                        |  |  |     |     |
| 1.—BARROW. 12 sq. mi.                         |                                 |             |                  |                        |                        |  |  |     |     |
| 2.—SLANEY. 200 sq. mi.                        |                                 |             |                  |                        |                        |  |  |     |     |
| d Shillelagh (Coollattin Gardens)             | Duncan Brough, Esq. . . . .     | 5           | 0                | 9                      | 383                    | 1217                                   | 47·93                                  | 221 | 179 |
| 3.—OVOCA & C. 241 sq. mi.                     |                                 |             |                  |                        |                        |  |  |     |     |
| d Arklow Rectory. . . . .                     | H. W. Strong, Esq. . . . .      | 5           | 1                | 0                      | 186                    | 1010                                   | 39·78                                  | 216 | 155 |
| d Rathdrum (Avondale) . . . . .               | A. C. Forbes, Esq. . . . .      | 5           | 0                | 6                      | 420                    | 1289                                   | 50·74                                  | ..  | ..  |
| 4.—VARTRY & C. 193 sq. mi.                    |                                 |             |                  |                        |                        |  |  |     |     |
| d Wicklow (Wentworth House) . . .             | E. N. Wynne, Esq., C.E. . .     | 5           | 1                | 1                      | 23                     | 1031                                   | 40·59                                  | 219 | 159 |
| d Rathnew (Clonmannon) . . . . .              | Rev. W. H. A. Truell . . .      | 5           | 1                | 6                      | 27                     | 1035                                   | 40·74                                  | 204 | 161 |
| d Roundwood (Vartry Lodge) . . .              | Dublin Corp. W.W. . . . .       | 5           | 1                | 8                      | 720                    | 1297                                   | 51·08                                  | 219 | 173 |
| d Roundwood . . . . .                         | Dublin Corp. W.W. . . . .       | 5           | 1                | 8                      | 800                    | 1307                                   | 51·47                                  | 235 | 192 |
| d Roundwood (Knockatemple) . . .              | Dublin Corp. W.W. . . . .       | 5           | 1                | 8                      | 700                    | 1313                                   | 51·70                                  | 240 | 177 |
| d Newcastle (Killadreenan) . . . .            | Dr. Denys Hanan . . . . .       | 8           | 1                | 2                      | 256                    | 1179                                   | 46·40                                  | 209 | 168 |
| d Tithewer . . . . .                          | Dublin Corp. W.W. . . . .       | 5           | 1                | 6                      | 1000                   | 1355                                   | 53·35                                  | ..  | ..  |
| d Annacarter Schoolhouse . . . . .            | Dublin Corp. W.W. . . . .       | 5           | 1                | 6                      | 750                    | 1345                                   | 52·97                                  | ..  | ..  |
| d Greystones (Auburn) . . . . .               | Sir J. W. Moore, M.D. . . .     | 5           | 1                | 0                      | 30                     | 1008                                   | 39·68                                  | 208 | ..  |
| d Greystones (Rathdown) . . . . .             | Miss L. Armstrong . . . . .     | 5           | 0                | 6                      | 90                     | 1095                                   | 43·12                                  | 217 | ..  |
| 5.—LIFFEY & C. 135 sq. mi.                    |                                 |             |                  |                        |                        |  |  |     |     |
| CARLOW. (Area, 346 sq. mi.)                   |                                 |             |                  |                        |                        |  |  |     |     |
| 1.—BARROW—Nore. 9 sq. mi.                     |                                 |             |                  |                        |                        |  |  |     |     |
| 2.—BARROW. 216 sq. mi.                        |                                 |             |                  |                        |                        |  |  |     |     |
| Bagnalstown (Fenagh House) . . .              | D.R.P. Beresford, Esq. O.B.E. 5 |             | 1                | 0                      | 340                    | 1087                                   | 42·80                                  | 222 | 172 |
| M Bagnalstown (Fenagh House) . . .            | D.R.P. Beresford, Esq. O.B.E. 5 |             | 1                | 0                      | 340                    | 1059                                   | 41·68                                  | ..  | ..  |
| d Carlow (Browne's Hill) . . . . .            | Col. Browne Clayton . . . .     | 5           | 1                | 0                      | 291                    | 1035                                   | 40·75                                  | 170 | ..  |
| 3.—SLANEY. 121 sq. mi.                        |                                 |             |                  |                        |                        |  |  |     |     |
| d Hacketstown Rectory . . . . .               | Rev. C. S. S. Ellison . . . .   | 5           | 1                | 2                      | 590                    | 1211                                   | 47·66                                  | 247 | 182 |
| QUEEN'S COUNTY. (Area, 664 sq. mi.)           |                                 |             |                  |                        |                        |  |  |     |     |
| 1.—SHANNON—Left Bank Tributaries. 25 sq. mi.  |                                 |             |                  |                        |                        |  |  |     |     |
| 2.—BARROW—Nore. 339 sq. mi.                   |                                 |             |                  |                        |                        |  |  |     |     |
| d Abbey Leix (Blandsfort) . . . . .           | H. Bland, Esq. . . . .          | 5           | 2                | 6                      | 532                    | 1039                                   | 40·90                                  | 227 | 181 |
| d Mountrath (Banreagh) . . . . .              | D. McCaw, Esq. . . . .          | 5           | 1                | 0                      | 810                    | 1506                                   | 59·28                                  | 236 | 215 |
| 3.—BARROW. 300 sq. mi.                        |                                 |             |                  |                        |                        |  |  |     |     |
| d Carlow (Sunnyside) . . . . .                | E. Shackleton, Esq. . . . .     | 5           | 1                | 0                      | 178                    | 1002                                   | 39·44                                  | 190 | 166 |
| d Mountmellick . . . . .                      | W. A. Robinson, Esq. . . .      | 5           | 1                | 0                      | 252                    | 1068                                   | 42·03                                  | 227 | 185 |
| KING'S COUNTY. (Area, 772 sq. mi.)            |                                 |             |                  |                        |                        |  |  |     |     |
| 1.—SHANNON—Left Bank Tributaries. 560 sq. mi. |                                 |             |                  |                        |                        |  |  |     |     |
| d Birr Castle . . . . .                       | Earl of Rosse . . . . .         | 8           | 1                | 0                      | 175                    | 948                                    | 37·31                                  | 243 | 179 |
| d Birr (Moneyguynen) . . . . .                | Irish Rainfall Association .    | 5           | 1                | 6                      | 400                    | 960                                    | 37·81                                  | 251 | ..  |
| d Meelick (Victoria Lock) . . . . .           | Office of Public Works . . .    | 5           | 2                | 0                      | 121                    | 836                                    | 32·90                                  | 245 | 178 |
| d Tullamore (Rathrobin) . . . . .             | Lt.-Col. M. W. Biddulph . .     | 5           | 1                | 0                      | 400                    | 919                                    | 36·17                                  | 234 | 184 |
| d Tullamore (St. Catherine's Rect.)           | Rev. R. S. Craig . . . . .      | 5           | 1                | 6                      | 201                    | 857                                    | 33·75                                  | 236 | 171 |
| d Tullamore (St. Vincent's Hosp.) .           | Dr. G. A. Moorhead . . . .      | 5           | 1                | 0                      | 225                    | 827                                    | 32·57                                  | 294 | 165 |
| d Ferbane (Turraun Peat Works) A              | Leinster Carbonizing Co. Ltd. 8 |             | 1                | 2                      | 170                    | 817                                    | 32·15                                  | 230 | 177 |
| d Ferbane (Turraun Peat Works) B              | Leinster Carbonizing Co. Ltd. 8 |             | 1                | 2                      | 170                    | 817                                    | 32·15                                  | 230 | 177 |
| d Ballycumber (Mooreck Lodge) . . .           | H. P. Mulock, Esq. . . . .      | 5           | 1                | 0                      | 218                    | 841                                    | 33·12                                  | 172 | 160 |
| 2.—BARROW—Nore. 5 sq. mi.                     |                                 |             |                  |                        |                        |  |  |     |     |
| 3.—BARROW. 156 sq. mi.                        |                                 |             |                  |                        |                        |  |  |     |     |
| 4.—BOYNE. 51 sq. mi.                          |                                 |             |                  |                        |                        |  |  |     |     |



## DIVISION XXI.—LEINSTER—(con.).

| STATIONS.                                    | AUTHORITIES.                   | Rain Gauge. |                  |                        |            | Depth of Rain. |            | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |
|--|--------------------------------|-------------|------------------|------------------------|------------|----------------|------------|-------------------------------------|-------------------------------------|
|  |                                | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |            | 1920           |            |                                     |                                     |
| KILDARE. (Area, 654 sq. mi.)                 |                                | <i>in.</i>  | <i>ft.</i>       | <i>in.</i>             | <i>ft.</i> | <i>mm.</i>     | <i>in.</i> |                                     |                                     |
| 1.—BARROW. 332 sq. mi.                       |                                |             |                  |                        |            |                |            |                                     |                                     |
| 2.—LIFFEY. 246 sq. mi.                       |                                |             |                  |                        |            |                |            |                                     |                                     |
| Sallins (Palmerstown).....                   | The Countess of Mayo ....      | 5           | 1                | 0                      | 321        | 939            | 36·97      | 219                                 | ..                                  |
| Straffan House .....                         | Mr. F. Streeter .....          | 5           | 0                | 10                     | 256        | 973            | 38·31      | 196                                 | 172                                 |
| 3.—BOYNE. 76 sq. mi.                         |                                |             |                  |                        |            |                |            |                                     |                                     |
| DUBLIN. (Area, 354 sq. mi.)                  |                                |             |                  |                        |            |                |            |                                     |                                     |
| 1.—VARTRY & C. 23 sq. mi.                    |                                |             |                  |                        |            |                |            |                                     |                                     |
| Carriackmines (Claremont) .....              | John Read, Esq. ....           | 5           | 0                | 11                     | 300        | 962            | 37·89      | ..                                  | ..                                  |
| Ballybrack (Marino) .....                    | Rt. Hon. L. A. Waldron ..      | 5           | 3                | 6                      | ..         | 770            | 30·32      | 162                                 | ..                                  |
| Foxrock (Cherryfield).....                   | Irish Rainfall Association .   | 5           | ..               | ..                     | 290        | 1000           | 39·35      | 207                                 | ..                                  |
| 2.—LIFFEY & C. 188 sq. mi.                   |                                |             |                  |                        |            |                |            |                                     |                                     |
| Glen-na-Smoel(Rathmines WW)                  | W. R. Stephens, Esq., C.E.     | 5           | 1                | 0                      | 510        | 1243           | 48·93      | 253                                 | 195                                 |
| Ballyboden (Rathmines W.W.)                  | W. R. Stephens, Esq., C.E.     | 5           | 1                | 0                      | 344        | 1081           | 42·57      | 225                                 | 176                                 |
| Stillorgan (Farmleigh) .....                 | T. Jackson, Esq. ....          | 5           | 1                | 2                      | 220        | 1199           | 47·22      | 256                                 | 179                                 |
| Stillorgan (Tipperstown) .....               | Irish Rainfall Association .   | 5           | 1                | 4                      | 278        | 840            | 33·08      | ..                                  | ..                                  |
| Dundrum (The Castle).....                    | Sir J. W. Moore, M.D. ....     | 5           | ..               | ..                     | ..         | 921            | 36·25      | 216                                 | ..                                  |
| Blackrock (Charleville).....                 | J. Harold Pim, Esq. ....       | 5           | 1                | 0                      | 260        | 911            | 35·85      | 176                                 | 158                                 |
| Kingstown (Peoples Park) .....               | Irish Rainfall Association .   | 8           | 1                | 0                      | 45         | 702            | 27·64      | ..                                  | ..                                  |
| Kingstown (Harbour Yard)....                 | Office of Public Works ...     | 8           | 1                | 0                      | 44         | 874            | 34·41      | 181                                 | 148                                 |
| Rathfarnham Castle.....                      | Irish Rainfall Association .   | 8           | 1                | 0                      | 167        | 980            | 38·60      | 186                                 | ..                                  |
| Belgard Castle .....                         | Capt. A. F. Maude .....        | 5           | 1                | 0                      | 400        | 802            | 31·57      | 205                                 | 168                                 |
| Baldonnell .....                             | Air Ministry .....             | 8           | 1                | 0                      | 289        | 881            | 34·69      | 224                                 | 169                                 |
| Rathmines (Terenure) .....                   | F. P. Dixon, Esq., C.E. ....   | 5           | 0                | 9                      | 125        | 805            | 31·70      | 202                                 | 155                                 |
| Rathmines (Harold's Cross) ..                | E. H. Cannon, Esq. ....        | 5           | 0                | 11                     | 155        | 810            | 31·91      | 201                                 | 146                                 |
| Rathmines (Ormond Road) ..                   | W. R. Stephens, Esq., C.E.     | 5           | 1                | 0                      | 99         | 883            | 34·75      | 230                                 | 148                                 |
| Rathmines (Dartrey Road) ..                  | T. Mason, Esq. ....            | 5           | 6                | 0                      | 130        | 948            | 37·34      | 185                                 | 155                                 |
| Ranelagh (Sandford Lodge) ..                 | H. Fayle, Esq. ....            | 5           | 0                | 11                     | 61         | 863            | 33·99      | 198                                 | 149                                 |
| Donnybrook (Belmont Avenue)                  | Douglas Waring, Esq. ....      | 5           | 0                | 9                      | 100        | 919            | 36·19      | 201                                 | 144                                 |
| Donnybrook (Anglesea Road)..                 | F. C. D. Joynt, Esq. ....      | 5           | 1                | 0                      | 30         | 782            | 30·78      | 195                                 | 139                                 |
| Dublin (FitzWilliam Square) ..               | Sir J. W. Moore, M.D. ....     | 8           | 1                | 6                      | 54         | 863            | 33·98      | 220                                 | 151                                 |
| Dublin (Trinity College).....                | Prof. W. E. Thrift .....       | 8           | 1                | 0                      | 13         | 805            | 31·69      | 209                                 | 154                                 |
| Dublin (Phoenix Park).....                   | Ordnance Survey Office ..      | 8           | 1                | 0                      | 156        | 849            | 33·43      | 243                                 | 154                                 |
| Dublin (Ringsend Pumpg.Stn.)                 | Dublin Corporation .....       | 10          | 1                | 1                      | 25         | 774            | 30·46      | ..                                  | ..                                  |
| Clontarf (Pumping Station)....               | Dublin Corporation .....       | 5           | 4                | 9                      | 22         | 727            | 28·61      | ..                                  | ..                                  |
| Glasnevin (Roy.Botanic Gdns.)                | Sir F. W. Moore .....          | 8           | 1                | 0                      | 55         | 871            | 34·28      | 246                                 | 165                                 |
| Howth Castle .....                           | Com. J.G.St.Lawrence, R.N.     | 5           | 1                | 9                      | 35         | 828            | 32·58      | 214                                 | 160                                 |
| 3.—NANNY, DELVIN & C. 142 sq. mi.            |                                |             |                  |                        |            |                |            |                                     |                                     |
| Malahide (Seamount) .....                    | J. G. Jameson, Esq. ....       | 5           | 1                | 0                      | 150        | 902            | 35·51      | 216                                 | 161                                 |
| Malahide (The Green).....                    | Irish Rainfall Association .   | 5           | 1                | 7                      | 25         | 739            | 29·09      | ..                                  | ..                                  |
| Skerries (Milverton Hall) .....              | Capt. E. G. Woods .....        | 5           | 1                | 6                      | 190        | 848            | 33·38      | 217                                 | 151                                 |
| Balbriggan (Ardgillan) ..                    | No. 1 Capt. E. R. Taylor ..... | 5           | 1                | 0                      | 211        | 941            | 37·04      | 227                                 | 164                                 |
| Balbriggan (Ardgillan) ..                    | No. 3 Capt. E. R. Taylor ..... | 5           | 1                | 0                      | 211        | 936            | 36·85      | ..                                  | ..                                  |
| 4.—INSULAR. 1 sq. mi.                        |                                |             |                  |                        |            |                |            |                                     |                                     |
| Lambay Island .....                          | Hon. Cecil Baring .....        | 5           | 1                | 0                      | 20         | 864            | 34·00      | 191                                 | 163                                 |
| MEATH. (Area 909 sq. mi.)                    |                                |             |                  |                        |            |                |            |                                     |                                     |
| 1.—SHANNON—Left Bank Tributaries. 32 sq. mi. |                                |             |                  |                        |            |                |            |                                     |                                     |
| 2.—LIFFEY & C. 72 sq. mi.                    |                                |             |                  |                        |            |                |            |                                     |                                     |
| Dunboyne (Stirling, Clonee) ...              | Mr. J. Pilkington .....        | 8           | 1                | 0                      | 231        | 906            | 35·69      | 224                                 | ..                                  |
| 3.—NANNY, DELVIN & C. 150 sq. mi.            |                                |             |                  |                        |            |                |            |                                     |                                     |
| Drogheda (Mullacrogan) .....                 | W. Brydon Hill, Esq. ....      | 5           | 1                | 6                      | 300        | 837            | 32·94      | 221                                 | 144                                 |
| 4.—BOYNE. 560 sq. mi.                        |                                |             |                  |                        |            |                |            |                                     |                                     |
| Summerhill House .....                       | Mr. W. Lauder .....            | 5           | 1                | 0                      | 372        | 932            | 36·69      | 198                                 | 164                                 |
| Athboy (Mitchelston) .....                   | W. J. Hopkins, Esq. ....       | 5           | 1                | 0                      | 260        | 987            | 38·87      | 236                                 | 187                                 |
| Athboy (Frankville) .....                    | C. P. Coghill, Esq. ....       | 8           | 1                | 3                      | 227        | 1071           | 42·17      | 224                                 | 180                                 |
| Navan (Staffordstown) .....                  | R. J. Butler, Esq. ....        | 5           | 1                | 0                      | 250        | 912            | 35·91      | 214                                 | 161                                 |
| Kells (Headfort) .....                       | The Marquis of Headfort ..     | 8           | 0                | 8                      | 227        | 1011           | 39·79      | 236                                 | 178                                 |
| 5.—DUNDALK BAY. 95 sq. mi.                   |                                |             |                  |                        |            |                |            |                                     |                                     |

## DIVISION XXI.—LEINSTER—(con.).

| STATIONS.                                     | AUTHORITIES.                   | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|---|--------------------------------|-------------|------------------|------------------------|-----|----------------|-------|--|--|
|   |                                | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |  |  |
| WESTMEATH. (Area, 712 sq. mi.)                |                                |             |                  |                        |     |                |       |  |  |
| 1.—SHANNON—Left Bank Tributaries. 517 sq. mi. |                                |             |                  |                        |     |                |       |  |  |
| d Athlone                                     | Office of Public Works         | 5           | 2                | 0                      | 132 | 661            | 26·04 | 231                                    | 156                                    |
| d Athlone (Twyford)                           | J. P. Hodson, Esq.             | 5           | 1                | 0                      | 187 | 984            | 38·76 | 227                                    | 176                                    |
| d Moate (Coolatore)                           | H. A. S. Upton, Esq.           | 5           | 1                | 6                      | 369 | 899            | 35·40 | 247                                    | 185                                    |
| d Mullingar (Belvedere)                       | Mr. J. Bayliss                 | 5           | 1                | 0                      | 367 | 906            | 35·67 | 205                                    | 166                                    |
| d Mullingar (Ballynegall Gardens)             | Mr. C. G. Elson                | 5           | 2                | 0                      | 500 | 1032           | 40·65 | 221                                    | 182                                    |
| d Rathowen (Cromlyn)                          | (R) Major-Gen. J. P. Battersby | 8           | 1                | 6                      | 250 | 915            | 36·03 | 241                                    | 172                                    |
| d Castlepollard (Gillardstown Ho.)            | W. Hardy, Esq.                 | 5           | 1                | 0                      | 290 | 974            | 38·36 | 199                                    | 168                                    |
| d Castlepollard (Pakenham Hall)               | Mr. W. Allan                   | 5           | 1                | 6                      | 300 | 984            | 38·75 | 224                                    | 182                                    |
| 2.—BOYNE. 195 sq. mi.                         |                                |             |                  |                        |     |                |       |  |  |
| d Athboy (Lisclogher)                         | Lt.-Col. J. E. Knott, C.M.G.   | 5           | 1                | 0                      | 271 | 883            | 34·76 | 219                                    | 160                                    |
| LOUTH. (Area, 316 sq. mi.)                    |                                |             |                  |                        |     |                |       |  |  |
| 1.—BOYNE. 32 sq. mi.                          |                                |             |                  |                        |     |                |       |  |  |
| 2.—DUNDALK BAY & C. 264 sq. mi.               |                                |             |                  |                        |     |                |       |  |  |
| d Dundalk (Town Hall)                         | M. Sellars, Esq., C.E.         | 8           | 55               | 0                      | 82  | 815            | 32·07 | 214                                    | 159                                    |
| d Dundalk (Mount Pleasant)                    | Telford Macneill, Esq.         | 5           | 1                | 0                      | 60  | 923            | 36·33 | ..                                     | ..                                     |
| d Dundalk (Aughneska Res.)                    | M. Sellars, Esq., C.E.         | 5           | 1                | 3                      | 207 | 1119           | 44·04 | 213                                    | 173                                    |
| d Dundalk (Ballymacallet)                     | M. Sellars, Esq., C.E.         | 5           | 2                | 3                      | 670 | 1045           | 41·13 | ..                                     | ..                                     |
| 3.—CARLINGFORD LOUGH. 20 sq. mi.              |                                |             |                  |                        |     |                |       |  |  |
| d Greenore                                    | T. Chambers, Esq., C.E.        | 5           | 1                | 0                      | 20  | 905            | 35·62 | 226                                    | 157                                    |
| LONGFORD. (Area, 424 sq. mi.)                 |                                |             |                  |                        |     |                |       |  |  |
| 1.—ERNE. 61 sq. mi.                           |                                |             |                  |                        |     |                |       |  |  |
| 2.—SHANNON—Left Bank Tributaries. 363 sq. mi. |                                |             |                  |                        |     |                |       |  |  |
| d Ballymahon (New Castle)                     | Lt.-Col. W. A. King-Harman     | 5           | 2                | 5                      | 250 | 894            | 35·21 | 232                                    | 171                                    |
| d Longford (The Rectory)                      | Rev. H. Justice                | 5           | 1                | 0                      | 185 | 996            | 39·20 | 234                                    | 190                                    |
| d Cloondraha                                  | Office of Public Works         | 5           | 2                | 0                      | 130 | 689            | 27·12 | 246                                    | 156                                    |
| d Castle Forbes Gardens                       | The Earl of Granard            | 8           | 1                | 0                      | 168 | 995            | 39·17 | 243                                    | 186                                    |

## DIVISION XXII.—CONNAUGHT.

|  |                          |    |   |    |     |      |       |     |     |
|--|--------------------------|----|---|----|-----|------|-------|-----|-----|
| GALWAY. (Area 2377 sq. mi.)                    |                          |    |   |    |     |      |       |     |     |
| 1.—ERIFF & C. 141 sq. mi.                      |                          |    |   |    |     |      |       |     |     |
| 2.—GALWAY BAY, NORTH. 277 sq. mi.              |                          |    |   |    |     |      |       |     |     |
| 3.—CORRIB. 846 sq. mi.                         |                          |    |   |    |     |      |       |     |     |
| d Ballynahinch Castle                          | R. Berridge, Esq.        | 5  | 1 | 9  | 41  | 1699 | 66·88 | 292 | 243 |
| d Tuam (Gardenfield)                           | R. J. Kirwan, Esq., C.E. | 5  | 1 | 0  | 166 | 1186 | 46·69 | ..  | ..  |
| 4.—GALWAY BAY, SOUTH. 281 sq. mi.              |                          |    |   |    |     |      |       |     |     |
| d Woodlawn                                     | Mr. C. Farmer            | 5  | 3 | 6  | 300 | 1054 | 41·51 | 263 | 202 |
| 5.—SHANNON—Right Bank Tributaries. 803 sq. mi. |                          |    |   |    |     |      |       |     |     |
| d Ahascragh (Clonbrock)                        | Lord Clonbrock, K.P.     | 10 | 5 | 6  | 198 | 1117 | 43·99 | ..  | ..  |
| 6.—INSULAR. 29 sq. mi.                         |                          |    |   |    |     |      |       |     |     |
| ROSCOMMON. (Area, 961 sq. mi.)                 |                          |    |   |    |     |      |       |     |     |
| 1.—SLIGO BAY. 6 sq. mi.                        |                          |    |   |    |     |      |       |     |     |
| 2.—MOY. 11 sq. mi.                             |                          |    |   |    |     |      |       |     |     |
| 3.—CORRIB. 16 sq. mi.                          |                          |    |   |    |     |      |       |     |     |
| 4.—SHANNON—Right Bank Tributaries. 928 sq. mi. |                          |    |   |    |     |      |       |     |     |
| d Strokestown (Castlenode)                     | W. J. Walpole, Esq.      | 5  | 1 | 0  | 160 | 930  | 36·61 | 208 | 180 |
| d Jamestown (Albert Lock)                      | Office of Public Works   | 5  | 2 | 0  | 146 | 663  | 26·11 | 218 | 153 |
| MAYO. (Area, 2149 sq. mi.)                     |                          |    |   |    |     |      |       |     |     |
| 1.—SLIGO BAY. 10 sq. mi.                       |                          |    |   |    |     |      |       |     |     |
| 2.—MOY & C. 797 sq. mi.                        |                          |    |   |    |     |      |       |     |     |
| d Crossmolina (Enniscoe)                       | J. Pratt, Esq.           | 5  | 0 | 11 | 74  | 1627 | 64·07 | 271 | 243 |

## DIVISION XXII.—CONNAUGHT—(con.).

| STATIONS.                                     | AUTHORITIES.             | Rain Gauge. |                  |                        | Depth of Rain. |      | Days with<br>·01 in.<br>or<br>more. | Days with<br>·04 in.<br>or<br>more. |     |
|---|--------------------------|-------------|------------------|------------------------|----------------|------|-------------------------------------|-------------------------------------|-----|
|   |                          | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920           |      |                                     |                                     |     |
| MAYO—(con.).                                  |                          | in.         | ft.              | in.                    | ft.            | mm.  | in.                                 |                                     |     |
| 3.—BLACKSOD BAY & C. 411 sq. mi.              |                          |             |                  |                        |                |      |                                     |                                     |     |
| d Blacksod Point                              | Meteorological Office    | 8           | 0                | 10                     | 10             | 1472 | 57·96                               | 275                                 | 228 |
| 4.—CLEW BAY. 254 sq. mi.                      |                          |             |                  |                        |                |      |                                     |                                     |     |
| d Westport House                              | The Marquis of Sligo     | 5           | 1                | 0                      | 35             | 1396 | 54·97                               | 255                                 | 208 |
| d Westport (St. Helen's)                      | Miss Kelly               | 6           | 0                | 11                     | 35             | 1405 | 55·30                               | 300                                 | 232 |
| d Mallarany                                   | M. C. Forbes, Esq.       | 5           | 1                | 0                      | 128            | 1937 | 76·24                               | 255                                 | 235 |
| 5.—ERIFF & C. 121 sq. mi.                     |                          |             |                  |                        |                |      |                                     |                                     |     |
| d Aasleagh House                              | The Marquis of Sligo     | 5           | 1                | 0                      | 30             | 2811 | 110·66                              | 286                                 | 258 |
| d Delphi Lodge                                | The Marquis of Sligo     | 5           | 1                | 0                      | 110            | 3039 | 119·66                              | 280                                 | 260 |
| 6.—CORRIB. 432 sq. mi.                        |                          |             |                  |                        |                |      |                                     |                                     |     |
| d Cong (The Glebe)                            | Rev. Canon R. Y. Lynn    | 5           | 1                | 11                     | 112            | 1372 | 54·03                               | 261                                 | 217 |
| Ballinrobe (Cranmore)                         | H. H. C. Knox, Esq.      | 5           | 1                | 0                      | 112            | 1350 | 53·14                               | ..                                  | ..  |
| 7.—SHANNON—Right Bank Tributaries. 35 sq. mi. |                          |             |                  |                        |                |      |                                     |                                     |     |
| 8.—INSULAR. 89 sq. mi.                        |                          |             |                  |                        |                |      |                                     |                                     |     |
| SLIGO. (Area, 716 sq. mi.)                    |                          |             |                  |                        |                |      |                                     |                                     |     |
| 1.—DROWES & C. 49 sq. mi.                     |                          |             |                  |                        |                |      |                                     |                                     |     |
| 2.—SLIGO BAY. 444 sq. mi.                     |                          |             |                  |                        |                |      |                                     |                                     |     |
| d Collooney (Markree Obsy)                    | J. R. Armstrong, Esq.    | 5           | 1                | 0                      | 122            | 1178 | 46·38                               | 261                                 | 209 |
| d Collooney (Markree Obsy)                    | J. R. Armstrong, Esq.    | 5           | 12               | 6                      | 138            | 1179 | 46·40                               | 263                                 | 212 |
| d Sligo (Hazlewood)                           | Mrs. Perceval            | 5           | 2                | 6                      | ..             | 1069 | 42·10                               | 261                                 | 210 |
| d Sligo (Ard-na-veagh)                        | R. J. Kirwan, Esq., C.E. | 5           | 1                | 0                      | 90             | 1081 | 42·57                               | 247                                 | 202 |
| 3.—MOY & C. 166 sq. mi.                       |                          |             |                  |                        |                |      |                                     |                                     |     |
| 4.—SHANNON—Right Bank Tributaries. 56 sq. mi. |                          |             |                  |                        |                |      |                                     |                                     |     |
| 5.—INSULAR. 1 sq. mi.                         |                          |             |                  |                        |                |      |                                     |                                     |     |
| LEITRIM. (Area, 615 sq. mi.)                  |                          |             |                  |                        |                |      |                                     |                                     |     |
| 1.—ERNE. 152 sq. mi.                          |                          |             |                  |                        |                |      |                                     |                                     |     |
| 2.—DROWES & C. 85 sq. mi.                     |                          |             |                  |                        |                |      |                                     |                                     |     |
| 3.—SLIGO BAY. 135 sq. mi.                     |                          |             |                  |                        |                |      |                                     |                                     |     |
| 4.—SHANNON—Right Bank Tributaries. 47 sq. mi. |                          |             |                  |                        |                |      |                                     |                                     |     |
| 5.—SHANNON—Left Bank Tributaries. 196 sq. mi. |                          |             |                  |                        |                |      |                                     |                                     |     |
| d Ruskey                                      | Office of Public Works   | 5           | 2                | 0                      | 141            | 784  | 30·87                               | 241                                 | 204 |
| d Drumshanbo (Lough Allen Sluice)             | Office of Public Works   | 5           | 2                | 0                      | 169            | 726  | 28·57                               | 183                                 | 159 |

## DIVISION XXIII—ULSTER.

CAVAN. (Area, 753 sq. mi.)

|   |                                |                      |                            |   |   |   |     |      |        |     |     |
|---|--------------------------------|----------------------|----------------------------|---|---|---|-----|------|--------|-----|-----|
| 1.—ERNE. 489 sq. mi.                          |                                |                      |                            |   |   |   |     |      |        |     |     |
| d   | Killeshandra (Castle Hamilton) | Major W. J. Hamilton | ...                        | 5 | 1 | 0 | 251 | 722  | 28·41? | 219 | 148 |
| d   | Belturbet (Cloverhill)         | Mrs. Sanderson       | .....                      | 5 | 1 | 0 | 202 | 878  | 34·55  | 228 | 183 |
| 2.—SHANNON—Right Bank Tributaries. 34 sq. mi. |                                |                      |                            |   |   |   |     |      |        |     |     |
| 3.—SHANNON—Left Bank Tributaries. 91 sq. mi.  |                                |                      |                            |   |   |   |     |      |        |     |     |
| 4.—BOYNE. 122 sq. mi.                         |                                |                      |                            |   |   |   |     |      |        |     |     |
|   | Bailieborough                  | .....                | Irish Rainfall Association | 5 | 1 | 6 | 511 | III  | 43·75  | 182 | ..  |
| 5.—DUNDALK BAY. 17 sq. mi.                    |                                |                      |                            |   |   |   |     |      |        |     |     |
| FERMANAGH. (Area, 713 sq. mi.)                |                                |                      |                            |   |   |   |     |      |        |     |     |
| 1.—ERNE. 667 sq. mi.                          |                                |                      |                            |   |   |   |     |      |        |     |     |
|   | Enniskillen (Florence Court)   | ..                   | Irish Rainfall Association | 5 | 1 | 5 | 169 | 1329 | 52·32  | ..  | ..  |
| d   | Enniskillen (Portora)          | .....                | W. N. Tetley, Esq.         | 5 | 1 | 0 | 251 | 1097 | 43·18  | ..  | ..  |
|   | Irvinestown (Northern Bank)    | ..                   | Irish Rainfall Association | 5 | 1 | 0 | 276 | 1024 | 40·32  | 250 | ..  |
|   | Belleek (Heronshaw)            | .....                | T. Beacom, Esq.            | 5 | 1 | 5 | 150 | 1134 | 44·64  | ..  | ..  |
| 2.—DROWES & C. 46 sq. mi.                     |                                |                      |                            |   |   |   |     |      |        |     |     |

## DIVISION XXIII.—ULSTER—(con.).

| STATIONS.                              | AUTHORITIES                      | Rain Gauge. |                  |                        |     | Depth of Rain. |       | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|--|----------------------------------|-------------|------------------|------------------------|-----|----------------|-------|--|--|
|  |                                  | Diam.       | Height<br>Ground | above<br>Sea<br>Level. |     | 1920           |       |  |  |
| MONAGHAN. (Area, 498 sq. mi.)          |                                  | in.         | ft.              | in.                    | ft. | mm.            | in.   |  |  |
| 1.—ERNE. 208 sq. mi.                   |                                  |             |                  |                        |     |                |       |  |  |
| 2.—DUNDALK BAY. 132 sq. mi.            |                                  |             |                  |                        |     |                |       |  |  |
| 3.—BANN—Lough Neagh, West. 158 sq. mi. |                                  |             |                  |                        |     |                |       |  |  |
| d Monaghan (Workhouse)                 | .....Dr. J. Campbell Hall        | 5           | 5                | 6                      | 240 | 781            | 30·76 | 182                                    | 147                                    |
| ARMAGH. (Area, 514 sq. mi.)            |                                  |             |                  |                        |     |                |       |  |  |
| 1.—DUNDALK BAY. 118 sq. mi.            |                                  |             |                  |                        |     |                |       |  |  |
| 2.—CARLINGFORD LOUGH. 23 sq. mi.       |                                  |             |                  |                        |     |                |       |  |  |
| d Bessbrook (The Woodhouse)            | ..J. S. W. Richardson, Esq.      | 5           | 1                | 0                      | 260 | 1125           | 44·30 | 242                                    | 189                                    |
| 3.—BANN—Lough Neagh, East. 37 sq. mi.  |                                  |             |                  |                        |     |                |       |  |  |
| d Lurgan (Belle Vue)                   | .....S. A. Bell, Esq.            | 5           | 0                | 5                      | 200 | 848            | 33·37 | 214                                    | 159                                    |
| 4.—BANN, UPPER. 144 sq. mi.            |                                  |             |                  |                        |     |                |       |  |  |
| d Tanderagee                           | .....Dr. J. Taylor               | 5           | 1                | 6                      | 198 | 936            | 36·83 | 242                                    | 164                                    |
| d Tanderagee                           | .....Dr. J. Taylor               | 8           | 1                | 6                      | 198 | 951            | 37·45 | ..                                     | ..                                     |
| 5.—BANN—Lough Neagh, West. 192 sq. mi. |                                  |             |                  |                        |     |                |       |  |  |
| d Armagh Observatory                   | .....Meteorological Office       | 8           | 1                | 0                      | 196 | 922            | 36·30 | 246                                    | 172                                    |
| d Richhill (Sandymount)                | .....Irish Rainfall Association. | 5           | 1                | 6                      | 150 | 898            | 35·34 | ..                                     | ..                                     |
| d Loughgall (Manor House)              | .....Mrs. Sowter                 | 5           | 1                | 0                      | 210 | 908            | 35·75 | 233                                    | 180                                    |
| DOWN. (Area, 961 sq. mi.)              |                                  |             |                  |                        |     |                |       |  |  |
| 1.—CARLINGFORD LOUGH. 104 sq. mi.      |                                  |             |                  |                        |     |                |       |  |  |
| d Warrenpoint (Clonallon)              | .....Lt.-Col. A. W. Mansergh     | 5           | 1                | 3                      | 15  | 1070           | 42·12 | 231                                    | 176                                    |
| d Newry (Bridge Street Ho.)            | ....C. Blaney, Esq.              | 5           | 1                | 0                      | 23  | 1147           | 45·15 | 200                                    | 161                                    |
| 2.—DUNDRUM BAY & C. 173 sq. mi.        |                                  |             |                  |                        |     |                |       |  |  |
| d MourneMount's (Fofanny Res.)         | J. H. H. Swiney, Esq., C.E.      | 5           | 1                | 0                      | 938 | 2114           | 83·23 | 231                                    | 210                                    |
| d Seaforde                             | .....Major W. G. Forde           | 8           | 0                | 5                      | 180 | 1162           | 45·73 | 214                                    | 179                                    |
| 3.—STRANGFORD LOUGH. 260 sq. mi.       |                                  |             |                  |                        |     |                |       |  |  |
| d Saintfield House                     | .....Rev. E. H. Blackwood-Price  | 5           | 0                | 0                      | 520 | 914            | 35·98 | 179                                    | 151                                    |
| d Newtownards (Scrabo Hill)            | ...Newtownards U.D.C.            | ..          | 1                | 6                      | 540 | 1044           | 41·10 | 225                                    | 195                                    |
| 4.—COAST STREAMS. 47 sq. mi.           |                                  |             |                  |                        |     |                |       |  |  |
| d Donaghadee                           | .....Meteorological Office       | 8           | 1                | 0                      | 35  | 996            | 39·23 | 236                                    | 171                                    |
| 5.—BELFAST LOUGH. 206 sq. mi.          |                                  |             |                  |                        |     |                |       |  |  |
| 6.—BANN—Lough Neagh, East. 7 sq. mi.   |                                  |             |                  |                        |     |                |       |  |  |
| 7.—BANN, UPPER. 162 sq. mi.            |                                  |             |                  |                        |     |                |       |  |  |
| d Rathfriland (Muddock Bridge)         | Mr. W. Henning                   | 5           | 3                | 0                      | 300 | 960            | 37·78 | ..                                     | 166                                    |
| d Banbridge (Observatory)              | .....Mr. H. D. Fleming           | 5           | 1                | 6                      | 210 | 942            | 37·08 | 230                                    | 154                                    |
| d Banbridge (Milltown)                 | .....J. E. Kennedy, Esq.         | 5           | 1                | 0                      | 200 | 957            | 37·69 | 245                                    | 176                                    |
| d Banbridge (Millbank)                 | .....Mrs. J. W. Mulligan         | 5           | 1                | 0                      | 257 | 947            | 37·30 | 227                                    | 169                                    |
| d Portadown (Moyallon House)           | ..Mr. J. Lynas                   | 5           | 0                | 5                      | 130 | 932            | 36·70 | 218                                    | 173                                    |
| 8.—INSULAR. 2 sq. mi.                  |                                  |             |                  |                        |     |                |       |  |  |
| ANTRIM. (Area, 1193 sq. mi.)           |                                  |             |                  |                        |     |                |       |  |  |
| 1.—BELFAST LOUGH. 107 sq. mi.          |                                  |             |                  |                        |     |                |       |  |  |
| d Lisburn (Ulster Provincial Sch.)     | J. Ridges, Esq.                  | 5           | 1                | 6                      | 208 | 1264           | 49·75 | 236                                    | 185                                    |
| d Belfast (Queen's University)         | .....Mr. G. Robinson             | 5           | 1                | 0                      | 62  | 1089           | 42·89 | 235                                    | 176                                    |
| d Belfast (Cave Hill Road)             | .....Miss C. Firth               | 5           | 1                | 0                      | 200 | 1166           | 45·91 | 266                                    | 196                                    |
| d Belfast (Sewage Outfall Wks.) (r)    | H. A. Cutler, Esq., C.E.         | 8           | 2                | 11                     | 26  | 1042           | 41·01 | 239                                    | 167                                    |
| d Belfast (Oldpark Filters)            | .....F.W. McCullough, Esq., C.E. | 5           | 3                | 6                      | 203 | 1031           | 40·59 | 209                                    | 155                                    |
| d Carrickfergus (Dorisland)            | .....F.W. McCullough, Esq., C.E. | 5           | 3                | 0                      | 250 | 1009           | 39·74 | 225                                    | 168                                    |
| d Carrickfergus (South Woodburn)       | F.W. McCullough, Esq., C.E.      | 5           | 3                | 0                      | 640 | 1224           | 48·20 | 260                                    | 188                                    |
| d Carrickfergus (North Woodburn)       | F.W. McCullough, Esq., C.E.      | 5           | 3                | 0                      | 735 | 1305           | 51·38 | 261                                    | 197                                    |
| d Carrickfergus (Copeland)             | .....F.W. McCullough, Esq., C.E. | 5           | 3                | 0                      | 424 | 1045           | 41·15 | 224                                    | 166                                    |
| d Carrickfergus (Lough Mourne)         | ..F.W. McCullough, Esq., C.E.    | 5           | 3                | 0                      | 596 | 1203           | 47·37 | 232                                    | 178                                    |

## DIVISION XXIII.—ULSTER—(con.).

| STATIONS.                              | AUTHORITIES.                 | Rain Gauge. |                  |                        |      | Depth of Rain. |       | Days<br>with<br>·01 in.<br>or<br>more. | Days<br>with<br>·04 in.<br>or<br>more. |
|--|------------------------------|-------------|------------------|------------------------|------|----------------|-------|--|--|
|  |                              | Diam.       | Height<br>Ground | above<br>Sea<br>Level. | 1920 |                |       |  |  |
| ANTRIM—(con.).                         |                              | in.         | ft.              | in.                    | ft.  | mm.            | in.   |  |  |
| 2.—GLENARM & C. 186 sq. mi.            |                              |             |                  |                        |      |                |       |  |  |
| D Larne (Sallagh Springs)              | W. G. Younger, Esq.          | 5           | 1                | 0                      | 566  | 1523           | 59·95 | 222                                    | 190                                    |
| D Glenarm Castle                       | Mr. J. Smith                 | 5           | 1                | 0                      | 70   | 1360           | 53·53 | 205                                    | 194                                    |
| 3.—BUSH & C. 193 sq. mi.               |                              |             |                  |                        |      |                |       |  |  |
| 4.—BANN, LOWER. 112 sq. mi.            |                              |             |                  |                        |      |                |       |  |  |
| 5.—BANN—Lough Neagh, East. 590 sq. mi. |                              |             |                  |                        |      |                |       |  |  |
| Stonyford (Belfast W.W.)               | F.W. McCullough, Esq., C.E.  | 5           | 1                | 6                      | 437  | 1053           | 41·44 | 211                                    | 173                                    |
| D Antrim (Ardnaveigh)                  | H. B. Murray, Esq.           | 5           | 1                | 6                      | 210  | 923            | 36·33 | 211                                    | 175                                    |
| D Ballymena (Harryville)               | J. R. Williams, Esq.         | 5           | 1                | 5                      | 150  | 1192           | 46·94 | 249                                    | 213                                    |
| D Broughshane (Quolie)                 | H. O'Hara, Esq., C.E.        | 5           | 1                | 4                      | 864  | 1214           | 47·78 | 271                                    | 203                                    |
| 6.—INSULAR. 5 sq. mi.                  |                              |             |                  |                        |      |                |       |  |  |
| LONDONDERRY. (Area, 816 sq. mi.)       |                              |             |                  |                        |      |                |       |  |  |
| 1.—LOUGH SWILLY. 6 sq. mi.             |                              |             |                  |                        |      |                |       |  |  |
| Londonderry (Dunruadh)                 | J. H. Welch, Esq.            | 5           | 0                | 6                      | 130  | 1021           | 40·21 | 251                                    | 202                                    |
| 2.—BUSH & O. 9 sq. mi.                 |                              |             |                  |                        |      |                |       |  |  |
| 3.—BANN, LOWER. 240 sq. mi.            |                              |             |                  |                        |      |                |       |  |  |
| Garvagh (Woodbank House)               | Lt.-Col. R. C. S. Macausland | 5           | 1                | 0                      | 350  | 1320           | 51·98 | 258                                    | 201                                    |
| 4.—BANN—Lough Neagh, West. 196 sq. mi. |                              |             |                  |                        |      |                |       |  |  |
| 5.—FOYLE & C. 365 sq. mi.              |                              |             |                  |                        |      |                |       |  |  |
| M Glenedra (Spelhoagh Mountain)        | M. A. Robinson, Esq., C.E.   | 5           | 1                | 0                      | 1333 | 1762           | 69·37 | ..                                     | ..                                     |
| D Glenedra Hill                        | M. A. Robinson, Esq., C.E.   | 5           | 1                | 0                      | 1333 | 1765           | 69·50 | 243                                    | 228                                    |
| D Glenedra Lodge                       | M. A. Robinson, Esq., C.E.   | 5           | 1                | 0                      | 950  | 1606           | 63·21 | 242                                    | 212                                    |
| D Londonderry (Creggan Res.)           | Mr. W. Hutchison             | 8           | 1                | 0                      | 320  | 1070           | 42·11 | 287                                    | 227                                    |
| Limavady (Drenagh)                     | M. M. McCausland, Esq.       | 5           | 1                | 6                      | 80   | 913            | 35·95 | 250                                    | ..                                     |
| Bellarena                              | Irish Rainfall Association   | 5           | 1                | 3                      | 7    | 922            | 36·31 | 261                                    | ..                                     |
| TYRONE. (Area, 1257 sq. mi.)           |                              |             |                  |                        |      |                |       |  |  |
| 1.—ERNE. 46 sq. mi.                    |                              |             |                  |                        |      |                |       |  |  |
| 2.—BANN—Lough Neagh, West. 442 sq. mi. |                              |             |                  |                        |      |                |       |  |  |
| D Dungannon (Killyman Rectory)         | Rev. E. F. Campbell          | 5           | 0                | 11                     | 150  | 968            | 38·11 | 268                                    | 193                                    |
| 3.—FOYLE. 769 sq. mi.                  |                              |             |                  |                        |      |                |       |  |  |
| D Omagh (Edenfel)                      | Lt.-Col. J. B. Buchanan      | 8           | 1                | 0                      | 280  | 1233           | 48·56 | 268                                    | 217                                    |
| D Newtown Stewart (Baron's Court)      | Mr. R. Bell                  | 5           | 1                | 0                      | 250  | 1086           | 42·74 | 253                                    | 187                                    |
| D Sion Mills (Sion House)              | Capt. J. C. Herdman          | 5           | 3                | 0                      | 100  | 1089           | 42·87 | 251                                    | 195                                    |
| DONEGAL. (Area, 1875 sq. mi.)          |                              |             |                  |                        |      |                |       |  |  |
| 1.—DONAGH & C. 146 sq. mi.             |                              |             |                  |                        |      |                |       |  |  |
| D Malin Head                           | Meteorological Office        | 3           | 1                | 0                      | 208  | 781            | 30·75 | 227                                    | 187                                    |
| 2.—LOUGH SWILLY. 273 sq. mi.           |                              |             |                  |                        |      |                |       |  |  |
| D Letterkenny (District Asylum)        | E. E. Moore, Esq.            | 5           | 1                | 0                      | 183  | 1211           | 47·68 | 268                                    | 204                                    |
| 3.—SHEEPHAVEN & C. 307 sq. mi.         |                              |             |                  |                        |      |                |       |  |  |
| D Milford (The Manse)                  | Rev. W. J. Young             | 5           | 1                | 6                      | 150  | 1071           | 42·17 | 245                                    | 207                                    |
| D Dunfanaghy (St. Helen's)             | J. J. MacGrath, Esq., M.D.   | 8           | 0                | 9                      | 50   | 1174           | 46·20 | 254                                    | 204                                    |
| 4.—GWEEBARRA & C. 341 sq. mi.          |                              |             |                  |                        |      |                |       |  |  |
| d Narin (Kiltoorish)                   | Lt.-Col. E. P. H. Gardner    | 5           | 1                | 6                      | 100  | 1222           | 48·10 | ..                                     | ..                                     |
| 5.—DONEGAL BAY. 322 sq. mi.            |                              |             |                  |                        |      |                |       |  |  |
| D Killybegs (Rockmount)                | Com. G. G. Phillipps, R.N.   | 5           | 1                | 0                      | 15   | 1633           | 64·28 | 266                                    | 230                                    |
| 6.—ERNE. 68 sq. mi.                    |                              |             |                  |                        |      |                |       |  |  |
| D Belleek (The Island)                 | Mr. J. McBrien               | 5           | 1                | 0                      | 154  | 1138           | 44·80 | 245                                    | 207                                    |
| 7.—DROWES & C. 10 sq. mi.              |                              |             |                  |                        |      |                |       |  |  |
| 8.—FOYLE. 396 sq. mi.                  |                              |             |                  |                        |      |                |       |  |  |
| 9.—INSULAR. 12 sq. mi.                 |                              |             |                  |                        |      |                |       |  |  |

62, CAMDEN SQUARE,

LONDON, N.W.1.

BRITISH RAINFALL  
1920.

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PART IV.

## THE AVERAGE MONTHLY RAINFALL OF THE BRITISH ISLES, 1881-1915.

By M. DE CARLE S. SALTER.

In the preface of *British Rainfall*, 1919, Sir Napier Shaw, then Director of the Meteorological Office, drew attention to the fact that, in spite of our unrivalled accumulation of data, we had hitherto no adequate maps of the average monthly rainfall of the British Isles; and explained that their non-existence was to be attributed rather to the embarrassment caused by the number of observations available, and to our considerable experience of the vagaries of monthly rainfall, than to any lack of information. It may be added that the hesitation to embark upon the task of compiling such maps arose from a growing appreciation of the niceties of good rainfall mapping and its requirements rather than from indifference. It is a conspicuous fact that the late Mr. Symons, who devoted forty years of his life to the study of the geographical distribution of rainfall in the British Isles, and had at his command practically all the rainfall records in existence for the country, seems never to have compiled, and certainly never published, any maps of the average monthly rainfall.

A bold attack on the problem was, however, made by Mr. Symons's distinguished contemporary, the late Dr. Alexander Buchan, who in 1895 prepared a set of average maps for Scotland which were published in the *Journal of the Scottish Meteorological Society* (Third Series, Vol. X, pp. 3-24). These maps were based on the period of 25 years, 1866-1890, the bulk of the data being drawn from the official "Rainfall Tables of the British Isles, 1866-1890," compiled by Mr. Symons and at the time about to be published by the Meteorological Office. Four years later Dr. Buchan, in collaboration with the late Dr. A. J. Herbertson, compiled a similar set of maps for the whole of the British Isles. These were published in Bartholomew's *Physical Atlas*, a complete volume of which was devoted to Meteorology. From that date this set of maps has stood as the only completed series of average monthly rainfall maps of the country.

The period of 25 years employed by Buchan was certainly too short to yield satisfactory normal values, but it was probably long enough to establish the main features of the distribution in a fairly satisfactory way.

Although, until the present time, no subsequent attempt had been made to revise or re-draw Buchan's maps, the matter was not by any means dormant. In 1900 Dr. Mill began experimenting in the detailed mapping of monthly rainfall, and shortly afterwards commenced systematically to map each individual month's rainfall and to study the distributions in relation to those of barometric pressure at the time,

and to the general types of weather prevailing. The rainfall maps have been published on a greatly reduced scale in *British Rainfall* since 1908, and also appear month by month in the *Monthly Weather Report* of the Meteorological Office. In the course of compiling them much has been learned about the prevailing types of distribution of monthly rainfall, and the frequency and extent of deviations from the normal conditions in individual months. Much information has also been acquired with regard to individual rainfall records, and this general familiarity with the subject and with the data was of great service in pointing the way to a satisfactory solution of the problem of producing average maps. A further advance was made in the study of the seasonal fluctuation of rainfall by the investigation of isomeric rainfall distribution described in *British Rainfall*, 1914.

In 1914 a joint-committee of the Meteorological Office and the Royal Meteorological Society was appointed in order to give effect to the decision to prepare a revised Climatological Atlas of the British Isles. The British Rainfall Organization was represented on the committee with special reference to the inclusion of rainfall maps. Before this particular section of the Atlas had been fully considered the work was interrupted by the war, and it was not resumed till 1919. In accordance with the original plan the task of compiling average rainfall maps was entrusted to the British Rainfall Organization, which had by this time been transferred to the Meteorological Office. A scheme was accordingly drawn up and approved by the committee.

This scheme involved carrying out the work by a method somewhat different from that used by Dr. Buchan: it was put into operation during the winter of 1920-21. A full description of the method and a statement of the reasons which led to its adoption were set out in full in the recent paper "On a New Method of Constructing Average Monthly Rainfall Maps."\* It involved the completion of a highly detailed map of the distribution of average annual rainfall, and the combination of this map with each of 12 monthly isomeric maps. For the annual map Dr. Mill's survey maps on the scale of 2 miles to 1 in., so far as drawn, were reduced to the scale of 20 miles to 1 in., and extended by the reduction of additional records to their equivalent averages for 35 years. It is estimated that the records from about 5,000 stations were employed in the compilation of the finished map. A greatly reduced copy is given in Fig. 1. The isomeric maps were drawn from about 550 monthly average records for the period 1881-1915. An account of the principle of isomeric rainfall maps, and a description of the isomeric distribution for the period 1875-1909, will be found in *British Rainfall*, 1914, pp. 25-44.

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\* See *Q. J. R. Met. Soc.*, Vol. XLVII, 1921, pp. 101-116. A few reprints of this paper are available on application at 62, Camden Square, N.W.1.



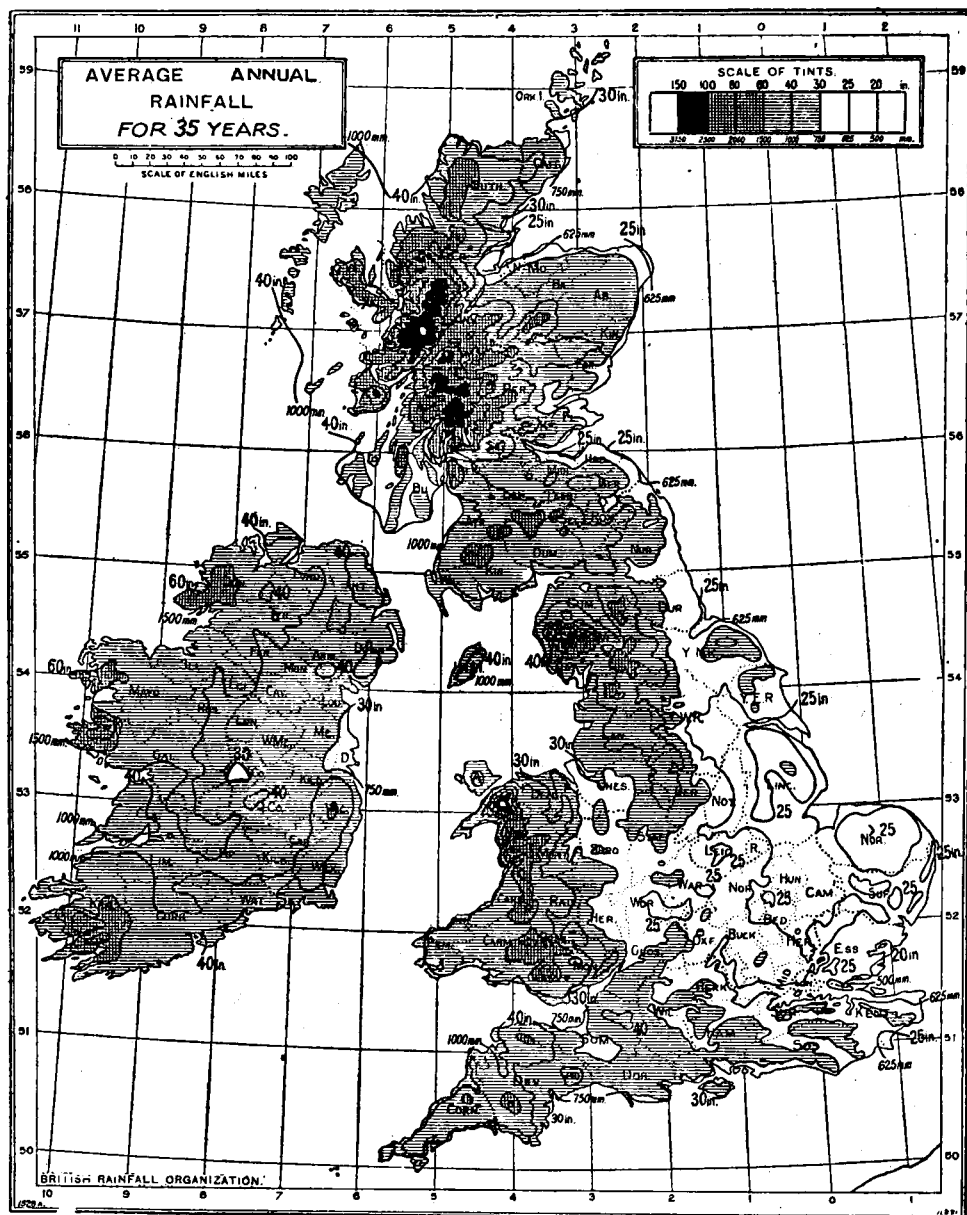


FIG. 1.

It will be observed that the period selected for the new series of averages is six years later than that referred to in *British Rainfall, 1914*. It is not suggested that the later period gives more representative values than the earlier. It was chosen in the first place because it had already been adopted as the basis for the average values of all climatological records quoted in the *Monthly Weather Report* of the Meteorological Office, and published in full in the "*Book of Normals of Meteorological Elements*"; and in the second place because it included the largest possible number of homogeneous and synchronous records available for any period of the same length, so that the choice of stations was as wide as possible.

In the tables, maps and discussions of the relation of monthly and annual rainfall to the average which have appeared regularly in *British Rainfall* and the *Meteorological Magazine* the averages referred to since 1910 have been those for the 35 years 1875-1909. The much larger number of records available for 1881-1915, and other reasons, make it desirable to substitute in future the averages for the later period. These were accordingly introduced into the *Meteorological Magazine* tables at the beginning of 1921, and are used in the present volume of *British Rainfall*.

It is always desirable when making such a change to compare the two sets of values. The comparison can most readily be made by means of the records which covered the 41 years from 1875-1915, and which are thus common to the two periods of 35 years in question. These are fortunately fairly numerous, and from them it was possible to select 118 so as to give a satisfactory representation to all parts of the country. For each of these stations the old set of averages was written out by the side of the new and the latter were expressed as a percentage of the former for each month and for the whole year. This gave 13 sets of percentage values, one for each month and one for the year, and from them 13 maps were constructed, each representing the regional distribution of the new average in its relation to the old. These maps were of considerable interest, and revealed a harmony between adjacent stations which provided a very satisfactory test of the accuracy of the data. It is unfortunately impossible, in the limited space at disposal, to reproduce the whole series of 13 maps, but we give a small and slightly generalized copy of that for April, which was in some respects the most instructive.

By far the majority of the monthly averages at individual stations differ by less than 5 per cent. from the old series,

**APRIL.** Average Rainfall, 1881-1915 as percentage of average, 1875-1909

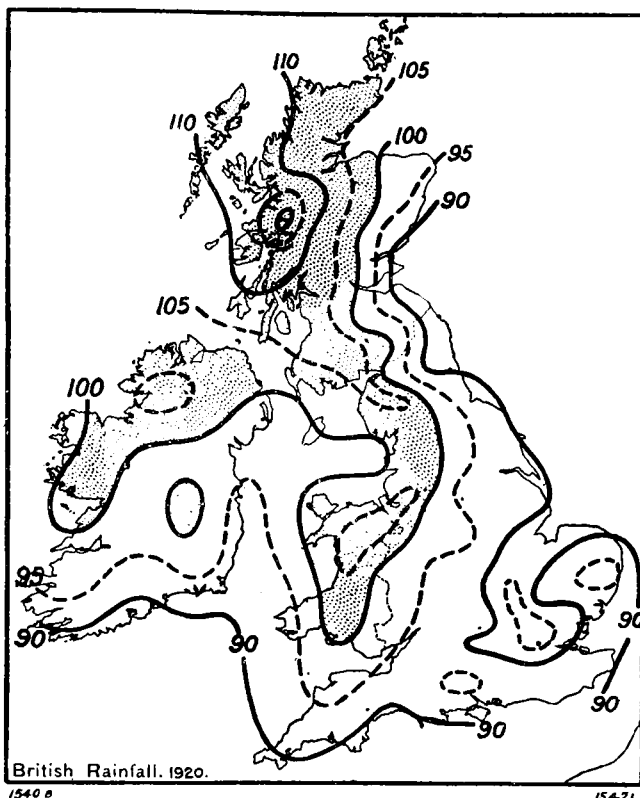


FIG. 2.

but in every month except May, August, October, and November, some areas exhibited deviations of as much as 10 per cent. The month of least regional change was May, that of most pronounced change April, to which reference has already been made. In April there was a well-marked graduation from a deficiency of 16 per cent. in the new average as compared with the old in the neighbourhood of London to an increase of 20 per cent. in the West Highlands. No other month showed any very definitely marked regional distribution, but the map for the whole year indicates that in the west the average for 1881–1915 is from 1 to 3 per cent. higher than that for 1875–1909, and in the east from 1 to 3 per cent. lower. In a narrow strip along the east coast one or two stations showed a falling off of as much as 4 per cent.

Apart from geographical variations the month of greatest change was September, which was everywhere drier in the new period than the old, the value of the general average for the whole country falling by 10 per cent. In December the average is increased everywhere except on part of the east coast, the general value rising by 8 per cent. The general values for the whole year are practically identical for the two periods in each country.

AVERAGE RAINFALL 1881–1915 AS PERCENTAGE OF AVERAGE  
1875–1909. GENERAL VALUES.

| Month.          | England. | Wales. | Scotland. | Ireland. | British Isles. |
|-----------------|----------|--------|-----------|----------|----------------|
| January .. ..   | 103      | 102    | 100       | 100      | 101            |
| February .. ..  | 100      | 103    | 104       | 106      | 103            |
| March .. ..     | 107      | 108    | 103       | 103      | 105            |
| April .. ..     | 93       | 103    | 105       | 99       | 98             |
| May .. ..       | 98       | 99     | 101       | 99       | 99             |
| June .. ..      | 97       | 99     | 94        | 97       | 96             |
| July .. ..      | 95       | 95     | 98        | 101      | 97             |
| August .. ..    | 97       | 98     | 99        | 100      | 98             |
| September .. .. | 89       | 90     | 93        | 91       | 90             |
| October .. ..   | 98       | 97     | 95        | 97       | 97             |
| November .. ..  | 98       | 101    | 101       | 101      | 100            |
| December .. ..  | 110      | 110    | 105       | 108      | 108            |
| Year .. ..      | 99       | 100    | 100       | 100      | 99             |

The general conclusion which it appears to be legitimate to draw from the maps, is that the rainfall of the years 1910–1915 now included was on the whole more definitely orographical than that of the excluded years 1875–1880, thus giving a preponderance of rainfall in the west, and the inference is supported by the fact that the general

values are increased in winter, when orographical rain is most frequent, and diminished in summer, when it is at a minimum. The pronounced rise in April in the west suggests a prolongation of the normal winter type of rainfall into the spring; it will be observed that at the same time the autumn months have become less rainy.

The fact that the two sets of averages, in spite of having 29 years in common, differ so largely in individual months and at individual stations indicates that 35 years is far from being long enough to yield steady, normal values for the months; though it does so, within a comparatively narrow margin, for the whole year. The difference of course arises from the greater variability relatively to the normal in the case of monthly rainfall than with annual rainfall. The period which would be necessary to fix the monthly normals within the limits of observational error is probably different in different parts of the country, for the standard deviation of monthly rainfall is almost certainly greater in the districts of small fall than in those of large fall. The longest records to which it is possible to refer are of about 100 years' duration, and even these are not completely homogeneous. The following table compares the averages of the 35 years 1881-1915 with those for the 100 years 1820-1919 at Greenwich, Kendal, and Rothesay.

## AVERAGE RAINFALL 1881-1915 COMPARED WITH AVERAGE 1820-1919.

| MONTH.       | GREENWICH.                      |                                |  | KENDAL.                         |                                |  | ROTHESAY.                       |                                |  |
|--------------|---------------------------------|--------------------------------|--|---------------------------------|--------------------------------|--|---------------------------------|--------------------------------|--|
|              | Average 100 years<br>1820-1919. | Average 35 years<br>1881-1915. | Average 35 years<br>as percentage of<br>average 100 years. | Average 100 years<br>1820-1919. | Average 35 years<br>1881-1915. | Average 35 years<br>as percentage of<br>average 100 years. | Average 100 years<br>1820-1919. | Average 35 years<br>1881-1915. | Average 35 years<br>as percentage of<br>average 100 years. |
|              | in.                             | in.                            |  | in.                             | in.                            |  | in.                             | in.                            |  |
| January ..   | 1·81                            | 1·69                           | 93   | 5·08                            | 5·04                           | 99   | 4·95                            | 4·50                           | 91   |
| February ..  | 1·56                            | 1·57                           | 101  | 4·20                            | 4·08                           | 97   | 4·09                            | 4·00                           | 98   |
| March ..     | 1·59                            | 1·73                           | 109  | 3·83                            | 4·10                           | 107  | 3·73                            | 3·59                           | 96   |
| April ..     | 1·60                            | 1·47                           | 92   | 2·69                            | 2·89                           | 107  | 2·75                            | 2·98                           | 108  |
| May ..       | 1·87                            | 1·73                           | 93   | 2·74                            | 3·14                           | 115  | 2·81                            | 3·03                           | 108  |
| June ..      | 1·98                            | 2·02                           | 102  | 3·32                            | 2·91                           | 88   | 3·15                            | 3·07                           | 97   |
| July ..      | 2·44                            | 2·24                           | 92   | 4·12                            | 3·98                           | 97   | 3·70                            | 3·96                           | 107  |
| August ..    | 2·38                            | 2·19                           | 92   | 5·02                            | 5·11                           | 102  | 4·65                            | 4·87                           | 105  |
| September .. | 2·15                            | 1·79                           | 83   | 4·46                            | 3·95                           | 89   | 4·24                            | 4·05                           | 96   |
| October ..   | 2·67                            | 2·53                           | 95   | 5·43                            | 4·89                           | 90   | 4·99                            | 4·41                           | 88   |
| November ..  | 2·30                            | 2·28                           | 99   | 5·21                            | 5·10                           | 98   | 5·21                            | 5·07                           | 97   |
| December ..  | 2·02                            | 2·26                           | 112  | 5·71                            | 5·97                           | 105  | 5·46                            | 5·45                           | 100  |
| Year ..      | 24·37                           | 23·50                          | 96   | 51·81                           | 51·16                          | 99   | 49·73                           | 48·98                          | 98   |

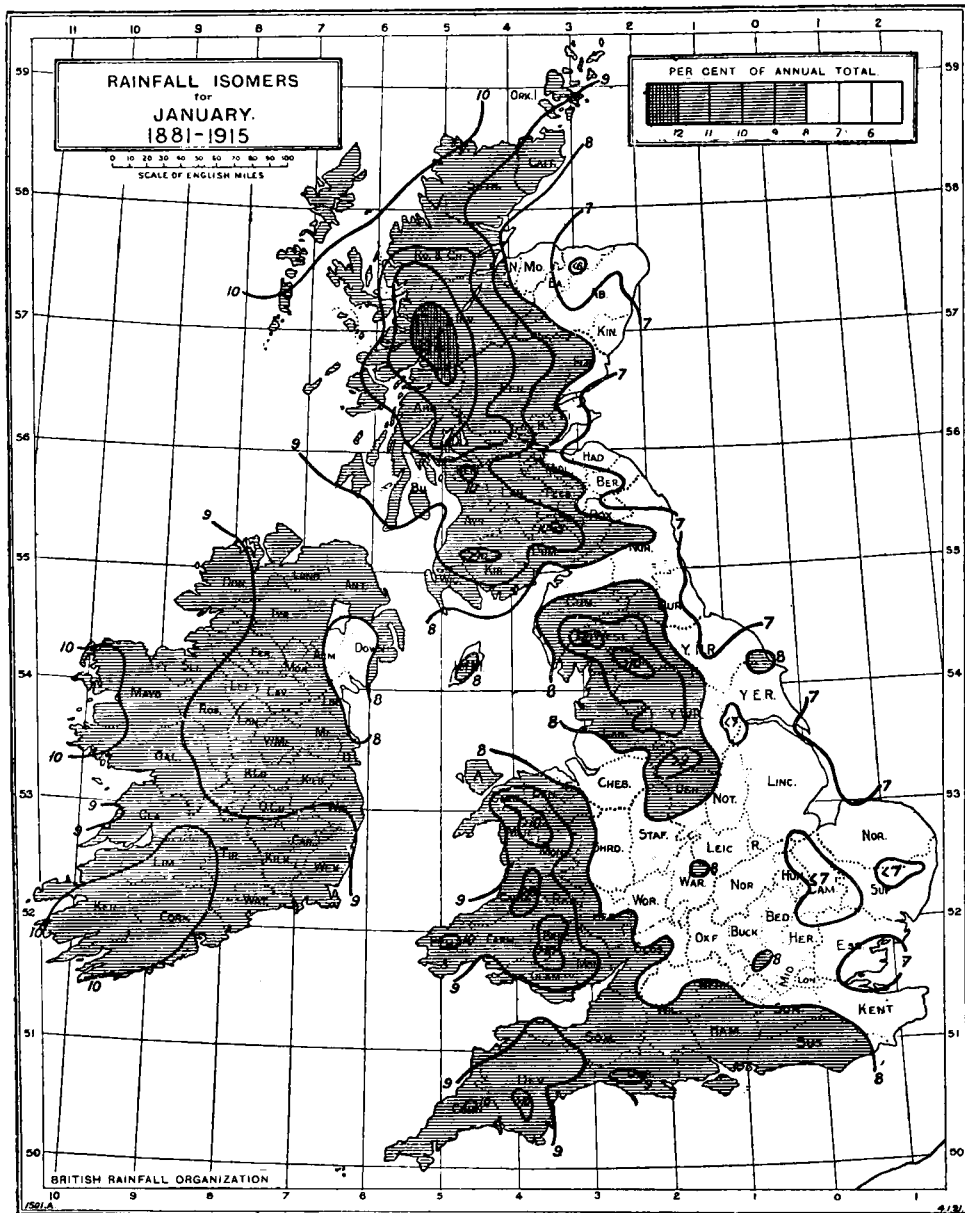


FIG. 3.

It will be seen that at each of the three stations in one or more months the 35 year average exhibits a deviation of more than 10 per cent. from the 100 year average. September is the month of greatest difference on the whole, whilst February and November are in good agreement. In spite of the considerable differences between the individual average values for the two periods the type of seasonal march is perfectly clear in the shorter period, and there is reason to think that any period of 35 years should establish a working approximation to the normal seasonal march.

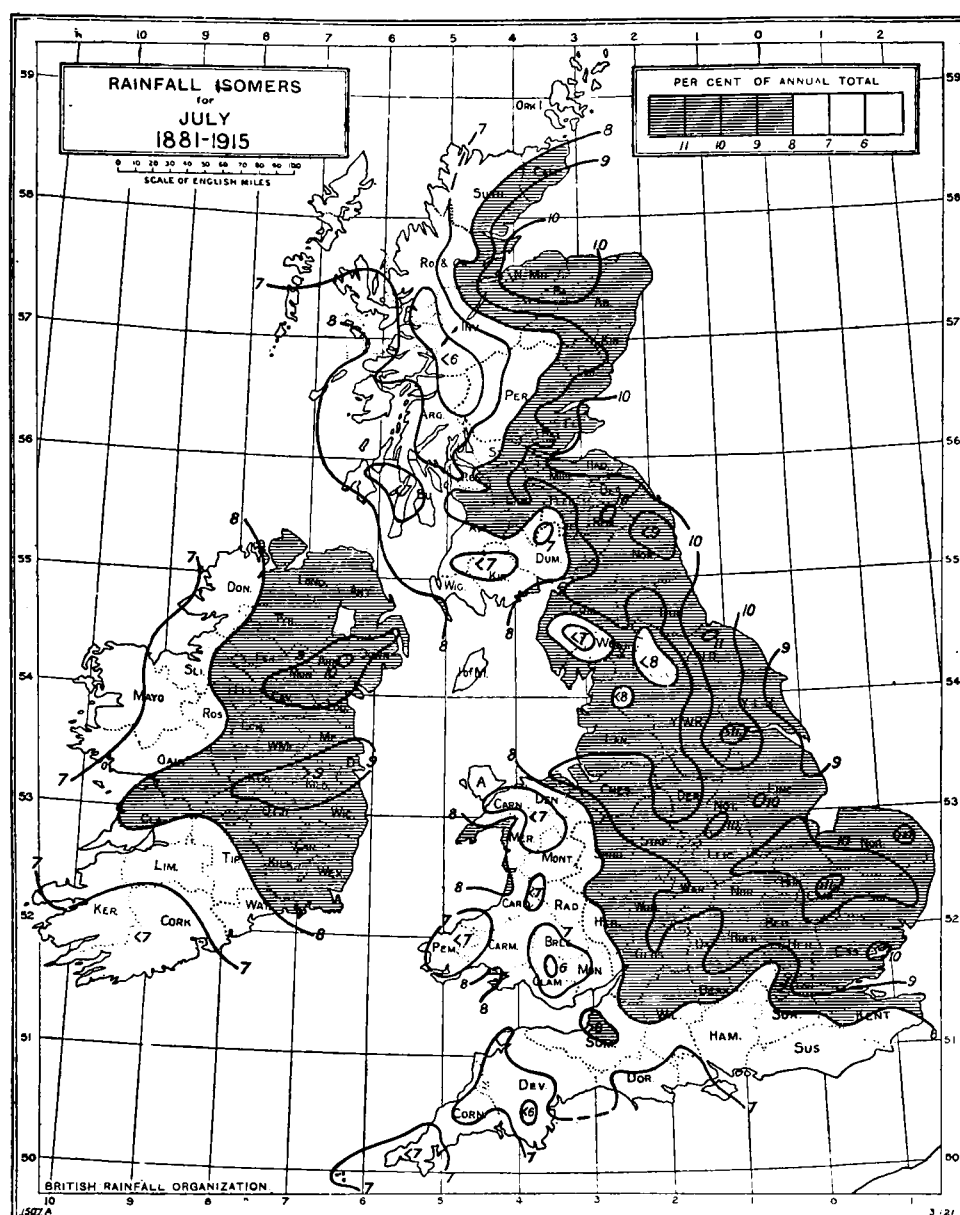


FIG. 4.

Figs. 3 to 6 show the isomeric rainfall distribution for 1881-1915 for January, July, April, and October. These maps should be compared with those on pp. 26, 32, 29, and 35 respectively of *British Rainfall*, 1914.

There is a close agreement between the two series in January and July, the differences being all local and minor. The April and October maps show that the geographical range of the percentage coefficients, which is at a minimum in April, has been reduced in the new series, whereas that in October, when it is nearly at its maximum, has been increased.



FIG. 5.

There is no marked change in the types of distribution indicated. The broad features which call for comment are that in the winter the fall is greatest in relation to the annual total in the regions most freely exposed to orographical rain; in summer the reverse is the case. There is thus a relation between the distribution and the configuration, but it is broad and general. In spring and autumn there is no apparent relation between the isomeric distribution and the configuration; the lines appear to suggest that in spring the coastal regions get a smaller proportion of the year's rainfall than do inland districts, but the difference at this season is very small, not greatly exceeding 1 per cent.

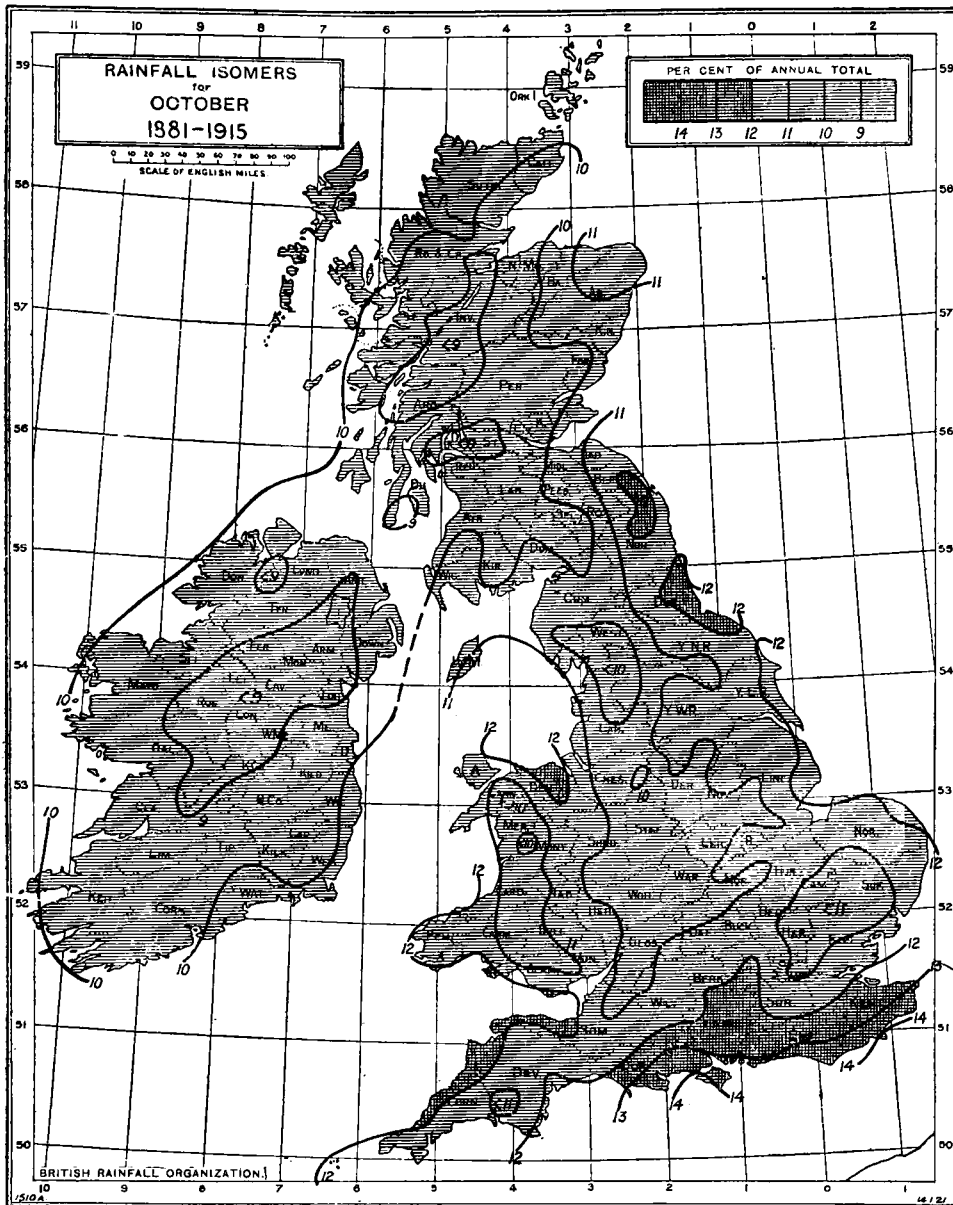


FIG. 6.

over all. In autumn the reverse is the case, the coast getting the largest coefficients, and the range is large, being from less than 9 per cent. in central Ireland to more than 14 per cent. in the Isle of Wight.

The maps for the remaining months of the year are not reproduced. They indicate a gradual transition from one season to the next, and the only facts which appear to be of especial interest are a well-marked subsidiary maximum in August, especially in Ireland and the west Midlands of England, and a tendency to a subsidiary minimum in September. These are almost certainly incidental to the special



35 years considered, and would probably be, to some extent, smoothed out if a longer period were available.

The seasonal curves for adjacent stations show a strong resemblance, in most cases practical identity, and are clearly dictated by geographical factors such as orography (broadly only), distance from the sea, and latitude. The most extreme variations are between the curves indicative of maximum orographical influence, of which those for the West Highlands of Scotland are typical, and those indicative of minimum orographical influence, as, for example, in the east Midlands of England. The former show a maximum in midwinter, when the prevailing south-westerly rain-bearing winds are most frequent and of greatest force, the latter at midsummer, when thunderstorm rains are producing their greatest effect. The effect of distance from the sea is shown in the variations of the spring to autumn oscillation, which reaches its maximum amplitude on the coast, especially in the south, and falls to a minimum inland, particularly in Ireland. The sign, however, remains constant, whereas that of the winter to summer oscillation is, as has been shown, reversed.

Fig. 7 shows the percentage curves for three-monthly periods for four

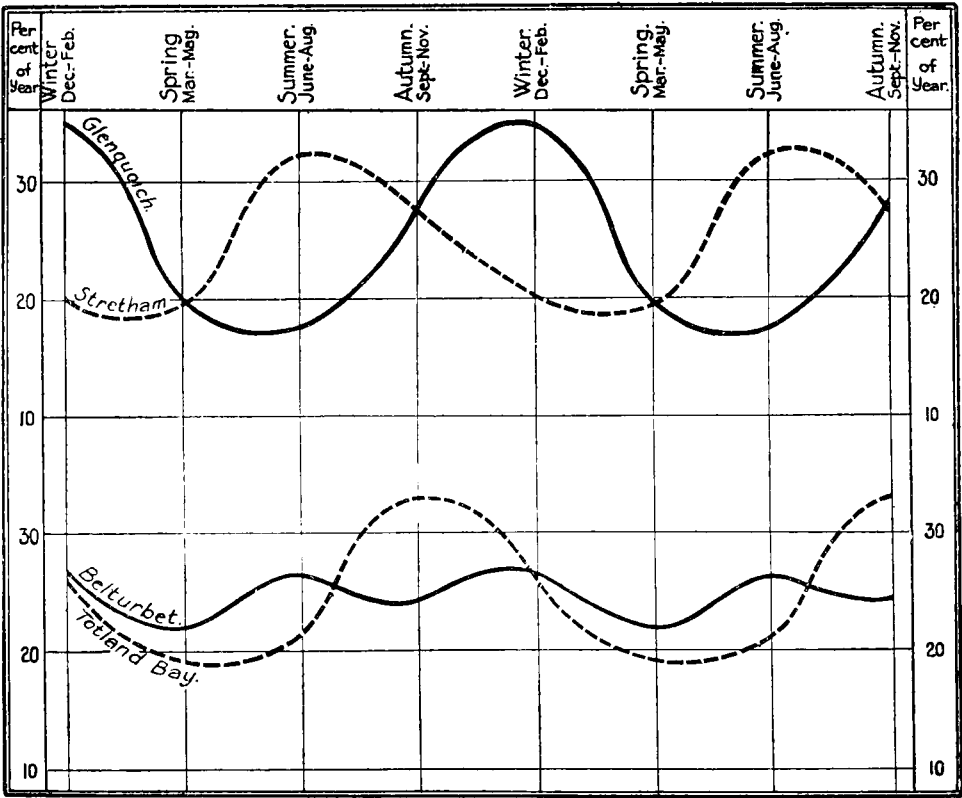


FIG 7. Average Rainfall of each Season as Percentage of Annual Average. Extreme Types.

stations, indicating the characteristics of the four types indicated: (1) Glenquoich, Inverness-shire, winter maximum, (2) Stretham, Cambridgeshire, summer maximum, (3) Belturbet, Cavan, small range between spring and autumn, and (4) Totland Bay, Isle of Wight, large range between spring and autumn. The tendency for a maximum in August and a minimum in September, which was probably peculiar to the period used, in some measure detracts from the simplicity of the contrast in the lower pair of curves.

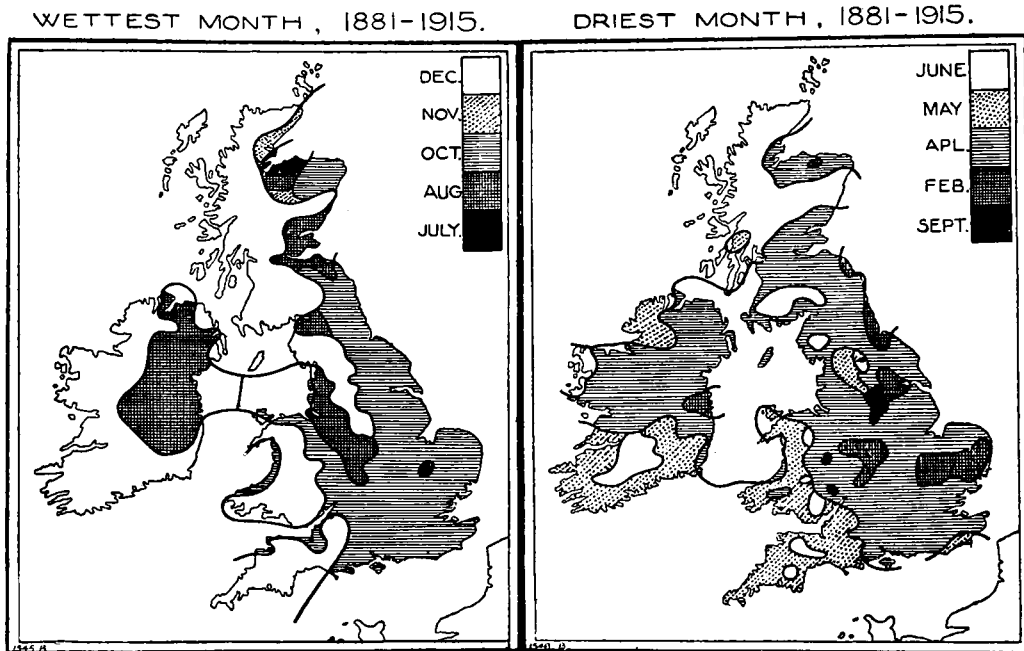


FIG. 8.

Fig. 8 shows cartographically the months of highest and lowest rainfall on the average of the 35 years. It will be seen that in the west generally, and in practically all districts of relatively large rainfall, the wettest month of the year is December, or in the extreme north November. Over much the same regions the driest month is either May or June, the tendency being for June to predominate in the districts with the largest annual rainfall. Over the greater part of the remainder of the country October is the wettest month, and April the driest, but in part of eastern Ireland, of the north-west of England, and the east of Scotland, August was wetter in this particular period. Around the Cromarty Firth and in the Fen District a few stations showed July as the wettest month, and a somewhat larger area, including parts of the east of England, had its least rainy month in February. An anomaly probably peculiar to the particular period gave September as the driest month in one or two places in central England.

Generalizing the above facts, it may be broadly stated that the wettest and driest months in any district are commonly, but not





FIG. 10.

The contrast between the maps for January and July is extremely striking. In the mid-winter month the exposed mountain ranges of the west are experiencing the full effect of the prevailing westerly winds in producing orographical rainfall, and large areas in the west of Ireland and Scotland, and the more rainy regions of the west of England and Wales, have an average rainfall exceeding 8 in., while less extensive, but still considerable districts have more than 10 in., and a few very wet spots more than 20 in. To the east the average rainfall in January diminishes very rapidly. Nowhere except on the

uplands does the fall exceed 4 in., and on the plains it falls to below 2 in., a belt of varying width over which less than that amount falls extending almost unbroken along the east coast of Great Britain and appearing also around Dublin. In the Thames Estuary less than 1·50 in. falls. It is clear that the increased wind movement from the Atlantic which is instrumental in bringing the great winter rainfall in the west has little effect in the east, and in fact it is not improbable that the relatively small rainfall there may be in part attributed to the fact that at the time of year the wind is seldom for any length of time from any other quarter than west or south-west, so that the eastern plains are nearly constantly in the position of being sheltered by mountain ranges. A more local instance of the effect of shelter or "rain-shadow" may be seen in the low rainfall in the valley of the Clwyd in North Wales, which lies immediately in the lee of Snowdon.

In July there is still a distinct tendency for the main control of the distribution to be orographical, but in a very much less marked degree than was the case in January. In the west more than 6 in. falls over fairly extensive tracts in Inverness-shire, Argyll, the Lake District, and North Wales, the amount reaching 10 in. very locally in the two last mentioned, but as much as this apparently falls nowhere in Scotland on the average of the 35 years under consideration. Over the greater part of the hill regions the average rainfall of July is from 4 to 6 in., and is thus much smaller than in January. In the east, on the other hand, the rainfall is considerably greater than in January. In the English Midlands about 2·50 in. falls over wide areas, falling on the coast in one or two places to 2 in., and in Scotland and Ireland more than 3 in. is found within a few miles of the east coasts, with a very narrow strip of less than 2·50 in. on the east of Scotland. The phenomenon of "rain-shadow," so conspicuous on the January map, is only very weakly developed. The midsummer phase may be regarded as the resultant of a greatly reduced west-wind effect, combined with a maximum of thunderstorm rain, and nearly, if not quite, a maximum of purely cyclonic rainfall.

The map for April represents the type of distribution during the general spring rainfall minimum. The degree of relation between the amount of rainfall and the configuration is intermediate between that of winter and summer, being less marked than that of January and more than that of July. It is interesting to observe that the areas of highest rainfall in April have approximately the same fall as they have in July, whilst those of least fall differ little between April and January. The distribution of rainfall in April closely resembles that for the whole year, nearly all parts of the country having about the same percentage of the year's fall during the month.

October is, generally speaking, the wettest month of the year. In the rainy districts the total fall is not greatly different from that of January, reaching 8 in. over most mountain areas, and 10 or even

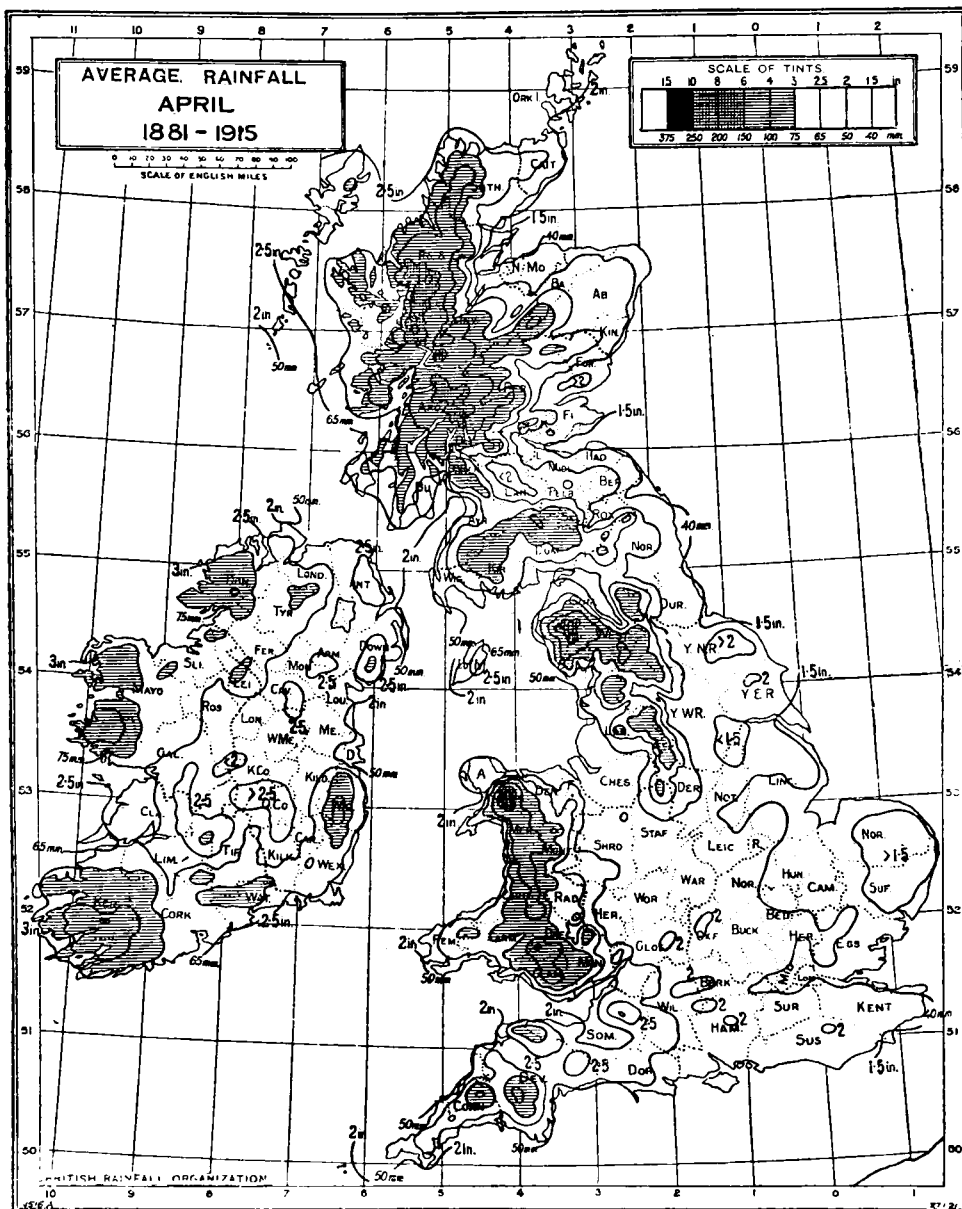


FIG. 11.

20 in. in the wettest districts. The diminution towards the east, although conspicuous, as is, indeed, the case on the average in every month of the year, is not so pronounced as in January. Only small areas in the east of England and round the Cromarty Firth have as little as 2.50 in. and except in the east Midlands of England as little as 3 in. is comparatively local. Thus whilst the wettest regions have a rainfall in October close to that of January, that of the drier districts closely resembles that of July.

The distribution of monthly rainfall is clearly controlled in the



*Mean Barometric Pressure, reduced to Sea-level and 32° F.*

|                        |    |    |    |    | January.  |    | July.     |
|------------------------|----|----|----|----|-----------|----|-----------|
| NORTH-WEST (Stornoway) | .. | .. | .. | .. | 29·75 in. | .. | 29·88 in. |
| SOUTH-EAST (Dungeness) | .. | .. | .. | .. | 30·02 in. | .. | 29·99 in. |
| Difference (630 miles) | .. | .. | .. | .. | ·27 in.   | .. | ·11 in.   |

The explanation of the spring-autumn oscillation is less simple, but it is probably also to be found in the general pressure conditions. In the spring the pressure is, on the whole, tending to rise, and with a rising temperature the average precipitation falls to a minimum. The rise of pressure is as a rule most marked on the coast, the seasonal range of pressure in the neighbourhood of the British Isles being greater over the sea than over the land, and this fact is probably connected with the tendency for the spring rainfall minimum to be more conspicuous near the sea than inland. In the autumn the reverse is the case. The pressure is, on the whole, tending to fall, and the temperature also falling, the rainfall rises to a maximum. The pressure again falls more conspicuously on the coast than inland, and here the autumn maximum is most marked.



## THE PRESENCE AND DISTRIBUTION OF SALT IN THE AIR OF THIS COUNTRY.

By WILFRED IRWIN.

When working with the spectroscope, my attention has often been drawn to the constant presence of the sodium line, indicative of the widespread distribution of salt in the air; and it occurred to me a short time ago to try to approach the subject on a quantitative basis and to determine if possible the actual amount of deposit of sodium chloride from the air, whence it came, how it was distributed over the land, and what ultimately became of it.

Living on the border of the Cumberland Lake District, I commenced by testing our rain-water, and then all the principal lakes and rivers for their contents of salt. I have also determined the amount present in the dust in open places protected from the rain.

The following were my results in regard to the lakes. I ought to state they have been obtained by determining the quantity of chloride in the water and assuming that it is all in combination with sodium to form common salt (NaCl), though it may include small quantities of magnesium and calcium chlorides.

|                                |    |    |    |                                     |   |   |   |
|--------------------------------|----|----|----|-------------------------------------|---|---|---|
| Wastwater                      | .. | .. | .. | 10 parts NaCl per million of water. |   |   |   |
| Ennerdale                      | .. | .. | .. | 10                                  |   |   |   |
| Crummock                       | .. | .. | .. | 10 to 11                            | " | " | " |
| Derwentwater (head of lake)    |    |    |    | 11                                  | " | " | " |
| Do. (200 yds. past Brandlehow) |    |    |    | 46                                  | " | " | " |
| Do. (foot or outlet)           | .. | .. | .. | 18                                  | " | " | " |
| Bassenthwaite                  | .. | .  | .. | 15½                                 | " | " | " |
| Ullswater ..                   | .. | .. | .. | 11½                                 | " | " | " |
| Thirlmere ..                   | .. | .. | .. | 10                                  | " | " | " |
| Windermere                     | .. | .  | .  | 11                                  | " | " | " |
| Buttermere                     | .. | .. | .. | 11                                  | " | " | " |

From the above table we see how very evenly distributed salt is in these waters, and the lakes, being such vast reservoirs, afford us a means of obtaining an average test of the waters of this district which it would be difficult to obtain otherwise. The results of such tests may vary a little with the weather, but only slightly, and the only real exception we may note is Derwentwater, which at the outlet is 18, against 10 to 11 for the other lakes.

Mentioning this fact to my friend Mr. J. Postlethwaite, F.G.S., late of Keswick, he suggested that this extra salinity might be due to the effluent from the old Brandlehow mine. On testing this effluent I found it to contain 0·5 per cent. of salt. I then tested the lake itself a little below it, with the result recorded above. I was unable to obtain the rate of flow of the effluent, but I have no doubt that Mr. Postlethwaite's surmise was correct. The rainfall in the vicinity of the lakes is, of

course, very high and one would expect a corresponding deficiency in salt, but tests which I will describe presently do not show that a heavy rainfall is accompanied by a proportionate reduction in the contents of salt.

There would be bound to be some evaporation before the rain reached the lake, as well as in the lakes themselves, but except in hot weather I doubt if this amounts to a great deal, the actual catchment areas of the lakes being small. To show how constant is the composition of the waters of the lakes, largely owing to the enormous stores latent in the land surrounding them, after the prolonged drought and hot weather of this year (1921), Crummock barely reached 12 parts per million in salinity and after the stormy weather of last autumn and winter, when the rain-water would average between 20 and 30 parts per million, the water of the lake never exceeded  $11\frac{1}{2}$  parts. Bassenthwaite, of course, owes its extra salinity to the River Derwent flowing through it from Derwentwater, after having been diluted by the River Greta from Thirlmere and other streams.

Now it is plain that the following are the only sources whence the supply of salt could have originated :—

- (1) Salt originally in the land.
- (2) Salt in the dust, including that derived from coal through smoke.
- (3) Salt in the refuse from animals.
- (4) Salt in the effluent from works and mines.
- (5) Salt in the rain-water.

Of source (1) I am inclined to think the quantity very small except in such cases as the spring at Brandlehow.

Source (2) I have attempted to estimate by exposing a dish in the open air, though protected from the rain, and I find the deposit contains about 30 grammes of salt per acre per week. No doubt this figure will vary a little with the distance from the sea, and the direction and strength of the wind, but my results are fairly constant and my house, where the experiments were made, is  $6\frac{1}{2}$  miles from the sea.

In large towns the quantity of salt in the dust will be enhanced by that from the smoke. In a ton of coal there are often 4 lb. of salt and most of this on combustion will find its way into the atmosphere. Occasionally during a storm a very considerable amount of dry salt from the sea spray may be distributed over a large extent of land. On one occasion last winter during a gale from the sea and after the rain had ceased, I noticed that the drops remaining on the window panes on drying showed minute crystals of salt. On analysis I found the deposit to contain .0039 gramme of NaCl per square foot of window pane, or 170 grammes per acre. This could be only a portion of the dry salt distributed broadcast over the land. But the total influence from this source, especially in the watersheds of the lakes, must be very small.

Source (3). The refuse from animals. The salt in human refuse may reach as much as 1 oz. per day but that from animals is much less. In a district like that of the Cumberland Lakes, where the population is sparse and the rainfall heavy, this source cannot be one of great importance.

Source (4). Effluent from works. This will be almost nil in the Lake District.

Source (5). Rain-water. This is by far the most important, and to it we must attribute almost the whole of the salt in the lakes and rivers here.

Let us follow the course of a river like the Derwent, a river which probably has the greatest average flow in proportion to its length of any river in the country. It rises in Borrowdale, and at its fall into Derwentwater it contains 10 to 11 parts of salt per million. It leaves the lake containing 18 parts per million just as it joins the Greta which dilutes it, and it runs through Bassenthwaite where it contains  $15\frac{1}{2}$  parts. Reaching Cockermouth it has 17 to 18 parts, but on dilution with the Cocker it falls to about 16 parts. Lastly, it reaches the sea at Workington containing 17 to 19 parts. Between Bassenthwaite and the sea it receives several tributaries and it drains a fair extent of country where the evaporation would be greater than in the catchment areas of the Lakes. The total area of the gathering ground of the river is 244 square miles and the population above Workington Bridge is about 22,000.

Taking the average annual rainfall at 60 in. this represents a fall of 937 million tons of water per annum. Or this about 49 million tons are taken by the Manchester, Workington, and Maryport Corporations, and the increase in chlorides seems to point to a reduction in volume by evaporation of about one-fourth, thus leaving 666 million tons as the mean annual flow where the river enters the sea. Estimating the salt in the rainfall at 10 parts per million, it means an annual precipitation of 9,370 tons in the area. Of this 490 tons will find its way to the Corporation water supplies, leaving 8,880 tons, to which must be added 1,000 tons from the effluent from the Brandlehow mine and 200 tons from human refuse, making the amount entering the sea at Workington 10,080 tons, equal to 16.6 parts per million of water as against the actual test of 17 to 19 parts.

Can we from the data here given form any conclusions regarding the distribution of salt throughout the country? Clearly not. Firstly, because our rainfall is one of the highest in the country, and secondly, our proximity to the sea and our frequent gales make comparisons and generalizations difficult. To form any safe conclusions, a large number of stations throughout the country should be taken where samples of rain-water may be collected simultaneously over extended periods. By that means, especially if the samples were taken over the entire year, iso-saline lines could be drawn over a map of England. Pending

this more extended research, I have, with the assistance of the British Rainfall Organization, been able to obtain samples of the rain-water from 12 stations in different parts of the country, over two separate periods. Each station was provided with a bottle fitted with a small glass funnel and having a wire surrounding the rim of the funnel about  $2\frac{1}{2}$  in. from it, a device which, by affording a separate perch for birds, is most effective in preventing them from fouling the sample.

Before recording my results I should allude to previous work done on this subject. The first to make detailed analysis of rain-water was Dr. Angus Smith, who in his work on "Air and Rain" in 1871 gave many results of analyses made in different parts of the country but mainly in towns. Simultaneous tests in different places he does not seem to have made, but confined his attention chiefly to the air of towns.

Mr. Watson, of Braystones, near Whitehaven, made some determinations in 1876, in which he showed that the amount of salt in rain-water differed considerably in different months. He also showed that rain-water collected 50 yards from the sea contained six times as much salt as a sample taken over the same period 1 mile from the sea.

At Rothamsted, samples throughout the year have been taken and tested, with the result that the rain in the winter is shown to contain twice as much salt as in the summer. The Advisory Committee on Atmospheric Pollution in connection with the Meteorological Office have undertaken exhaustive experiments on the air of towns from 1914 onwards, and its annual reports are most valuable contributions to meteorological science so far as the air of large towns is concerned.

I now give the results of my tests up to date.

The interest and importance of these figures are readily apparent. They show how steadily in country places the salinity of the rain falls from the coast inland. They also show that rain caught in towns like Manchester and London does not follow this order but is erratic in its composition, being usually much greater in salinity than that caught in country places, on account of the salt in smoke from chimneys. In London during the months October to December, 1920, the rainfall was almost always accompanied by high winds, which would cause the atmosphere to approach more nearly that of the country in composition, hence the comparatively low result in salt. During March to May, 1921, on the other hand, the absence of wind would tend to prevent the dilution of the London air with that from the surrounding districts, hence the greater quantity of salt in the rain.

Taking the country places only it will be noticed how much more salt was present in the rain-water in the first than in the second period. The maximum of 199 parts per million at Maryport fell to only 32·5 parts in the second period, with a less proportionate fall at Cockermouth,  $6\frac{1}{2}$  miles from the coast, and a still less one at Penrith, 29 miles inland. Generally speaking, it will be seen that the fall is proportionately less

*Results of Tests of Salinity in Rainfall during October–December, 1920,  
and March–May, 1921.*

| Station.                            | Distance<br>from Sea. | Rainfall in inches. |                   | Salinity in parts<br>NaCl per<br>million. |                   | Lbs. of Salt<br>per acre. |                   |
|-------------------------------------|-----------------------|---------------------|-------------------|---|-------------------|---------------------------|-------------------|
|                                     |                       | Oct.-Dec.<br>1920.  | Mar.-May<br>1921. | Oct.-Dec.<br>1920.                        | Mar.-May<br>1921. | Oct.-Dec.<br>1920.        | Mar.-May<br>1921. |
| 1st Chain of Stations—              |                       |                     |                   |   |                   |                           |                   |
| Maryport .. ..                      | On shore              | 8.51                | 8.58              | 199.0                                     | 32.5              | 378                       | 62.4              |
| Cockermouth .. ..                   | 6½ miles              | 7.41                | 9.39              | 37.0                                      | 8.0               | 61                        | 16.8              |
| Dungeon Ghyll .. ..                 | 16 „                  | 24.21               | 31.50             | 15.0                                      | Spoilt            | 81                        | —                 |
| Penrith .. ..                       | 29 „                  | 7.95                | 5.97              | 17.5                                      | 9.5               | 31.1                      | 12.7              |
| Piercebridge, nr. Darlington        | 22 „                  | 5.70                | 2.80              | 18.5                                      | 6.0               | 23.5                      | 3.8               |
| 2nd Chain of Stations—              |                       |                     |                   |   |                   |                           |                   |
| Seaford .. ..                       | 1½ „                  | 6.65                | 3.76              | 36.0                                      | 23.5              | 53.0                      | 19.8              |
| Lewes .. ..                         | 6 „                   | 9.16                | —                 | 21.0                                      | —                 | 43.0                      | —                 |
| Purley .. ..                        | 35 „                  | 5.04                | 4.56              | 14.0                                      | 10.5              | 16.0                      | 10.7              |
| London .. ..                        | 50 „                  | 4.57                | 3.51              | 10.5                                      | 34.0              | 13.0                      | 26.6              |
| Aspley Guise, Woburn ..             | 72 „                  | 4.10                | 3.72              | —   | 10.0              | —                         | 8.3               |
| Ryton-on-Dunsmore, near<br>Coventry | 100 „                 | 5.76                | 4.29              | 5.5                                       | 5.0               | 7.0                       | 4.8               |
| 3rd Chain of Stations—              |                       |                     |                   |   |                   |                           |                   |
| Manchester .. ..                    | 33 „                  | 5.51                | —                 | 27.0                                      | —                 | 32.0                      | —                 |
| Ackworth, near Pontefract           | 53 „                  | 5.25                | 3.38              | 10.5                                      | 6.0               | 12.3                      | 4.5               |

The salt in the dust which at Cockermouth amounts to nearly 1 lb. per acre in 3 months is of course included in the above figures.

the farther we get from the coast until we reach Ryton-on-Dunsmore, near Coventry, where the fall is only from 5½ to 5 parts per million.

The record is unfortunately incomplete in the second period. The observer at Lewes left the district and another was chosen at Aspley Guise, in Bedfordshire. I regret also that the sample taken at Dungeon Ghyll, with its abnormally high rainfall, was spoilt in the second period, and that the bottle from Manchester was broken in transit.

It is also unfortunate that the rainfall on both occasions was considerably below the average. The two extreme values are 199 at Maryport, on the coast, and 5 at Ryton-on-Dunsmore, in the centre of the country. It would be very interesting to have samples taken in country places at considerable distances from the sea over the continent of Europe.

If we take the whole country of England and Wales I think we may assume the average content of salt in the rain to be 8 parts per million, the average rainfall being 35 in. This means that about 1,000,000 tons of salt are annually transferred from the sea to the land and retransferred to the sea by the rivers. The knowledge of this fact is of great, though perhaps academic, interest, but there are two matters of technical importance connected with this investigation. (1) The

agriculturalist knows that many of his crops require for their sustenance a certain proportion of salt in the soil. Near the sea he knows there is no want, but that it is otherwise with inland areas. Now from these figures we may assume that rain near the sea contains 20 parts of salt per million whilst that in the centre of the country has only 5 parts. So to bring, say, land in Warwickshire to the same composition in regard to salt as land near the sea coast, assuming that the average rainfall in both places is 32 in., about 1 cwt. of salt is required per acre per annum. At first, owing to the great lack in previous years which would have to be made good, probably more than this quantity would be required, but later on less than 1 cwt. would suffice if applied at the most suitable time of the year.

(2) The other matter of technical interest is connected with water analysis. Every analyst knows that for determining the purity of potable waters, a knowledge of their contents of chlorine is of the greatest importance as this is so much affected by the presence of animal refuse. These investigations show to what extent distance from the sea will be likely also to affect it, a water with 15 parts per million of salt in Cockermouth,  $6\frac{1}{2}$  miles from the sea, being quite as safe as one with only 5 parts per million in Warwickshire.

I have said perhaps enough to arouse an interest in the subject which might well be worth pursuing much further so that the country could be mapped with iso-saline lines.

I would like to express my gratitude to the following lady and gentlemen for their assistance in this work :—

Miss Marshall, of Ambleside.  
 Mr. Herbert Lester, of Penrith.  
 Mr. J. H. Pease, Piercebridge, Darlington.  
 Mr. J. F. Thomas, Bowden House School, Seaford.  
 Sir F. A. Bosanquet, Lewes.  
 Mr. J. E. Clark, Purley.  
 Mr. E. J. Hobbs, Woburn Experimental Farm.  
 Mr. Chas. Browett, Ryton-on-Dunsmore, Coventry.  
 Dr. J. Niven, of Manchester.  
 Mr. J. R. Bibby, Ackworth, near Pontefract.  
 Messrs. Salter and Glasspoole, of the Meteorological Office, London.

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## THE NIPHER RAIN GAUGE SHIELD.

By M. DE CARLE S. SALTER.

In *British Rainfall* 1919, (pp. 263–268), we called attention to the need for the exercise of care in selecting sites for rain gauges, and to the risk of considerable error in the records obtained from gauges exposed in a faulty manner. The principal types of error from this source may be briefly summed up under the two heads (*a*) over-shelter and (*b*) over-exposure.

In this country, for reasons which it is difficult to understand, whilst great emphasis has been laid upon (*a*), the much more troublesome evils of (*b*) have been largely ignored. The errors in registration liable to be caused by over-sheltering a rain gauge are fairly obvious, but those brought about by over-exposure are more difficult to diagnose and more liable to be overlooked. Close study of rainfall records, especially of those made in mountainous districts where the gauges are exposed to the full force of the wind and where snow is frequent, provides convincing proof that under such circumstances a rain gauge fails to collect the whole of the precipitation which takes place in its vicinity. The amount of the loss which occurs varies widely, and all the eminent meteorologists who have investigated the subject have arrived at the same conclusion, that the effect is produced by the play of wind-eddies about the body of the gauge. The factors which determine the extent of the error are several: (1) the degree of exposure to wind, more particularly to the prevailing rain-bearing wind of the district; (ii) the height of the gauge above ground [this is in reality included under (i)]; (iii) the nature of the ground in the vicinity of the gauge; [the great importance of (iii) lies in the fact that the formation of wind-eddies is greatly influenced by the contour of the ground]; (iv) the season of year; (v) the prevalence of snow; (vi) the pattern of rain gauge used.

Apart from (ii) and (vi), which can be standardized, the whole may be regarded as depending upon a single principle, *viz.*, that the exposure of the gauge, as determined both by general and local conditions, shall be such that the play of the wind around it shall be reduced to a minimum, short, of course, of the actual interception of rain.

In striving to give effect to this principle we have always urged that rain gauges should be placed on level ground removed from any land sloping downwards away from the gauge, such as a hillside, bank, or terrace.

If the district is generally windy it is a good plan to place the gauge in a slight hollow where the wind will be naturally checked; and, if possible, a natural wind screen, such as slightly rising land, a hedge, or

a belt of trees, should surround the station, or at any rate shelter it on the side of the prevailing wind. In the absence of natural shelter it is possible to make use of buildings for this purpose.

When the above conditions are satisfied no fear need be felt that appreciable errors in rainfall records will arise from over-exposure, but it is obvious that circumstances may render the ideal impossible of attainment. There are certain districts, such as open wind-swept moorlands or the bare slopes of hills, which offer no rain gauge sites even approximating to the conditions laid down above, and the absence of any facilities for obtaining natural shelter occur only too frequently precisely in the districts where the necessity for shelter is greatest.

The problem presented by this fact is one which has long engaged the attention of meteorologists, and although, as has been remarked already, it has been curiously neglected in this country, some of the earliest work on the subject was British, and the first recorded attempt to design a rain gauge shield for reducing the play of wind was that of Thomas Stevenson, the Scottish lighthouse engineer, in 1842. Stevenson's shield appears, however, not to have been used.

Prof. Henry in 1853, or possibly earlier, recommended to the Smithsonian Institution, Washington, U.S.A., the use of a simple cylindrical rain gauge, near the mouth of which was soldered a collar consisting of a horizontal sheet of metal "like the rim of an inverted hat." This was intended for the purpose of diverting wind-eddies, and comparative observations are said to have been made with gauges thus protected, but no details are available.

In 1878 Prof. F. E. Nipher, of St. Louis, published a description of his shield. This consisted of a trumpet-shaped screen so constructed as to deflect the wind downwards instead of allowing it to sweep up over the mouth of the gauge. The following description\* is given by Prof. Nipher :—

"Six inches from the lower end of the cylindrical rain gauge a false bottom is placed, and the cylinder is set over a turned post for support. Around this gauge a trumpet-shaped shield is placed with the mouth or flaring part opening upwards. The shield is furnished with a clamp screw at the bottom, and is braced near the top by metal strips, set with their edges up, and reaching from the shield to a sliding collar which encircles the gauge. By this means the shield can be set at any desired altitude on the gauge. The upper part of the shield terminates in a horizontal annulus of copper wire cloth. All splashing is avoided, as all drops fall through the cloth, and in order that this may be secured the wire must be small (No. 20 B.W.G.), the meshes running about eight to the inch."

Nipher's shield, it will be observed, was designed for use with elevated gauges, and in fact the immediate purpose of his investigation was to

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\* *Proc. Amer. Assoc. Adv. Sci.*, 1878, p. 106.

[The first batch of copies of Nipher's paper consigned to England appears never to have arrived, owing to the loss of a mail boat, and it was probably on this account that very little notice was taken at the time by British meteorologists of his valuable researches.]



improve roof-sites by elevating the gauges beyond the influence of the wind-eddies. It was found that if this was not done the results, even with the shield, were irregular on the roof itself. As an example of the efficiency of the shield, Nipher quotes the results of some experiments during which an unshielded gauge was exposed on a pole 18 ft. above the roof of a tower 100 ft. high. The loss in catch was found to vary from 10 to 50 per cent. A shield was then placed round the gauge raised to  $3\frac{1}{4}$  in. above the top of the funnel with special precautions against insplashing, and the amounts recorded were then found to agree with those of an unshielded ground gauge.

Simultaneously with Nipher's work Dr. F. Wild, of the Russian Meteorological Service, was experimenting at St. Petersburg. After studying with great care the results obtained in England under Mr. Symons's supervision, by Col. Ward, Rev. C. H. Griffiths, Mr. Chrimes, Rev. F. W. Stow, and others, Dr. Wild determined to repeat much of their work, with a view to obtaining information as to the conditions in a climate where snow and high wind velocities were the rule rather than the exception. Finding that the losses were proportionately greater than in England, he turned his attention to protectional devices, and designed a gauge within the funnel of which cross-partitions were fixed with a view to preventing wind-eddies within the funnel. This plan was later tried by Hellmann in Germany, and between 1892 and 1896 one of Hellmann's cross-partitioned gauges was observed at Camden Square, London, in comparison with another similar gauge not so fitted. The site was too sheltered for the results to have any significance, but in Russia they were fairly satisfactory.\*

A pit gauge, similar to that used by Buchan† some years before, was also tried by Wild, but, although very efficacious in reducing wind-eddy, it was found to be impossible to prevent choking by snow. He therefore turned his attention to the Nipher shield, which he

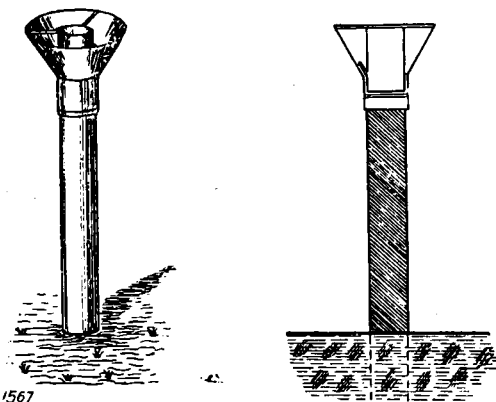


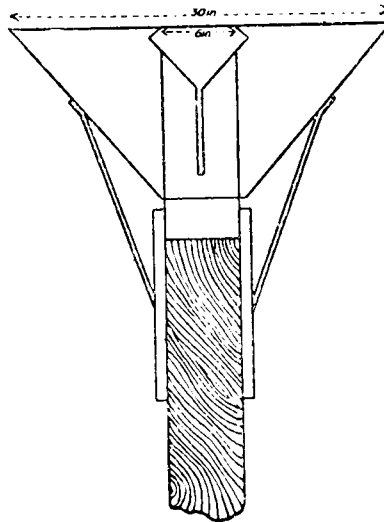
FIG. 1.—Wild's improved Nipher rain gauge shield.

\* See *British Rainfall*, 1885, p. 20.

† See *Journ. Scot. Met. Soc.*, vol. 4, p. 146.

improved, and after a careful investigation expressed his satisfaction and gave instructions that a large number of the official stations organized by the Central Physical Observatory at St. Petersburg should be equipped with them. For very open situations Dr. Wild expressed a preference for a simple fence enclosure, the prototype of the turf-wall now used as a wind-screen at some moorland stations in this country.

Further investigations of the Nipher shield were carried out by Prof. R. Börnstein at Berlin in comparison with various other types of screen, and his and Wild's advocacy of the shield probably led to its adoption by the Norwegian Meteorological Service, where it has been widely used. The Norwegian pattern is very much wider than the original shield, entirely overcoming the risk of insplashing, so that wire netting is no longer necessary.



Nipher Shield.  
Norwegian Pattern.

1568.

FIG. 2.

In all the early forms of Nipher shield, including that still used in Norway, the initial difficulty of snow blocking remained unsolved. The first attempt to overcome this difficulty appears to have been made in a Nipher shield used for a time at Kew Observatory, Richmond. This was established in 1888, and the lower part of the shield was left open to allow snow to pass through. It is not clear to whom this innovation is due. In 1910, R. Billwiller, of Zurich, designed a new model for use in Switzerland in which special attention was devoted to this point. The following is a translation from Mr. Billwiller's description.\*

\* A new model of protected rain gauge (altered Nipher funnel) by R. Billwiller, jun., Zurich, *Meteor-Zeitsch.*, 27, 1910, p. 193.

The method adopted by Nipher for protecting the rain gauge against the wind consists of a conical funnel enclosing the real gauge, with the narrow end downwards round the bottom end of the gauge, and the upper broad edge at the same or a slightly higher level than the top of the gauge. The object of this is to lead downwards the winds impinging on the gauge so that they do not blow across its mouth with increased velocity, but only with the same velocity as in the surroundings. But with a heavy snowfall the protecting funnel soon fills up and then becomes useless. This could be avoided by a heating apparatus, which, however, is not practicable in a mountain station.

The filling up with snow can also be avoided by not making the bottom of the protecting funnel continuous with the bottom of the rain gauge, but letting it stand some distance away so that the snow can fall through. This was done in a new model constructed by the Central Institute (Zurich). In order to withstand the pressure of strong winds on the considerable surface of the funnel, it is made of strong galvanised sheet iron, and is 50 centimetres high and 70 centimetres across its upper diameter. It ends in a cylindrical part of 10 centimetres height and 46 centimetres diameter. By an upper and a lower pair of eyes it is held to two iron posts; the iron band which joins the lower pair goes right under the funnel and bears in the middle a horizontal plate on which the gauge proper stands. The latter is also held in the upper part of the funnel by an iron ring. In Switzerland the Hellmann model (200 square centimetres surface) is used, but it is deepened and simplified, the collecting funnel and flask being abolished, so that it is made of a single-piece cylinder 48 centimetres high and 16 centimetres in diameter with the funnel 15 centimetres away from it at the bottom.

The funnel and gauge are fixed to the iron posts in such a way that they can be moved to keep them at a uniform height above the winter snow covering; they are therefore not soldered, but riveted; further, the interior of the funnel must give as little surface as possible for snow to collect.

For testing the gauge St. Gothard was chosen. The model proved serviceable, and snow and ice did not collect in the funnel.

*Results.*—A was the old gauge, B was another ordinary gauge on the south side of the hospice and sheltered by it from the powerful north wind. C was a protected gauge apparently situated immediately beside A. The following are the records for two years:—

|                       |      |    | A.   |       | B.   |       | C.   |       |
|-----------------------|------|----|------|-------|------|-------|------|-------|
|                       |      |    | mm.  | in.   | mm.  | in.   | mm.  | in.   |
| Rainfall              | 1908 | .. | 518  | 20.39 | 664  | 26.14 | 658  | 25.90 |
| "                     | 1909 | .. | 729  | 28.70 | 843  | 33.19 | 843  | 33.19 |
| Snowfall              | 1908 | .. | 570  | 22.44 | 865  | 34.06 | 1045 | 41.14 |
| "                     | 1909 | .. | 742  | 29.21 | 935  | 36.81 | 1179 | 46.41 |
| Total precipitation : |      |    |      |       |      |       |      |       |
|                       | 1908 | .. | 1088 | 42.83 | 1529 | 60.20 | 1703 | 67.04 |
|                       | 1909 | .. | 1471 | 57.91 | 1178 | 70.00 | 2002 | 79.60 |

The following special cases are of interest:—

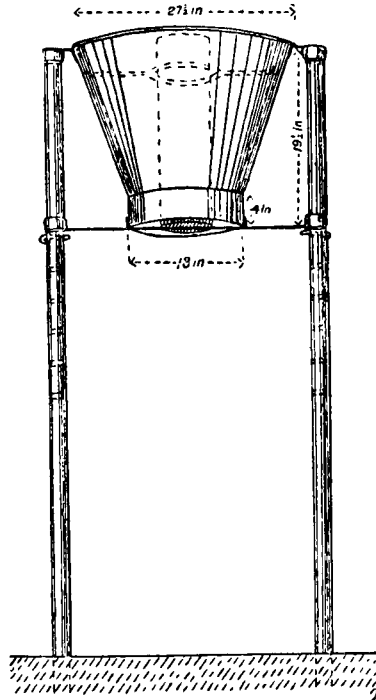
|             |           |      | Wind<br>and<br>force. | A.  |     | B.   |     | C.   |      |
|-------------|-----------|------|-----------------------|-----|-----|------|-----|------|------|
|             |           |      | mm.                   | in. | mm. | in.  | mm. | in.  |      |
| Snowfall of | April, 25 | 1908 | SE 4                  | 3.4 | .13 | 10.1 | .39 | 26.2 | 1.03 |
| „           | Nov., 24  | 1908 | NE 5-6                | 3.7 | .15 | 9.5  | .37 | 18.8 | .74  |
| „           | Feb., 2   | 1909 | NE 6                  | 2.5 | .10 | 5.1  | .20 | 18.2 | .72  |

On the other hand:—

|             |          |      |     |      |      |      |      |      |      |
|-------------|----------|------|-----|------|------|------|------|------|------|
| Snowfall of | Aug., 23 | 1909 | N 1 | 64.2 | 2.53 | 63.4 | 2.49 | 66.1 | 2.60 |
|-------------|----------|------|-----|------|------|------|------|------|------|

It is concluded that the use of the ordinary free rain gauge, especially at open stations, is not advisable.

Experiments with one of Billwiller's Nipher shields are at present being carried out at Southport, and on Barton Moss near Downholland, by Mr. J. Baxendell. These investigations are not yet complete, but so far as they have been carried they have given satisfactory results.



Billwillers design for Nipher Rain-gauge shield.

1569

FIG. 3.

The precautions against burial by snow so necessary in Switzerland are superfluous in most parts of England. The method of exposure on poles is in many respects unsatisfactory. Unless braced in a very elaborate manner the whole apparatus may be tilted or even blown over by strong wind, and any sufficient precautions against such a contingency would be costly. The instinctive objection which British observers have (from long-established custom) to the exposure of the gauge at  $1\frac{1}{2}$  metres above ground has possibly less force than might at first appear, judging by Nipher's results, but on general principles it is certainly better to adhere to our well-established rule of exposure close to the ground. It should be borne in mind that a gauge the lower part of which is not buried in the ground is exposed to great fluctuations of temperature. In full sunshine it will inevitably become heated and unless careful insulation is provided the contents will tend to

evaporate. In the winter, on the other hand, especially at night, an exposed gauge will freeze and may burst. Even if the joints do not actually give it is very undesirable for the water in a gauge to freeze, since this gives great trouble to the observer and may make observations in some circumstances impossible.

Bearing in mind the objections to earlier designs, an attempt has recently been made to embody the combined experience of the various investigators in a new design which it is hoped will obviate the need of exposing the gauge at a considerable elevation and will enable it to be placed, in accordance with the established British custom, with its lower part buried in the ground.

The principal points which it is necessary to bear in mind are :—

- (i) The avoidance of insplashing.
- (ii) Provision for preventing accumulation of snow in the shield.
- (iii) Care to avoid intercepting any rain.
- (iv) The desirability of burying the lower part of the gauge in the ground.

The most effective manner of avoiding insplashing appears to be that adopted in Norway, viz., to make the funnel of the shield considerably wider than that of the gauge. If this is found not to give sufficient protection fine-meshed wire netting over the inner side of the shield would give additional security, but this is undesirable as it gives an excellent foothold to snow, and adds to the cost of the instrument.

Billwiller's method of opening the funnel to allow snow to fall through is clearly the right one, but it cannot be accepted without care in modifying his design. In the first place, in order to get the required clearance from the ground it is necessary to increase the angle which the side of the shield makes with the vertical till it reverts to the Norwegian pattern in this respect. It remains to be seen whether this gives sufficient slope to ensure that snow will not settle in it. In the second place, we are introducing a factor which did not arise in the former

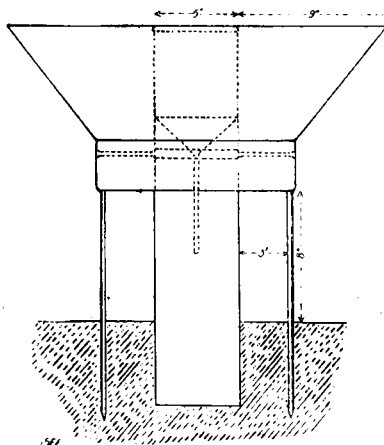


FIG. 4.—Experimental Design for Improved Nipher Shield.

pattern, viz., the body of the gauge passing through the aperture. Trial alone can show whether this is objectionable. The risk of setting up a chimney effect, giving a draught of air within the shield, is, of course, a consideration of paramount importance, since it is precisely for the purpose of preventing wind blowing upwards around the gauge that the shield is introduced at all. It is probable that several experiments may be necessary before the most suitable dimensions are hit upon, but for trial purposes these have been tentatively fixed as follows, as designed for use with a 5-in. rain gauge—

|  | Inches. |
|--|---------|
| Diameter of open mouth of shield .. .. .                   | 23      |
| Height of top above ground level .. .. .                   | 18*     |
| Vertical depth of open part of shield .. .. .              | 7       |
| Vertical depth of collar .. .. .                           | 3       |
| Clearance of collar above ground .. .. .                   | 8*      |
| Diameter of collar .. .. .                                 | 11      |
| Width of annular space between collar and body of gauge .. | 3       |

The shield is supported by three or four stout iron angular legs driven well into the ground, and is attached to the gauge by an adjustable ring connected by struts to the collar, and fitting over the lower can of the gauge just below the point reached by the outer casing of the funnel when in position.

It has been found to be impossible to avoid raising the top of the gauge slightly above the standard height of 1 ft., in order to give sufficient clearance for snow. The shield, if adopted in the shape proposed, will probably be used principally for monthly gauges, in which the receiving can is of sufficient length to ensure a considerable portion being sunk into the ground.

Arrangements have been made for a preliminary series of tests to be carried out at Eskdalemuir Observatory, Dumfriesshire, where protected and unprotected gauges are being placed side by side on an open wind-swept moorland site.

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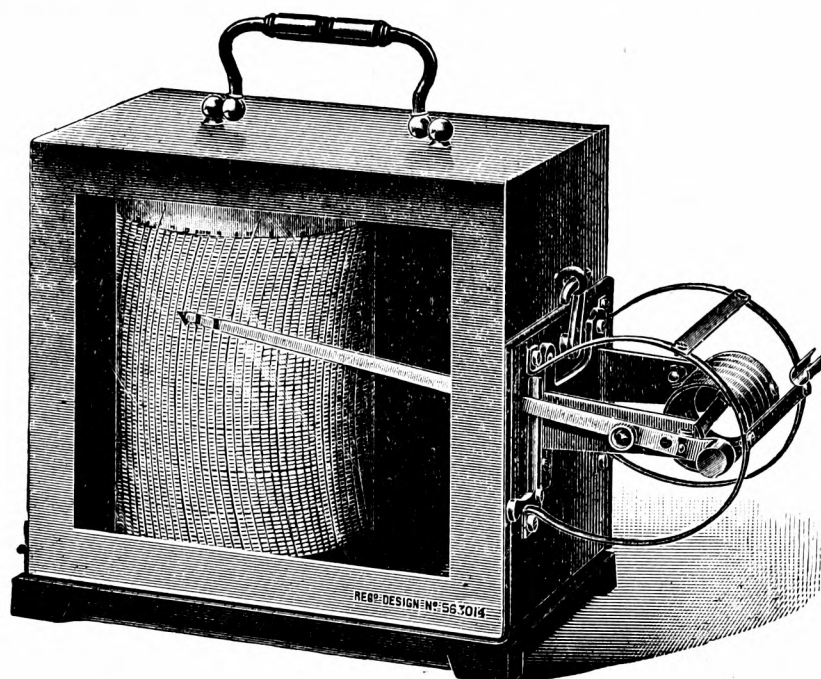
\* These dimensions could be reduced a little in districts not subject to heavy snow.







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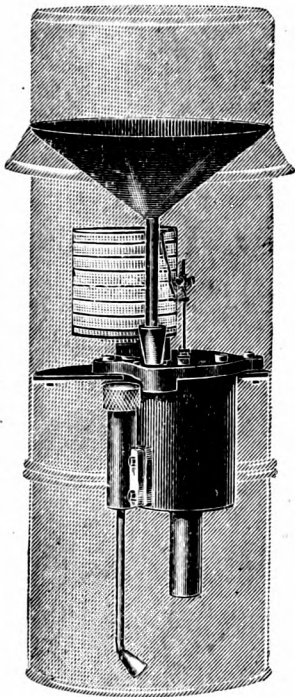
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