THE RAINFALL OF IRELAND.^a

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IN order to determine the true mean annual rainfall of any region it is necessary to have uniform, continuous, and prolonged observations at a large number of well-distributed stations.

It is now possible for the first time to give a fairly satisfactory account of Irish rainfall, though the observing stations at work are only one for every 170 square miles as compared with one for every 20 square miles in England. The number of stations in Ireland has increased from 83 in 1874 to 190 in 1901, an increase of 140 per cent. ; while the number of stations in England and Wales increased only by 120 per cent., and in Scotland only by 32 per cent., in the same period. In 1874 there was not a single record of rainfall from the Counties of Clare, Kildare, Leitrim, Limerick, Longford, or Monaghan ; now there is at least one rain record from every county. The number of stations is still far too small, especially in Connaught ; and after the stimulus of the British Association in Belfast produced its effect in 1875 the number in Ulster has ceased to grow.

Province	No. of Rain Stations in 1874	No. in 1875	No. in 1901
Ulster	30	55	56
Connaught . . .	10	15	22
Leinster - . . .	26	31	62
Munster	17	28	50
Ireland	83	129	190

While 1,400 additional stations would be necessary to place Ireland on the same footing as an equal area of England, only 185 additional observers are required to give the same number of rain-gauges per thousand of population.

Perfect records for the ten years 1890-99 exist for 108 stations in Ireland, and by computation thirty-one additional records can

^a Read in Section G of the British Association for the Advancement of Science at the meeting held in Belfast, 1902.

be made available. Of these, twenty records are perfect for the thirty years 1870–99, and fifty-seven records of somewhat shorter duration can be computed with reasonable accuracy. The distribution is not satisfactory, the western half of the country and all the mountainous districts being very poorly represented. Maps have been constructed, however, which give a better representation of Irish rainfall than anything previously compiled.

The map for the thirty years 1870–99 may be taken as showing the true mean fall so far as the limited number of stations makes it possible to do so. There are only three small areas with a fall exceeding 50 inches per annum in the west of Kerry, of Mayo and Galway, and of Donegal respectively. Possibly some parts of the eastern mountains may also have a fall exceeding 50 inches. More than 40 inches falls over the whole of Ireland west of the Foyle and the Shannon, and to the west and south of a line drawn from Limerick through Mallow to Clonmel, whence a narrow belt, equally wet, runs north-eastward through the Counties of Waterford, Wexford, and Wicklow. Two small areas with more than 40 inches occur in the mountains of the south-east of Co. Down and the east of Co. Antrim. All the rest of Ireland has between 30 and 40 inches of rain, except parts of Co. Dublin and Co. Meath, where the fall averages a little less than 30 inches. The following table gives a rough approximation to the areas of the different zones of rainfall :—

Under 30 inches (average 29 in.)	.	.	700 square miles.
From 30 to 40 inches (average 35·5 in.)	.	13,200	„
From 40 to 50 inches (average 44 in.)	.	13,50	„
Above 50 inches average 60 in.)	.	5,200	„
Ireland	.	.	32,600

This gives an average of 42 inches for the whole country—a figure which, although by no means certain, is probably not very far from the truth.

The variations of rainfall in Ireland are less than those in England. Thus for the ten years 1890–99 the rainfall over Ireland was only 2 per cent. below the thirty years' average ; that over England and Wales showed a deficiency of 7 per cent.^a The average rainfall of the ten years was practically the same as that of the thirty years in Central Ireland, a trifle above the average in the north-west, and a little below the average round the north, east, and south coasts.

^a See *British Rainfall*, 1901, p. 24.

It is to be hoped that existing rainfall stations will be kept up and new ones established in all parts of the country, so that there may be a basis for the accurate measurement of the average quantity of water available for inland navigation, town supply and for power.

Rainfall Averages for Thirty Years, 1870-99.

Place	1870-79	1880-89	1890-99	1870-99
	in.	in.	in.	in.
Portlaw, Mayfield, Co. Waterford	41·65	43·31	42·18	42·38
Glenam, Clonmel „ .	43·47	42·15	40·89	42·17
New Ross, Longraigue, Co. Wexford	43·57	39·29	38·75	40·54
Enniscorthy, Ballyhyland „ .	44·36	42·80	41·45	42·87
Gorey, Courtown House „ .	38·14	35·39	33·62	35·72
Inistioge, Woodstock, Co. Kilkenny	46·64	41·67	38·50	42·27
Bray, Fassaroe, Co. Wicklow .	38·70	43·28	39·68	40·55
Carlow, Browne's Hill, Co. Carlow .	36·09	33·59	33·65	34·44
Dublin, Fitzwilliam-square, Dublin	28·47	27·47	27·30	27·75
Athlone, Twyford, Co. Westmeath	40·47	38·97	35·83	38·42
Ballinasloe, Co. Galway . . .	38·89	35·66	36·58	37·04
Tuam, Gardenfield (6 ft), Co. Galway	38·43	42·76	41·85	41·01
Belturbet, Redhills, Co. Cavan .	36·57	34·57	34·42	35·19
Armagh Observatory, Co. Armagh	30·95	32·16	30·97	31·36
Seaforde, Co. Down . . .	41·67	37·89	36·27	38·61
Banbridge, Milltown, Co. Down .	32·75	31·44	30·23	31·47
Waringstown „ .	34·03	33·02	34·14	33·73
Belfast, Queen's College, Co. Antrim	34·92	32·77	32·00	33·23
„ Antrim-road „	33·86	34·57	35·28	34·57
Omagh, Edenfel, Co. Tyrone .	37·25	36·63	39·66	37·85