

SUMMARY OF OBSERVATIONS.

SEPTEMBER, 1903.

General Summary.—The early part of the month was extremely changeable, with heavy rain in nearly all districts, the unsettled weather culminating on the 10th in a Westerly gale of unusual severity which swept over the entire Southern half of the Kingdom, and occasioned much damage both on land and sea. As this disturbance passed away, a short spell of cold Northerly and North-westerly winds set in, with night frosts in many parts of the Kingdom. Later on the weather, in all but the extreme western districts, improved very materially; much fog prevailed, however, on the British coasts between the 23rd and 26th. Pressure was below the average in Ireland, but above it in Great Britain; temperature varied greatly, some places showing an excess and others a defect as compared with the normal; the winds were variable over England, but chiefly Southerly in Ireland and Scotland; rainfall was in excess of the average excepting in the north and east of Scotland; bright sunshine also showed an excess in most places.

Pressure.—*Mean at 8 a.m.* ranged from between 30·00 ins. and 30·05 ins. over nearly the whole of England to 29·88 ins. and less on the west coasts of Ireland and Scotland generally, and to about 29·84 ins. at Blacksod Point. The general distribution over our islands differed considerably from the normal, the slight gradient for Westerly and South-westerly winds, usually present in September, being replaced by a decided southerly gradient over Ireland and Scotland, and by an anticyclonic trend of the isobars over England. Over Great Britain the mean values were above the average,* but in Ireland a slight deficiency was shown. *Highest* readings were recorded on the 15th, when the barometer rose to 30·55 ins. or slightly above at most of the western and northern stations, and to 30·4 ins. and upwards in all other parts of the Kingdom. *Lowest* readings were registered over the country generally during the passage of the deep depression of the 10th, when the barometer fell to 28·78 ins. at Yarmouth, to 28·9 ins. or less over the northern parts of England and Wales generally, and to 29·3 ins. or less in most other parts of the United Kingdom. *Range* was somewhat large over England, but slight in Ireland and Scotland.

Depressions were far less numerous than in August. They moved in various directions, as will be seen by Map 2, Pl. IX. and were, as a rule, of little intensity. An important exception occurred on the 10th, when the centre of a depression of gradually increasing intensity moved eastwards directly across Ireland and England, and produced very steep gradients for Westerly (South-westerly to North-westerly) winds over the entire southern half of the Kingdom; as it travelled away from our shores this system gradually filled up, and on the 12th it appears to have dispersed over the Baltic. During the closing days of the month a series of disturbances travelled outside our western coasts in the direction shown approximately by the arrow A on Map 2.

Anticyclones.—Two such systems were observed. The first spread over the southern parts of the Kingdom from the south-westward on the 6th, but receded in a similar direction after the 8th. The second came in from the Atlantic on the 13th, its central portion being directly over these islands on the 14th and 15th. The system afterwards moved north-eastwards to Scandinavia and Northern Russia, in which position it remained until the 22nd, when it drifted slowly southwards across central Europe. The borders of this system continued to extend over our own northern and eastern coasts until the 20th, after which the whole Kingdom came under the influence of a large cyclonic area which spread in from the south-westward.

Winds.—Over England these showed great variability, but in Ireland and Scotland they were usually from some Southerly quarter (South-east to South-west). Gales were rather numerous on the Irish coasts, the number of days affected being as large as 13 at Blacksod Point and 11 at Valencia. Over Great Britain they were less frequent, some of the northern stations entirely escaping. The gale which blew from between South-west and North-west over all the more southern parts of the Kingdom between the 10th and 11th was of exceptional severity.

Temperature.—*Mean at sea level* ranged from 60° at Jersey, and above 58° at a number of stations in the southern counties of England, and also at Killarney, to below 54° in the north-east of England and in most parts of Scotland, Sumburgh Head being below 51°. The general distribution was in fair agreement with the normal over the southern half of the Kingdom, but in the north it differed appreciably. The mean values differed very irregularly from the average,* but in most cases the departure from the normal did not amount to more than a degree. *Highest* readings were recorded either in the opening days of the month, or about a week from the close. Several places in the south-eastern quarter of England registered 80° and upwards, to 84° in London and at Hillington, and to 85° at Cambridge. In Scotland, Leith and Glencarron touched 70° and Lairg 72°; while in Ireland, Waterford rose to 68°, and Killarney and Valencia to 69°. *Lowest* readings were observed in most cases about the middle of the period, the great majority of the minima being under 40°. Braemar registered 27°, Dublin (Phoenix Park) 29°, Alnwick, Cally and Nairn 31°, and Lairg, Durham, Hereford, Cullompton and Kilkenny 32°. Jersey did not pass lower than 45°, and Guernsey and Scilly 47°. *Range* was moderate,—generally between 30° and 40°, but at Bramley it was 49° and Hillington 48°, against 21° at Sumburgh Head, Malin Head, and Pembroke, and 19° at Scilly. *Vapour Tension* ranged from 0·32 in. at Nairn and Sumburgh Head, and below 0·34 in. all over Scotland to above 0·40 in. over the extreme south of England, and 0·42 in. at Dungeness. *Relative Humidity* was more than usually uniform, ranging from 85 to 89 per cent. in most parts of the country, but was only 80 per cent. at Yarmouth and 81 per cent. at Blacksod Point and Valencia.

Rainfall was rather variable in amount over the country generally. Over the north and east of Scotland the aggregates were mostly below the average,* while the majority of stations in other districts returned an excess. At Glencarron there was a deficiency of 2·3 ins., and at Cheadle an excess of 3 ins. The largest totals were 6·95 ins. at Valencia, 6·6 ins. at Fort William, 6·3 ins. at Blacksod, and 6·1 ins. at Cheadle; the smallest being 1·6 in. at Nairn, 1·5 in. at Oxford and Clacton-on-Sea, and 1·2 in. at Littlestone. There were numerous instances of falls exceeding an inch in 24 hours, the largest being 1·8 in. at Southport on the 10th and at Cheadle on the 24th, and 2·2 ins. at Ventnor on the 4th. At Cambridge there were only 11 rainy days, and in many localities they numbered 12 to 15, ranging upwards thence to 23 at Blacksod, Valencia and Scarborough, 24 at Wick, and 25 at Cromer. Very few falls of hail were reported.

Bright Sunshine was in excess of the average* except at a few of the more southern stations. At Stornoway the excess amounted to more than 2 hours per day. The percentage of the possible duration ranged from as much as 53 at Westbourne, 52 at Felixstowe and Clacton-on-Sea, and 49 at Bognor, to 29 at Edinburgh, 28 at Newcastle, and 25 at Fort Augustus.

* The averages employed are—*Pressure and Temperature* for the 30 years 1871-1900; *Rainfall* for the 35 years 1866-1900; and *Bright Sunshine* for the 20 years 1881-1900. See Appendix III. "Weekly Weather Report," 1901.