

SUMMARY OF OBSERVATIONS.

JULY, 1902.

General Summary.—During the early part of the month the weather was mostly fair in all but the extreme western and northern parts of the kingdom; thunderstorms were, however, experienced at several of the English stations on the 1st, and again on the 10th. After the middle of the period the conditions became very unsettled, and in the closing week rain was general, the amount on the 25th and 26th being large at many of the western and northern stations. The latter part of the month was also very cool, especially in the northern districts; on the 24th snow was seen on the hills around Braemar. Pressure was high, but temperature was below the normal; the winds were chiefly from the Westward; rainfall was less than the average in most districts, but showed an excess at several of our north-western stations; bright sunshine was rather deficient in all but the southern districts.

Pressure.—*Mean at 8 a.m.* ranged from 30·05 ins. and upwards in the extreme southern and south-western parts of the United Kingdom to 29·90 ins. and less in the north-east of Scotland, and to 29·85 ins. and less in the Shetlands. The mean values were above the average*; and as the excess was greatest in the western and least in the eastern districts, the gradient was in favour of winds from the northward, rather than from the southward, of West. *Highest* readings were recorded mostly on the 2nd or 3rd, when the barometer rose to 30·3 ins. and upwards in the south and south-east of England, and to 30·2 ins. and upwards in all other parts of the United Kingdom. In the western and northern districts, however, the readings were equally high on the 5th, while in the south-western districts they were again as high on the 11th. *Lowest* readings were recorded during the passage of a deep cyclonic system on the 26th, the barometer falling a little below 29·2 ins. over the Irish Sea, and below 29·4 ins. in all other localities excepting the south-east of England. *Range* agreed fairly with the normal for the time of year.

Depressions.—Very few depressions of note were observed in the immediate neighbourhood of our islands, the only important systems being those of the 9th—10th, and the 26th—28th. In the former case, the centre passed in an east-south-easterly direction across the north of Scotland, the disturbance being at first of moderate depth, but increasing considerably in intensity during its subsequent passage across the North Sea. The depression of the 26th—28th was of unusual depth for the month of July, and occasioned slight gales on many parts of our coasts, the centre in this instance moving north-eastwards directly over the United Kingdom, the North Sea, and Scandinavia. Throughout nearly the whole month the northern parts of the Continent were affected by low pressure areas which either formed in those regions, or which advanced from the northward or north-westward, their secondaries moving in some instances south-eastwards across Great Britain and the North Sea.

Anticyclones.—During the earlier half of the month several high pressure areas spread temporarily over our islands from the Atlantic, but in most instances the systems soon moved away to the southward and dispersed. Later on the conditions became cyclonic, and remained so until quite the close of the period, when another high pressure system extended over us from the westward. The anticyclones observed were in all cases of very moderate intensity.

Winds.—The prevailing winds were Westerly, inclining to the South-westward over England, but to the North-westward in Ireland and Scotland. Gales were rather numerous on our extreme north-west coasts; at Malin Head they occurred on as many as 7 days, and at Blacksod Point on 6 days. Elsewhere they were rare, few districts however escaping entirely the effects of the very strong cyclonic winds which occurred with the depression of the 26th—28th.

Temperature.—*Mean at sea level* ranged from 61° and upwards over a considerable portion of the south of England (in some few localities it exceeded 62°), and 59° and upwards in the south and south-east of Ireland, to 54° and less at most places in the north of Scotland, and to 50° and less in the Shetlands. In spite of small local irregularities, the general distribution over our islands was in fair agreement with the normal. The actual values were, however, in all cases, below the average*, the deficit being small in the southern, but large in the northern and north-western districts. *Highest* readings were observed on the 5th or 6th at some of the northern stations, but mostly between the 14th and 16th; on the latter dates the thermometer exceeded 80° in many parts of England, the highest readings reported being 87° in London, 86° at Cambridge, and 85° at Colly Weston, Bramley, and Southampton. *Lowest* readings were recorded at various times in the different districts, but mostly on the 2nd or 3rd, the 12th or 13th, or between the 21st and 26th; on each of these occasions the sheltered thermometer fell below 40° at several of our northern and central stations, slight frost being recorded in some places by the instruments exposed on the grass. *Range* was moderate in Ireland and Scotland, but large over the inland parts of England; at Loughborough, Geldeston, and Cirencester it amounted to 45°, and at Cambridge to 46°. *Vapour Pressure* was high on our southern coasts, where the values ranged between 0·40 in. and 0·44 in.; in the north and east of Scotland it was below 0·34 in., and in the Shetlands below 0·30 in., the difference between the pressure in the extreme northern and southern districts being unusually large. *Relative Humidity* varied from 92 per cent. at Malin Head, and between 85 and 90 per cent. on the west and south-west coasts of Great Britain to 75 per cent. or less in the east of Scotland and the eastern and central parts of England.

Rainfall was generally deficient, but, owing mainly to a heavy fall on the 25th, it was in excess of the average* in the north of Ireland and at some stations bordering on the Irish Sea. The largest aggregates reported were 4·6 ins. at Glencarron, 4·4 ins. at Cally (Gatehouse) and Armagh, and 4·2 ins. at Malin Head; the smallest being 0·6 in. at Oxford, 0·7 in. at Littlestone-on-Sea, and 0·8 in. at Cambridge and Dungeness. Heavy falls occurred in some parts of eastern and central England on the 1st, and in the south-western parts of the kingdom on the 19th. The largest daily amounts were, however, recorded on the 25th and 26th. On the former date more than an inch fell at several western stations, and amounts varying between 1·8 ins. and 2·4 ins. in the neighbourhood of Dublin; on the latter date more than an inch was measured at many places in the south of Scotland and the extreme northern parts of England and Ireland, the largest amount reported being 1·4 in. at Newcastle-on-Tyne.

Bright Sunshine differed but little from the average*, a trifling excess being shown at most of the southern stations, but a slight deficit elsewhere. The percentage of the possible duration ranged from 57 at Guernsey and Jersey, and 50 or slightly above it at several of the other English Channel stations, to only 20 at Edinburgh and Newcastle-on-Tyne, and to rather less than 20 in the north of Scotland.

* 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.