

SUMMARY OF OBSERVATIONS.

JULY, 1906.

General Summary.—The atmospheric conditions which prevailed over the British Isles during this month were, on the whole, of a quiet and seasonable character. Nearly all the disturbances which exerted any influence on our weather were situated out at sea beyond the western and northern coasts, and as a rule they were very shallow and resulted in no great force of wind. On the 19th, however, a more than usually deep cyclonic depression passed close to the Shetlands and occasioned fresh or strong Westerly gales at various places on our north-western and northern coasts. There was a great preponderance of fair to very fine, bright and dry weather, but, notwithstanding this, there was, in continuation of the same striking feature referred to in the report for the preceding month, a remarkable absence of very high shade temperatures. During the first three weeks there was a marked deficiency in the rainfall, while there was a considerable excess of bright sunshine, yet the mean air temperature of the period was distinctly below the normal in every district, the solar radiation temperatures at the same time being high, frequently exceeding 130° , in some instances exceeding 140° , Oundle touching 145° . The remainder of the month was considerably warmer. On various parts of the coasts, and especially the southern and western, there was a great deal of thick mist or fog, the latter at times exceedingly dense and interfering with navigation. Thunderstorms occurred in many localities on the 3rd, 6th, 11th, 12th, 27th and 31st. That of the 27th over the Midland and south-eastern counties brought heavy rains to several places. A very heavy rainstorm was experienced over the north-west of Scotland during the 17th and 18th, the two days' rain at Glencarron amounting to 4.4 ins., and at Fort William to 4.9 ins. For the month as a whole pressure was everywhere a little higher than usual; temperature was in defect over the greater part of the kingdom; the winds were mainly South-Westerly to Westerly and North-Westerly in direction, and as a rule of not much strength; rainfall was deficient in nearly all districts; and the duration of bright sunshine exceeded the normal at nearly all stations.

Pressure.—Mean at 8 a.m. ranged from 30.09 ins. at Jersey, and above 30 ins. over the southern half of the kingdom to below 29.9 ins. over the north of Scotland, 29.83 ins. at Sumburgh Head. The values were a little above the average* at all stations, by only 0.01 in. in the north and north-west, and by 0.08 in. at Oxford and Scilly. The general distribution of pressure thus differed little from the normal. Highest readings occurred in the period from the 8th to the 11th, exceeding 30.3 ins. at most of the western stations, and reaching 30.41 ins. at Valencia. Lowest values were recorded on the 19th, when the barometer fell below 29.5 ins. all over Scotland, below 29.2 ins. at Stornoway and Wick, and to 28.88 ins. at Sumburgh Head. Range was very small over the south-east of England, only 0.4 in., increasing thence to more than an inch in the north of Scotland, and to 1.3 in. in the Shetlands.

Depressions.—Several disturbances influenced our weather to some extent, but as a rule the systems were at some distance from our coasts and were possessed of little energy, except in the case of the very deep one whose central space passed close to the Shetlands on the 19th. The shallow disturbance which crossed the south-east of England between the 26th and 28th was associated with local thunderstorms.

Anticyclones.—The weather was frequently under the influence of areas of relatively high pressure, but the central spaces of these systems were nearly always outside these islands, to west, south, east, or north. Between the 8th and 11th, the mercury rose as high as 30.3 ins. to 30.4 ins. at some of the western and south-western stations, but there were few other occasions on which readings above 30.2 ins. were registered.

Winds.—The winds showed a very good agreement with the general pressure distribution, South-Westerly to Westerly prevailing, with a considerable proportion of North-Westerly breezes. Gale force was attained on 2 days at Deerness, Wick, Durham, and Malin Head.

Temperature.—Mean at sea level ranged from 64° along the Thames Valley, and above 62° over the inland and southern counties of England to below 56° over northern Scotland and 51° at Sumburgh Head. The general distribution was in fair accordance with the normal. The actual values were below the average* at the great majority of stations, but in the eastern districts of England a considerable proportion of them showed an excess. At Llangammarch Wells the deficiency was nearly 3° , and at Portland Bill, Cardiff, Deerness, and Sumburgh Head about 2° . There was an excess of 1.7° at Whitby. Highest values occurred on very varied dates in Scotland, 78° at Nairn (2nd) and Dumfries (5th), 77° at Crathes (22nd); on the 22nd in Ireland, 78° at Kingstown and 77° at Dublin; and mainly at the close of the month in England, 84° at Epsom and Margate (18th), and Cromer and Wokingham (30th), several stations rising to between 80° and 83° . Lowest readings were recorded on various dates in all districts, 33° at Lairg (1st) and Garforth (12th), 34° at Balmoral (11th) and Llangammarch Wells (12th), and 35° at Marlborough and Wokingham (1st), and at Crathes (25th). Range was as much as 49° at Wokingham, 47° at Marlborough, and above 40° at a number of other stations, but did not exceed 19° at Portland Bill, Pembroke and Sumburgh Head, and was only 15° at Scilly. Vapour Pressure ranged from 0.46 in. at Clacton and Dunmow (9 a.m.) to 0.33 at Sumburgh Head (8 a.m. and 6 p.m.) and Deerness (9 p.m.). Relative Humidity was as high as 93 per cent. at Pembroke (8 a.m.), and as low as 64 per cent. at Lincoln (9 a.m.). Mean Earth Temperature at 1 ft. depth ranged from 64° at Plymouth to 56° at Garforth; and at 4 ft. depth from 58° at Kew and Nottingham to 52° at Garforth.

Rainfall.—There was an excess of rain at several stations in the north and north-west of Scotland and in the south and west of Ireland, but generally the amounts were below the average*. Glencarron had an excess of 3 ins., and Fort William of 2.9 ins., while in several localities the deficiency was more than 2 ins., as much as 2.8 ins. at Cardiff. The largest aggregates were 8.5 ins. at Glencarron, 8.1 ins. at Fort William and 7.1 ins. at Laudale, but as a rule the amounts were less than an inch, under $\frac{1}{2}$ in. in various English districts, only 0.25 in. at Felixstowe, Lowestoft, and Reading. The days on which precipitation was measured ranged from 29 at Valencia to 4 at Maidenhead. Falls exceeding an inch in a day were unusually rare—on the 17th in the north of Scotland, up to 3 ins. at Glencarron and 3.3 ins. at Fort William; on the 30th 1.1 in. at Whitby; and on the 31st over an inch at Cockle Park and 1.7 in. at Alnwick Castle.

Bright Sunshine.—The duration of bright sunshine exceeded the average* at nearly every station, by 81 hours at Tunbridge Wells, and by 59 hours at Westminster. The percentage of possible duration ranged from 57 at Felixstowe, Eastbourne and Guernsey (Brooklyn) to 25 at Fort Augustus.

Observations in the Upper Air.—Kite observations were obtained on the 13th, 16th (2), 17th, 19th, 20th, 28th (2), 30th and 31st.

* The averages employed are—Pressure, Temperature and Rainfall for the 35 years 1871–1905; and Bright Sunshine for the 25 years 1881–1905. The values will appear in Appendix III. to the Weekly Weather Report for 1906.