

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

SUMMARY OF OBSERVATIONS COMPILED FROM RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS IN THE UNITED KINGDOM, AND AT GIBRALTAR AND MALTA, WITH A CHART OF RAINFALL CONTRIBUTED BY THE BRITISH RAINFALL ORGANIZATION.

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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FORTY-SECOND YEAR.

Vol. XXXIV. (New Series)

No. VII.

JULY, 1917.

[Price 6d., Post free, 7d.]

Bright and Rather Warm generally. Dry, except in the East and South-East of England.

For considerable periods during the month the dominating factor of the pressure distribution was anticyclonic, and the wind was more often from some point between North and East than from any other direction. For a few days after the 13th, however, the main direction was between South and West. On the 18th the South-West wind reached gale force for a time in the Straits of Dover, and on some other occasions the force of a gale was attained locally in gusts. Few depressions sufficiently well-defined to be shown on Map 2, p. 75, passed over the Kingdom or its immediate vicinity. Until the 12th the only depressions to interrupt the general anticyclonic conditions were shallow, and affected the southern districts only. A very shallow, ill-defined disturbance was associated with thunderstorms and heavy rain at several places in the south-west and south on the 3rd. At Barnstaple the gauge yielded 25 mm., at Grayshott and Aldershot 28 mm., Midhurst 29 mm. and at Bucklebury (Berkshire) 38 mm. The depressions marked A and B were accompanied by further thunderstorms in the south-western and southern counties on the 7th and 8th, and heavy falls of rain over a more extensive area. At a number of stations the measurement exceeded 25 mm.; in Cambridgeshire and Norfolk 30 mm. With the dispersal or departure of the depressions the pressure distribution became anticyclonic over the whole Kingdom, but by the 13th the central area of the anticyclone had passed on to the eastward of the North Sea, while a large depression of moderate intensity on the Atlantic was spreading over our western districts. This depression, aided by small secondaries directly over the Kingdom, produced scattered thunderstorms over a very wide area on the 13th and 14th, followed by more general storms on the 15th. As a rule, the accompanying rainfall was not heavy, but at Bolton on the 14th the amount was 29 mm., of which 7 mm. fell in 5 minutes, and in some other localities the fall was about 25 mm. Much damage was done by a hailstorm in the Norwich district on the same day. Over a very large portion of northern and north-western England the thundery conditions of the 14th or 15th brought the first rain of the month. The depression D moved rather quickly across the Kingdom to the North Sea on the 18th, and although the rain during its passage was general and thunderstorms occurred in several districts, heavy falls were uncommon except in Scotland and locally in Ireland and north-western England. At Eskdalemuir the measurement was 39 mm. Between the 21st and 23rd an anticyclone travelled across the British Isles from the Atlantic, and apart from local thunderstorms the weather was mostly fair and dry. Subsequently, however, a depression centred beyond the west of Scotland brought further rains to the north-western and northern districts, while local thunderstorms were again experienced in some English localities. At Glasgow on the 27th the rainfall was as much as 54 mm.

This depression had passed beyond our area by the 28th, and the conditions in the north and west improved greatly and continued fair and dry. Over the southern and eastern districts of England, however, the weather deteriorated quickly. On the 29th the formation of a very shallow depression over the south-east of England and north-east of France heralded the beginning of a period of unusually continuous rain in those regions. During the development of the depression thunderstorms occurred in many parts of the southern and south-eastern counties, and the rain was heavy locally; 34 mm. falling at Cambridge and 38 mm. at Margate. Subsequently thunderstorms were experienced in very few places, but, with the wind from the Northward, the rain continued with scarcely any intermission. Stations measuring more than 25 mm. were very numerous, especially on the 30th, while over extensive areas the fall exceeded 40 mm. London had more than 40 mm., Wallington 51 mm., Addington Hills and Wokingham 53 mm., and Isleworth 58 mm. On the 31st the amount was less heavy except in the east of Kent, but the rain area did not diminish, and during the early days of August there was a renewal of the heavy falls.

Temperature for the month as a whole did not differ much from the normal, but, except at some stations in the southern counties of England, it was above it. The first 12 days, with the wind mainly from North-East or East, were cool for the time of year except in Ireland and parts of Scotland, the thermometer seldom rising to 29.4a, very rarely to 29.7a, and on some days barely touching 28.9a. On the 4th and 8th there were maximum readings below 28.7a in the south of England. With the light Southerly wind current on the 12th the temperature rose very appreciably, and for a day or two maxima of 30.0a and above were common in England. The highest value recorded was 30.3a at Southend-on-Sea on the 14th, while other places in Essex reported 30.2a. As the wind veered towards West, however, temperature was again reduced, and maxima below 29.4a became the rule except over the southern and south-eastern counties, and it was not until the 22nd, when an anticyclone lay directly over the Kingdom, that temperature was once

more above the normal. This outburst of warmth was, like its predecessor, of brief duration. At many stations in England the thermometer exceeded 29.9a, and at several it rose slightly higher; at Little Massingham, Norfolk, the reading was as high as 30.2a. In the eastern counties of England the thermometer continued high, with the light Westerly wind and fine weather that prevailed for a time after the departure of the anticyclone. On the 27th the maximum at Geldeston, near Beccles, was 30.1.5a, and the reading 30.2a was repeated at Little Massingham.

The brisk Northerly wind which accompanied the depression over south-eastern England at the end of the month reduced the temperature over the whole country. In the immediate neighbourhood of the disturbance the decrease was very marked, the thermometer during the day-time becoming unusually low for the time of year. Maximum readings below 28.8a were common, and at some stations the highest point was between 28.5a and 28.6a.

The minimum temperature of the nights was, as a rule, lower during the earlier half of the month than subsequently. On the 1st several places in the northern and midland districts recorded readings below 27.4a, and at Wellington, Shropshire, the thermometer sank to 27.2.5a. Again on the 11th there were similar low readings at a greater number of stations; at Balmoral the value in the screen was 27.2a, while at Chopwellwood, Durham, the minimum on the grass was reported to be as low as 26.6.5a. During the latter half of the month the nights were mostly warm, the thermometer often recording readings of about 28.8a and sometimes about 29.0a.

The temperature of the sea surface water rose gradually, and its mean was not very different from that over the land except off the north-east of England, where it was much lower. Coastal fog was rather prevalent along the western seaboard, and occurred at irregular intervals on various parts of the southern, eastern, and north-eastern coasts of Great Britain.

Air Pressure.—It will be seen from map 1, p. 75, that the mean pressure for the month differed considerably from the normal. The actual value was 3 mb. to 5 mb. higher than usual, while there was a slight gradient for Southerly winds in Ireland and Scotland and no definite gradient over England and Wales. A normal July has a slight gradient for Westerly winds over the whole Kingdom. The highest readings were associated with the anticyclone early in the month, and in most districts the lowest were brought by the depression of the 18th.

Rainfall.—Over the kingdom generally the aggregate fall was much less than usual, but in England East and South-East—mainly owing to the heavy downpour at the end of the month—there was a considerable to large excess. At many places in the east and south-east of England the fall was more than 200 per cent. of the normal; at Wisley 252 per cent. and at Reading 271. At Isleworth the total of 154 mm. was the heaviest July record in the past 32 years. Over extensive areas the total fall for the month was no more than about 50 per cent. of the normal, and at some stations about 30 per cent., while at Lerwick it was only 18. Stations measuring rainfall twice in 24 hours showed that the falls during the day and those during the night varied greatly locally, but as a whole the hourly rate of fall was nearly identical.

Bright Sunshine.—Except in England, South-East, and the English Channel the total duration exceeded the normal. Felixstowe and the coasts of Lancashire and North Wales recorded the most sunshine. At Felixstowe and Colwyn Bay the daily mean was 8.6 hr. and at Morecambe 8.9. Locally at the mouth of the Humber there was a great lack of sunshine; at Spurn Head the daily mean was only 4.7 hr., and the total number of hours for the month was 92 less than at Yarmouth. The loss of sunshine in the south was rather large. At Guernsey and Ventnor the percentage of the normal was only 83, and at Torquay and Falmouth 86. At most places in the north and north-west the percentage was high. At Southport and at Bidston, near Liverpool, it was 133, at Markree Castle 138, at Deerness 151, and at Stornoway 156.

Solar halos were observed on several occasions; a sun pillar at Oxford on the 1st and 2nd; and parhelia at Aberdeen on the 4th.

