

## MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

(Supplement to Weekly Weather Report.)

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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**Frequent thunderstorms in earlier half; followed by spell of fair and dry, but rather cool, weather.**

The month was unusually prolific in thunderstorms, and very rainy until the 17th. No temperature so high as 80° was recorded, but until the end of the month the minima were rather high, and the mean temperature for the whole Kingdom was slightly above the average.

Until the 17th the pressure distribution was uninterruptedly cyclonic, although as will be seen on map 2, page 87, the depressions with centres sufficiently defined to be traced from day to day were not at all numerous. Many were small and very shallow, and the general distribution of pressure and temperature differed considerably from that which usually obtains during the prevalence of thunderstorms in summer. Electrical disturbances were, nevertheless, extremely frequent over the greater part of the Kingdom. One of the most important depressions, marked A on map 2, travelled slowly eastward across southern England between the 1st and 3rd and subsequently passed across Holland. It brought the lowest barometer readings of the month to this country and a good deal of rain, while its progress was attended by thunderstorms at numerous places in England and at some in Ireland. Among the heaviest falls of rain were 40 mm. at Princetown on the 1st, 45 mm. at Malvern, 49 mm. at Llandysilio, and 66 mm. at Ruthin on the 2nd, and 30 mm. at Halstead (Essex), on the 3rd. The 66 mm. at Ruthin is the largest amount at that station in one day in the past 14 years. On the 2nd the South and South-West wind reached 21 m/s in gusts at Dover. Small disturbances in its rear on the 4th caused further thunderstorms and heavy rains locally; 27 mm. at Dover and 31 mm. at Edinburgh, and on the 5th Malvern had 45 mm. of rain and Cheltenham 62 mm.

The next depression travelled rather quickly north-eastward across the Kingdom on the 6th, and although it was accompanied by rain very generally and a few thunderstorms the measurements were mostly moderate. None of the disturbances of the next few days were at all deep, and until after the 9th the rain which fell daily over a large area was generally slight and seldom accompanied by thunder. Scattered localities, mostly in the north and west of England were visited by thunderstorms on the 10th, and some stations had more than 25 mm. of rain. At Stockport the figure was 39 mm. and at Rounton 28 mm. On the 11th, a South-Westerly wind swept over the western districts, bringing heavy downpours to Snowdonia and also locally to the south of Ireland. The period with most frequent and widespread thunderstorms began on the 12th and continued until the 17th. On most of these days thunderstorms were experienced over a very large portion of the Kingdom; in some localities, including the metropolitan district and wide areas in the midlands and north, the phenomenon occurred every day. Large quantities of rain fell at times in many districts, but considering the great number of thunderstorms excessive rain was not common. On the 11th 59 mm. fell at Oldham, and on the 12th there was 73 mm. at Scaleby, 44 mm. at Ampleforth, and 31 mm. at Alnwick Castle; on the 13th 36 mm. at Carrick-on-Suir, 26 mm. at Kew; on the 14th, 32 mm. at Ridgewell, 30 mm. at Scaleby, and 24 mm. at Birr; on the 15th 24 mm. at Carnforth; on the 16th 25 mm. at Westminster and about 26 mm. at Walton-on-Naze, Ruthin, and in some parts of Lancashire; and on the 17th 34 mm. at Cambridge, 38 mm. at Grayshott, and 40 mm. at Sandown, I. W.

With the 17th, the long unsettled spell ended, and a large and persistent anticyclone spreading over these Islands from the Atlantic caused a complete change in the general type of weather, although slight rain still fell on most days in the extreme north and north-east. For some days the wind was Northerly or North-Westerly, and on the 18th the gusts reached 18 m/s at Aberdeen, but subsequently the central portion of the high pressure system became in turn situated over the Channel and south-western districts, or over Ireland, and the direction of the wind current flowing over these Islands was subject to considerable changes. As a rule, however, it came from between West and North, and as it was rarely accompanied by a cloudless sky, the temperature failed to rise to the high figure it often reaches during a dry spell of weather in August. A return to unsettled conditions occurred towards the end of the month. A very shallow depression, secondary to a large disturbance over Scandinavia, travelled south south-eastward over Great Britain to France on the 28th and 29th, while another passed eastward across Scotland late on the 31st. The former brought rather general, but no heavy, rain, while with the latter heavy rain occurred in Snowdonia and in some parts of Scotland.

**Pressure.**—The mean height of the barometer exceeded the normal in all parts of these Islands, while the range of pressure was less than usual. The average highest and lowest in the Kingdom for August are 1016·2 millibars at Jersey and 1009·7 millibars at Lerwick, but on this occasion the corresponding values were 1018·2 and 1013·7 millibars. The mean isobaric lines were not only at a greater distance apart than in an average August, but instead of running from West to East (showing a preponderance of

Westerly winds) their arrangement was from North-West to South-East, favouring winds from the North-Westward. On no less than 14 days the main wind current over the United Kingdom came from some point between North and West, while on several other occasions similar winds prevailed on one or more portions of these Islands. The lowest barometer readings were recorded on the 1st, 2nd, or 3rd except in Scotland North, and the highest between the 21st and 23rd, the extreme values ranging from 991 millibars in the English Channel to 1030 millibars in the same district and in Ireland South. In Scotland the range was much less, only amounting to 23 millibars.

**Rain and Thunderstorms.**—Considered generally the total rainfall was much less than the average, but owing chiefly to the incidence of thunderstorms some localities had a more or less marked excess. These districts were the Thames estuary, the Fen region, North Wales border, Fifehire, the west of Ross, and the north-east of Ireland. Along the western coast of Scotland and parts of South Wales and the north and north-east of Britain there was less than half the average. In Ireland, where no place had less than half the average, the percentage was 83, the highest in the Kingdom. In Scotland, where it was lowest, the percentage was only 68, and in England and Wales 72. At Colmonell the percentage of the average was no higher than 36, and at Dunrobin, and also at Totland Bay, 38. At Alnwick Castle the percentage was as high as 145, and at Blackford Hill, Edinburgh 197. Some unusually heavy, brief downpours were recorded during the thundery conditions. On the 2nd 44 mm. fell at Biggar, Peebleshire, in one hour; at Ardross Castle on the 12th 33 mm. in 45 minutes, and at Scaleby on the same day about 62 mm. in an hour and a half; at Tenbury on the 13th 16 mm. fell in 15 minutes; and at Warlingham on the 17th 37 mm. in 40 minutes.

More rain fell during the day than in the night. The total fall at 15 stations for the nine hours ending at 6 p.m. was 534 mm., while the 15 hours ending at 9 a.m. yielded 470 mm. only. At eight other stations where measurements were made at 9 a.m. and 9 p.m. a similar disproportionate amount during the day occurred. During the anticyclonic period that became general after the 17th extensive parts of the kingdom had no rain for 12 or more consecutive days, and in a few localities absolute drought began earlier and continued later. At Killerton the drought continued through 18 days, and at Waterford for 16 days.

The level of the underground water at Kew varied between 223 cm. above M.S.L. on the 3rd and 313 cm. on the 26th.

**Temperature.**—Over the country generally the mean temperature was a little above the average. The second week was the warmest, and gave the maximum readings to a great number of stations. On the 10th there was 79° at Raunds, 78° at Woking, and 77° at Lincoln. Another brief outburst of heat occurred late in the month. On the 25th Balmoral recorded 76°, and on the 26th Wilton (Salisbury), and Fowey had readings of 77°. The subsequent maxima were low for the time of year—below 60° over a large area in southern England and below 55° at several northern stations. The minimum readings of the month occurred very generally on the 29th, 30th or 31st. Some localities in Scotland experienced slight frost. At Braemar and West Linton on the 31st the thermometer fell to 30° and at Lednathie (Forfarshire) to 31°.

The mean temperature of the water of the river Derwent at Belper, was 58·9° and the mean temperature of the air 59·1°.

The temperature of the sea surface water differed very little from that of the air except off the north-east coast, where it was 2° to 4° below it. Coastal fogs were experienced on some Irish coasts on the 1st, 2nd, and 3rd, and between the 5th and 12th they were common on the west and south-west coasts of these Islands, and again occurred locally on the 17th and 18th. On the south coast they were much less frequent, and along the east of England the air was generally clear, the chief exception being on the 9th and 10th, but from the coast of Caithness to Shetland fog prevailed on most days between the 9th and 16th, and on one or two occasions it extended southward to Aberdeen.

**Aurora** was observed at Stornoway on the 8th.

**Bright Sunshine** was below the average generally, but exceeded it in England South-West, the English Channel, and Ireland South. In Scotland East the deficiency was nearly an hour per day. At Deerness the percentage of the average was only 38, Blackford Hill 70, and Glasgow and Stonyhurst 75. In many other places it was not much above 80, but towards the far south-west it increased to 100 and above, the highest figure being 114 at Falmouth.