

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE

SUMMARY OF OBSERVATIONS COMPILED FROM RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS

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JULY.—Warm and sunny: frequent thunderstorms after the 10th.

The weather of July was notably warm and sunny. Rainfall was variable owing to the frequent local thunderstorms which occurred after the 10th, but, on the whole, there was a decided deficiency in England and Wales, and Ireland.

Mainly anticyclonic conditions prevailed during the first 10 or 11 days, with an almost complete absence of rain except at times in the north of Scotland and in north-west Ireland on the 5th. This period was notable for its excessive warmth and abundant sunshine. The air was also unusually dry and, on the 10th, relative humidities of 20 per cent. or less were reported at some stations during the afternoon. At Kew Observatory, the value was 16 per cent. at 13 h. and at South Farnborough 15 per cent. at 16 h.

After the 11th, conditions became much less settled and temporarily cooler. Between the 12th and 14th a shallow depression moved south-east across the British Isles, causing heavy local rains and thunderstorms. In the rear of this system a wedge of high pressure off the west of Ireland moved eastward to Germany while a complex depression became centred off our north-west coasts. Little or no rain fell in the south but weather continued rather unsettled in the north and west. Thereafter between the 17th and 24th depressions moved across the country mainly in an easterly or south-easterly direction. Heavy local rains or thunderstorms occurred at times, particularly on the 17th, 18th, 22nd and 24th. Subsequently the Azores anticyclone moved north, while a depression passed east, northward of the Faeroes. Some rain fell, mainly in northern districts, but there were bright periods, particularly in the south. Strong, squally westerly winds prevailed from the 26th to 28th. With the approach to our western seaboard of a large Atlantic depression on the 29th, there was a return to thundery conditions until the 31st.

Pressure and Wind.—Pressure was everywhere a little above the normal, the greatest excess at 7h. being 1.8 mb. at Spurn Head. Strong, squally, westerly winds, reaching gale force locally in England and south Ireland, occurred between the 26th and 28th: a strong gale was reported at Spurn Head on the 26th, a gale at Shetland on the 1st and in the Orkneys on the 2nd. Among the highest speeds recorded in gusts were 58 m.p.h. at Lerwick on the 2nd, 56 m.p.h. at Spurn on the 26th and 61 m.p.h. at Bidston and 57 m.p.h. at Manchester (Barton) on the 28th.

Temperature.—The month was notably warm. For instance, at Southport, it was the warmest month of any name in 63 years' records and at Newquay it was the warmest July in 41 years' records. Locally in the Midlands and southern England the warmth was perhaps more notable for its persistence than its intensity. At Cullompton, the lowest maximum recorded was 71°F., at some other stations 70°F. and at others, Oxford for example, temperature failed to reach 70°F. on only one day. How rare this is may be illustrated from the Oxford records, which show that no other month back to 1881, has yielded less than three such days. On the other hand, in some western and northern districts, the intense heat of the first part of the month was mainly responsible for the high mean temperature.

At some places maxima of 80°F. or above were recorded on eight or even nine successive days beginning either on the 4th or 5th. So long a spell of such high temperatures appears to be quite unprecedented in some districts. The observer at Southport states that, "the run of successive maxima of 85°F. and upwards from the 6th to 11th is unprecedented" and the observer at Newquay says, "four consecutive days of 80°F. or more is a record for any time of

year." At a few stations 90°F. was reached or slightly exceeded.

The extremes for the month were:—(England and Wales) 92°F. at Attenborough on the 11th, 37°F. at Thetford, Hawarden Bridge and Sealand on the 4th; (Scotland) 88°F. at Perth on the 9th and at Kilmarnock on the 11th, 38°F. at Dalwhinnie on the 15th; (Ireland) 90°F. at Foynes on the 9th, 38°F. at Markree Castle on the 3rd.

Precipitation.—The general precipitation of the British Isles expressed as a percentage of the normal for the period 1881-1915 was 70, the values for the constituent countries being England and Wales 56, Scotland 108 and Ireland 68. Over most of northern Scotland and in a strip extending south-eastward across Perth to the Firth of Forth more than 100 per cent. of the normal occurred, the excess being particularly marked in the neighbourhood of Inverness.

Although in England and Ireland the deficiency on the whole was marked, rainfall totals were very variable owing to the local heavy rains and thunderstorms which occurred after the 10th. At some stations in west Wales and along the south-west coast of England less than 20 per cent. occurred, whereas other places received more than the average rainfall for the month in a few hours. At Holyhead the total was the lowest since records began in 1871.

Among heavy falls in 24 hours or less may be mentioned:—
 12th 81 mm. in less than 2 hours at Bettws-y-Coed, Denbighshire.
 29 mm. in 1 hour at Trowbridge.
 40 mm. in $\frac{3}{4}$ hour at Kimbolton, Leominster.
 69 mm. in 24 hours at Fritton Hall (Suffolk).
 13th 53 mm. in 2 hours at Sway (Hampshire).
 99 mm. in 24 hours at Wrexham (Denbighshire).
 18th 55 mm. in 1 hour at Castleton.
 27 mm. in 30½ mins. at Lutterworth with hailstones $\frac{7}{10}$ inch in diameter.
 21st 60 mm. in 24 hours at Ardross Castle (Ross-shire).
 22nd 116 mm. in 1 hour 40 mins. at West Wickham (Kent).
 95 mm. in about 1 hr. 10 mins. at Beckenham Road, West Wickham.
 38 mm. in $\frac{1}{2}$ hour at Tooting Common.
 28 mm. in $\frac{3}{4}$ hour at Barcombe, near Lewes.
 61 mm. at Borgie (Sutherland) and 60 mm. at Reay (Caithness) in 24 hours.

Thunder occurred locally on the 1st, 6th, 7th, frequently between the 10th and 24th and from the 29th to 31st.

Sunshine.—The month was noteworthy for abundant sunshine, except in the Shetland Islands, where there was a decided deficiency. At a number of stations, it was the sunniest July since 1911, and at Paisley the monthly total of 224 hours was the highest in July since before 1903. The first ten days were exceptionally sunny: at Kew Observatory, 130.9 hours were registered during this period, a ten day total which has not been equalled since records began in 1880. At Oxford, sunshine for the week 4th-10th was 100.1 hours, the previous sunniest week being June 24th-30th, 1902, with 93.8 hours.

Fog.—Local fog occurred rather frequently. It was thick at Stornoway on the 5th, in north-east Scotland on the 5th, 6th, 12th and 18th and at the mouth of the English Channel on the 12th and 26th.

Miscellaneous Phenomena.—Solar halos were noted at Oxford on 15 occasions. The green flash was observed at Malvern at 20 h. 20 m. on the 14th.