

## MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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## AUGUST, 1931.—Wet, cool and dull in England and Wales. Sunny and dry in west and north of Scotland and outlying islands.

The outstanding feature of the weather of the month was the pronounced excess of precipitation in England and Wales which gave rise to widespread floods and the lack of sunshine during the first three weeks. In marked contrast the north and west of Scotland and neighbouring islands enjoyed mainly sunny dry weather.

During the first five days pressure was high over the northern parts of the British Isles and low over France. In England a spell of thundery weather was experienced from the 3rd to the 5th, the storms being accompanied, especially in the south, by heavy local rain and flooding; on the 5th 74 mm. fell at Petersfield in about an hour and on the same evening about 25 mm. on the roof of the Air Ministry, Kingsway, in half an hour. Meanwhile in the west and north fair weather with good sunshine totals prevailed (13·8 hours at Holyhead on the 3rd and at Dalwhinnie on the 4th). The warmest days occurred at this period, maximum temperatures in the neighbourhood of 80°F. being recorded in several places on the 4th and 5th.

Subsequently pressure became high westward of Ireland and low over Scandinavia with secondaries travelling southward over Great Britain. Cool northerly winds with cloudy weather and occasional heavy rain prevailed, except in the extreme western districts where conditions on the whole were fairer. Heavy rain on the 8th in eastern England was associated with the passage of a vigorous secondary across southern England. During the next few days cool north-westerly winds prevailed. About the 13th there was a change of type, a series of depressions passing eastwards across the country; conditions continued very unsettled with frequent thunderstorms and almost daily rain until the 21st. On the 24th a very deep depression centred off Brest caused severe gales in the English Channel, the wind in a gust attaining a speed of 79 mi/hr. at Pendennis.

Little or no rain occurred after the 22nd and by the 26th anticyclonic conditions had become established over the greater part of the country. During the last few days of the month excellent sunshine amounts were recorded in several parts (13·0 hours at Southport on the 26th and 13·4 hours at Lerwick on the 30th).

**Pressure and Winds.**—The mean pressure distribution was quite abnormal. Pressure was high to the north of the British Isles and decreased southwards. In the Shetlands pressure was as much as 10 millibars above the normal. In Scotland, the extreme north of England and Ireland pressure also exceeded the normal although the excess was much less. Southwards pressure decreased, the deficiency exceeding 3 millibars in the extreme south of England. There was a conspicuous prevalence of northerly to easterly winds in northern districts. Strong winds and gales were unusually prevalent in the English Channel from the 16th to 24th but in general winds were mostly light to moderate.

**Temperature.**—Apart from a few local exceptions in the west of Scotland and in Ireland mean temperatures were below the normal, in several places by two or three degrees. The only really warm days occurred from the 3rd to the 5th during which period the temperature rose to 80°F. and over at places as far north as Achnashellach (80°F. on the 3rd and 4th), Ardtornish (81°F. on the 4th) and Glenbranter (81°F. on the 5th). In the south-east of England the 10th and 24th were unusually cold; at Dungeness the maximum temperature on the 24th was considerably more than 10°F. below the normal for that time of year. The coldest nights occurred generally on the 9th and during the last nine days when northerly winds and subsequently anticyclonic conditions were general over Great Britain. Ground frost occurred on four occasions during the month at Aldergrove, Cambridge, Rickmansworth and Sprowston.

The extreme temperatures for the month were:—(England and Wales) 81°F. at Hartest on the 5th and 32°F. at Rhayader and Rickmansworth on the 26th and Newton Rigg on the 31st. (Scotland) 81°F. at Onich and Ardtornish on the 4th, at Glenbranter on the 5th, and 31°F. at Dalwhinnie on the 24th and at Braemar on the 30th. (Ireland) 79°F. at Markree Castle on the 4th and 33°F. on the 25th.

**Precipitation.**—The month was the fifth consecutive month in which the general precipitation exceeded the normal. Following on a very wet June and July the month completed one of the wettest summers in England and Wales since comparable records began.

The general precipitation of the British Isles, expressed as a percentage of the normal for the period 1881–1915, was 104; the values for the constituent countries were, England and Wales 143, Scotland 61, Ireland 81.

In the extreme north-west of England and in the south-west of Wales a decided deficiency was recorded locally (at Lancaster the month was reported to have been the driest August during the past 11 years) but elsewhere there was a pronounced excess, many places in the Midlands and the south-east of England, including London, recording more than twice the normal precipitation. At Greenwich Observatory precipitation occurred on 24 days, the month's total, 159 mm., amounting to 284 per cent of the normal. At Hampstead (London) the month's precipitation, 130 mm., was the largest monthly total since records were begun in 1910. From the 3rd to the 20th scarcely a day passed without a noteworthy fall. Among the more outstanding daily falls were:—

- 4th 77 mm. at Nailsworth (Glos.).
- 5th 74 mm. at Petersfield (in less than 1 hour), 56 mm. at Greenwich Observatory.
- 7th 51 mm. at Penrhyn Quarries, Carnarvon.
- 8th 155 mm. at Black Sluice, South Boston, 145 mm. at Grand Sluice, North Boston, streets flooded to depth of four feet.
- 14th 59 mm. at Worcester Park, London, flooding occurring in the London district.
- 17th 60 mm., of which 50 mm. fell in 2 hours 20 minutes at South Shields.
- 19th 58 mm. in two and one-half hours at Maiden Newton, Dorchester.
- 24th 69 mm. at St. Peter's Port, Guernsey, 82 mm. at Jersey. In Jersey in the 40 hours from 1700h. on the 23rd to 0900h. G.M.T. on the 25th the total amount was no less than 115 mm.

In Scotland there was an excess of precipitation in the Lothians, the south-eastern counties, around Balmoral and in the vicinity of Keith, the excess in the Lothians being very pronounced; elsewhere there was a decided deficiency, the month being the driest August on record over large parts of the country. At Deerness it was the driest August since at least 1841 while in the Shetlands there was less than 10 per cent of the normal August value. The wettest period in Scotland lay between the 16th and 21st, heavy falls occurring in the south-east between the 18th and 21st, giving rise to much flooding, structural damage and, in a few instances, loss of life. At Oxenfoord Castle (Edinburgh) 69 mm. fell on the 18th and 53 mm. on the 21st, while Gorebridge (Edinburgh) had 32 mm. on the 16th, 41 mm. on the 17th and 44 mm. on the 20th.

In Ireland a few places had an excess but in the great majority of districts there was deficiency which was most pronounced in the north-west.

Thunderstorms accompanied locally by heavy rain and flooding, particularly in southern England, occurred between the 3rd and 9th and between the 14th and 21st.

**Sunshine.**—August, 1931, was a month of scanty sunshine except notably in the west of Scotland and the extreme north of Ireland where the mean daily sunshine of from 6 to 7 hours was not only appreciably above the normal but exceeded that recorded in most other parts of the country. The mean daily duration of sunshine amounted to 6·2 hours at Glenbranter, an excess of 2·3 hours, and at Malin Head to 6·5 hours, an excess of 1·9 hours. At Dumfries the month was the sunniest August since 1919. In the east of Scotland there was a deficiency, it being the most sunless August at Edinburgh since 1924. While at Troon there was an average of 12 hours per day from the 3rd to the 5th, at Leuchars the total for these three days was only 1½ hours. In the north-west of England and in north Wales a slight excess was also recorded. Elsewhere in England and Wales and in Ireland monthly aggregates were below the normal; at Long Sutton the deficiency averaged slightly over 2 hours per day and at Kew Observatory 1·75 hours per day.

**Fog.**—Much fog was associated with quiet anticyclonic conditions in the north during the first few days of the month and from 26th to 28th. At other times cold clear nights in the rear of depressions favoured the occurrence of fog locally. At Wick the fog was dense at times between the 1st and 6th. In the Firth of Forth fog was reported on the 2nd, 6th, 13th, 19th and 20th.

**Miscellaneous Phenomena.**—Aurora was reported from Skye as having been observed on the 7th. A funnel cloud was seen by the observer at Newquay in the early afternoon of the 22nd.