

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-FIFTH YEAR. { No. VII.
Vol. XXXVII. (New Series)

JULY, 1920.

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

Dull, Wet and Cool.

With the exception of a brief interval between the 18th and 21st, during which atmospheric conditions were under the influence of an anti-cyclone which spread in from the Atlantic, the weather of July over the British Isles was dominated by a succession of depressions, many of which passed directly across some part of the country. As a result the month was dull, wet and cool, with a marked deficiency of sunshine.

For a few days around the 20th, the day temperatures were about equal to the normal, but were decidedly below it during the first fortnight and at the end. Although for the most part the day temperatures were uniformly low, the persistent cloudiness, by retarding terrestrial radiation, caused the nights to be relatively warmer than the days, so that the mean temperature was not greatly divergent from the normal, and the range much less than would ordinarily have been the case.

In Scotland, especially during the first two weeks, the month was marked by an almost total absence of seasonable warmth, and the mean temperature was the lowest since July, 1902. During the last sixty years an appreciably colder July has occurred only once in Scotland, viz., 1888. Over the Kingdom as a whole the difference from normal was less in the North than in the South, less in the East than in the West.

The warmest days of the month were at the beginning, round the 20th, and towards the end. While the maximum rose above 294 a at a large number of stations, it seldom went above 296 a, the highest reading being 299 a at some English East coast stations on the 17th or 20th. At some stations, the maximum never touched 291 a, and in the Isle of Man never exceeded 290 a.

Rather low minima occurred in Scotland in the early part of the month, the thermometer going down to the freezing point at Balmoral on the 4th and 7th, and below it (272 a) at Braemar on the 7th. Very generally the coldest night over England and Ireland was towards the end of the month, when the temperature at many places went below 279 a with 277 a at Fulbeck (Lincoln) on the 27th, 276 a at Sheepstor (Devon) on the 25th and Garforth (Yorks) on the 31st, and 275 a at Cambridge on the 25th.

The weather of the 5th, a wet day, with winds from the North in the rear of a depression of moderate depth, was remarkable, there being hardly any variation of temperature for 24 hours in some parts of the country. In many parts of England the maximum temperature for this day was below 286 a. At Whitby (Yorks) and Princetown (Devon) it was 284 a, and at Over Court, Almondsbury, it was as low as 283 a. On this day the temperature at Kew Observatory at midday was only 283 a, which is 2.4 a less than the normal night reading for July. The observer at Raunds says: "A terrible day for July. Maximum temperature during civil day only 283 a. Incessant rain. Very gloomy." The rainfall of the month was almost everywhere in excess of the normal, and was more than double the normal in some parts of the Southern Counties, and over a considerable portion of Wales. In the extreme North of Scotland the amount was less than the average, but in the Edinburgh area the excess was equal to about 50 per cent.

Thunderstorms were experienced in most districts at the beginning of the month, in Scotland on the 8th and 9th, on the Essex and Kentish coasts during the early morning of the 11th, at Falmouth on the 14th, and in the Orkneys on the 15th. No thunder was reported from the North-Eastern counties of Scotland.

Everywhere, except in Scotland North, the sunshine amounts were below the normal, the sunshine aggregates in some parts of Scotland being hardly more than half those recorded in June. During the week ended the 10th, the deficit was very marked, the percentage of the possible being only 14 in the Midland counties, 17 in England North-East, and 18 in England North-West and South-East; at several of the individual stations in the Midland and Southern Counties there was less than 2 hrs. per day, which represented only about 11 per cent.

The following observers' notes will serve to illustrate the character of the month.

Southport.—The dullest July on record locally, the duration of sunshine being 20 hours less than during the memorable Alaskan volcanic dust effects of July, 1912. Temperature remarkably equable, the day time being uniformly cold.

Blundellsands.—The wettest July experienced here since records were commenced in 1876.

Meltham.—The greatest rainfall recorded in July for the last 40 years.

Princetown.—The month has been exceptionally wet and cold with an abundance of fogs; the worst July experienced in this locality for some years.

Sheepstor.—The very worst July I can remember, drenching fogs and long, driving rains all through the month.

Newquay.—The combination of wet, cold, gales and lack of sunshine was disastrous.

Isleworth.—Temperature fell 1.7 a below June and brought growth to a standstill.

Totland Bay.—The coldest July maximum during the past 34 years; the sunshine total is the smallest on record for July.

Air Pressure.—The following are some of the more conspicuous incidents connected with the movements of the anti-cyclones and depressions of the month. At 7 h. on the 1st, the centre of a depression was shown on the weather map to the West of Ireland, and on the 2nd and 3rd this system moved slowly Eastwards across the British Isles to the North Sea. During its passage rain was general, 28 mm. falling at Scilly on the 1st, 32 mm. at Leith on the 2nd, and 24 mm. at Nottingham on the 3rd, the rain on the latter date being accompanied by local thunderstorms. This depression was also associated with thunderstorms on the 4th, when 29 mm. of rain fell at Brighton and 25 mm. at South Farnborough. An extensive low pressure area covered the British Isles on the 5th. Very wet and chilly weather prevailed especially over the East and South-East of England, where the temperature did not rise above 284 a all day. The mid-day reading at Benson was as low as 282 a, and 8.3 a lower than at Seydisfjord, in Iceland, at the same hour. During the following days until the 14th, a cyclonic type of weather was predominant over the British Isles, and there were considerable falls of rain on some of the days; secondary depressions were developed and gave rise to thunderstorms in several places on the 8th, 9th, 11th, 12th and 14th. On the 18th, a secondary appeared off the South-West of Ireland. This advanced towards Lancashire by way of the British Channel, its passage being marked by rain, which at Holyhead amounted to 22 mm. As this depression passed Eastwards to the North Sea, an anti-cyclone spread in from the South-West and was the predominating influence over the greater part of the British Isles until the 21st. During this period, temperatures as high as 299 a were recorded at some English stations, and although there was some coastal fog in the South-West and South of England on the 19th and 20th, sunshine records were mostly good. On the 21st, cyclonic conditions set in again and continued until the close of the month, this period being marked by dull, cloudy and rainy weather over nearly the whole of the Kingdom. On the 25th, a depression which at 7 h. was centred off the West of Ireland, moved across England and caused strong winds and a gale in the English Channel, with heavy rain over the country generally, amounting to 50 mm. at Holyhead.

Temperature.—Mean temperature was below the normal in all districts, the divergence ranging from 0.4 in Scotland North and 0.7 a in England East, to 1.2 a in the Midland Counties and the Channel Islands, and 1.3 a in England South-West. The absolute maximum, which nowhere exceeded 299 a, was nearly everywhere lower than that of either May or June, while the absolute minimum was in nearly every case above that of either May or June, at some stations considerably so.

Precipitation.—The monthly aggregates in all districts were heavy and ranged from 81 mm. in England East and 83 mm. in the Channel to 137 mm. in England South-West, and 141 mm. in England North-West. The departures from the normal ranged from an excess of 11 mm. in Ireland North to 64 mm. in England North-West. More than 127 mm. fell over large areas in the West and South of Scotland, the whole of Wales, and considerable areas in the Thames Valley. Areas on Dartmoor and Exmoor had from 200 to over 250 mm. and more than 300 mm. fell over Central Wales and the English Lakes; in Snowdon no less than 630 mm. The general rainfall expressed as a percentage of the average was:—England and Wales 161, Scotland 104, Ireland 153, British Isles 143. Although there were many instances in which the rainfall exceeded 25 mm. in 24 hours, the heavy totals were due to the frequency of the rain rather than to exceptionally heavy falls. Among the largest of the daily amounts reported were 38 mm. at Bromyard and 43 mm. at Ushaw on the 3rd, and 62 mm. at Newcastle, Wicklow, on the 25th. The persistency of the rain is shown by the number of rain days: 28 at Foynes and Cahirciveen, 29 at Bellingham, Darwen and Sheepstor, and 30 at Tavistock.

Sunshine.—There was a considerable variation in the amount of sunshine. In Scotland North, the only district with an amount in excess of the normal, the daily mean was 5.2 hrs. per day, equal to 29 per cent. of the possible. Only two other districts had a daily mean exceeding 5 hrs., England East with 5.4 hrs. per day, and the Channel Isles with 5.8 hrs. per day. Two districts had less than 4 hrs. per day, the Midland Counties with 3.9 hrs. and England North-West with 3.6 hrs. The deviation from the normal ranged from an excess of 0.97 hr. per day in Scotland North to a deficit of 2.19 hrs. per day in England South-East and 2.34 hrs. per day in England North-West.

Optical Phenomena were not numerous. A lunar corona was seen at Falmouth on the 24th and 28th, a lunar halo at Ross-on-Wye and Bromyard on the 27th. Solar halos were seen at Mayfield (Staffs.) on the 11th and 15th, at Mayfield and Ross-on-Wye on the 16th, at Mayfield and Tenbury on the 17th, at Mayfield on the 22nd, at Liverpool and Bromyard on the 29th, and at Ross-on-Wye on the 31st.

90
80—300
70
60—290
50
40—280
30—270

Temperature Scales.