

Monthly Weather Report

M.O. 625

OF THE METEOROLOGICAL OFFICE

Summary of observations compiled from returns of official stations and voluntary observers

Volume 74 Number 8

Published by HER MAJESTY'S STATIONERY OFFICE

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August 1957—*Warm at first, then rather cool and wet*

Throughout the greater part of the month an upper trough existed in the vicinity of the British Isles. Surface pressure was fairly uniform over the country during the first week, but during the second there was considerable cyclonic activity. Depressions passed well to the north of the British Isles the following week, and weather during the fourth week was dominated by a depression which became exceptionally deep off Scotland. The month ended with two or three days of fine anticyclonic weather.

At the beginning of the month a warm upper ridge extended northward over the British Isles from the Iberian peninsula in association with an anticyclone which spread over the country on the 2nd. The first few days were sunny and warm with sunshine exceeding 13 hr. in many places and temperatures reaching 80°F. locally. On the 4th, a shallow trough of low pressure approached from the south-west accompanied by outbreaks of rain, and as upper troughs developed in the eastern Atlantic and moved eastward over the country during the next two days, thunderstorms became widespread. Many of the storms were severe, with rain in some places of very rare intensity. On Bank Holiday, 5th, nearly 6 in. of rain fell in 24 hr. at Rodsley, Derbyshire, while at Clifford, Herefordshire, 4.11 in. fell in 90 min., the second heaviest fall for that period in the United Kingdom.

The 8th to 12th was a period of increasing and intense cyclonic activity. Although a predominantly zonal flow existed in the upper air on the 9th and 10th, an upper trough became established over the country on the 11th and persisted for several days. Thundery rain was widespread, and thunderstorms were frequent and often heavy; rainfall of 2 in. or more in 24 hr. occurred on most days somewhere in England and Wales. Noteworthy falls occurred in and around London on the 12th and 13th, especially in the Kingston-Teddington area where there was considerable flooding. The 12th was the wettest August day at Kew since records began in 1871. In the north of the country rainfall was mostly slight, until the 14th when a depression moved east across southern Scotland, bringing outbreaks of rain, locally heavy, to all districts of the British Isles, and gales to exposed northern coasts.

During the next few days an upper zonal flow extended from the Rockies to the Urals and depressions from the Atlantic passed well to the north of the British Isles. Weak fronts associated with these depressions crossed the country and although there was some rain or drizzle at times, it was mostly slight, except in the north. On the 21st, an anticyclone moving in from the Atlantic gave the sunniest day in the British Isles for nearly three weeks.

A depression, which developed off the west coast of Ireland on the 22nd, gave widespread and locally heavy rain with strong winds and gales in exposed places, as it moved towards north-west Scotland. This depression was noteworthy for its unusual depth for the time of year; at 2300 h. on 23rd pressure at Cape Wrath, Sutherland, fell to 967.0 mb., the lowest pressure ever recorded in the British Isles during August, and the central height of the 500 mb. low associated with it was the lowest value over the northern hemisphere at that time.

The depression, with its accompanying upper low, moved slowly towards Scandinavia, and by the 26th the gales had moderated, and the days became fair and rather cool with fairly frequent showers. The month ended with fine quiet weather with the re-establishment of anticyclonic conditions.

Pressure and Wind. Pressure was everywhere below the average, the deficit ranging from 0.2 mb. at Stornoway to 2.1 mb. at Cranwell. The

next nearest approach to the abnormally low August pressure recorded at Cape Wrath on the 23rd was 968.3 mb. which occurred at Southport in 1917. During the first eight days of the month winds were light and variable or south-easterly, becoming mainly south-westerly until the 14th, when west to north-westerly winds predominated until the 28th. During the last three days of the month winds again became light and variable. Gales occurred on 8 days in Scotland and 12 in England and Wales; they were widespread on the 24th and 25th. Wind reached 65 kt. at Tiree and Stornoway on the 14th and 24th respectively and 67 kt. at Bidston Observatory on the 25th.

Temperature. Mean temperature differed from the 1921-50 average by -0.7°F . in England and Wales, -0.3°F . in Scotland and 0.0°F . in Northern Ireland. The deficit was mainly owing to low maximum temperatures as minimum temperatures were somewhat above the average. The coldest night was on the 29th when there was slight air frost at some places in Scotland and temperature fell to 23°F . on the ground at Cannich.

Extreme temperatures for the month included:—(England and Wales) 84°F . at Mickleham on 5th, 34°F . at Kielder Castle on the 29th; (Scotland) 80°F . at Ruthwell on the 3rd, 30°F . at Glenshee Lodge and Peebles on the 29th; (Northern Ireland) 75°F . at Ballykelly on the 3rd, 36°F . at Ballykelly on the 29th.

Precipitation. The general precipitation expressed as a percentage of the 1881-1915 average was 121 for England and Wales, 128 for Scotland and 113 for Northern Ireland. Rainfall was more than twice the average locally in Anglesey, Herefordshire, Shropshire, Derbyshire, Yorkshire, Northumberland and West London, but less than the average over most of East Anglia, the east-Midland counties, a large area south of the Bristol Channel, on much of the coast of the north Wirral peninsula and the Solway Firth, locally on the west coast of Scotland and in the northern counties of Ireland.

The month was notable for a number of falls of very rare intensity which included:—

5th 3.43 in. at Bwlchyllan, Cardiganshire in 2 hr.

10th 5.38 in. at Llansadwrn, Anglesey in 2 hr. 20 min.

Among the heaviest falls in 24 hr. were:—

5th 5.97 in. at Rodsley Pumping Station, Derbyshire, 4.11 in. at Clifford School, Herefordshire.

12th 3.88 in. at Hampton (R.D.W.), Middlesex.

Thunder was rather more frequent than is usual during August. It was heard on 11 days in Scotland and on 17 days in England and Wales—on 5th to 17th, 23rd to 25th and 27th. At a number of places it was recorded on six days during the month.

Sunshine. The general sunshine expressed as a percentage of the 1921-50 average was 85 for England and Wales, 87 for Scotland and 88 for Northern Ireland. The sunniest part of the month was during the first three days and the third week. Sunshine was above the average in southern England during the latter part of the month, but in northern England during the week commencing 11th it was only 20 per cent of average.

Fog. Fog occurred on 19 days; it was fairly widespread on the 10th in Scotland and on the 6th and 7th in the Midlands and north-west England.

Miscellaneous Phenomena. The aurora was observed in Scotland on 15 nights.