

## MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE

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

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## SEPTEMBER, 1933.—Warm and sunny; very dry in the Northwest.

At first an anticyclone situated off our south-west coasts moved north-east to Denmark and maintained warm, fair weather apart from some rain in the north and west. On the 6th a new high pressure system off south-west Ireland spread north-east and joined the one over Scandinavia and anticyclonic conditions persisted over these islands until the night of the 11th to 12th. A depression over north-west France and the Bay of Biscay moving north-east then caused rain in the south of England and heavy falls were recorded in this area on the 12th and 13th. On the latter day lighter rain fell more widely over the country, but the drought still held in parts of Ireland, southern Scotland and western England. The break was only temporary, however, and anticyclonic conditions were re-established over the greater part of the country until the 16th. Weather then began to deteriorate and from the 19th to 26th depressions passing south-eastward across the country caused unsettled weather, with heavy local rain at times, accompanied in places by thunder. Thereafter a belt of high pressure extending over our northern and western districts caused a renewal of mainly anticyclonic conditions, though a depression over western France and the Bay of Biscay occasioned some rain at times in the south.

**Pressure and Wind.**—The mean pressure map for the month shows a centre of high pressure over eastern Scotland, while the lowest pressure is found over the English Channel (see Chart I). The normal distribution was thus reversed in many areas and resulted in an abnormal frequency of winds from north-east or east in England and Wales and southern Ireland. The deviation from the normal of the mean pressure for the month at 7h. varied from +7.1 mb. at Lerwick to -0.5 mb. at the Scilly Isles and Portland Bill. Gales were rare, on the whole, but were recorded locally in Scotland between the 17th and 20th and on the 24th, in north-east England on the 14th, in south-west England on the 5th, 10th and 17th, and in north Wales on the 24th. The highest wind velocities recorded in gusts were 57 m.p.h. at Butt of Lewis on the 18th and at Bell Rock on the 24th, 55 m.p.h. at Spurn Head on the 14th and 56 m.p.h. at Pendennis on the 20th.

**Temperature.**—For the seventh month in succession mean temperature in all districts of the British Isles was well above the normal, the excess in September ranging from 1.8° F. in Scotland, N., to 3.9° F. in England, E. In Scotland it was the warmest September since as long ago as 1898 and at Totland Bay, Isle of Wight, the mean maximum temperature, 68.2° F. was the highest since 1895. The fair weather of the first week provided, as a rule, the highest temperature of the month, but there was a shorter warm spell around the 17th. In the first week maxima of 80° F. or above were recorded widely in England and readings approaching 80° F. locally in Scotland and Ireland. Of these, may be quoted 85° F. at Attenborough and 84° F. at Welshpool on the 4th, 79° F. at Stonehaven on the 6th, 78° F. at North Berwick and Ruthwell on the 6th and at Ayr on the 5th, and 79° F. at Hazelhatch, County Dublin, on the 3rd. On the 17th temperature rose to between 75° F. and 80° F. in places and 80° F. was touched at Hull. The coldest days occurred generally on the 13th and 14th, and between the 20th and 27th. The coldest nights in many places were from the 14th to 16th, and locally in Scotland on the 10th, 19th and 28th. Screen minima of 32° F. or slightly below were recorded at a number of stations on the 14th, 15th or 16th and 30° F. at Dalwhinnie on the 10th and 28th. At Glenbranter, near Strachur, temperature on the grass fell to 26° F. on the 14th and 24° F. on the 28th.

The extremes for the month were:—(England and Wales) 85° F. at Attenborough on the 4th, 29° F. at Rhayader on the 16th; (Scotland) 79° F. at Stonehaven on the 6th, 30° F. at Dalwhinnie on the 10th and 28th; (Ireland) 79° F. at Hazelhatch on the 3rd, 31° F. at Birr Castle on the 14th.

**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 94, Scotland 41 and Ireland 45. Over all Scotland rainfall was deficient, but it was in the western half of the country that the deficiency was most pronounced. At several places it was the driest September since 1894, and locally in Ross and Cromarty, Inverness-shire, Renfrewshire, Ayrshire and Wigtownshire less than 20 per cent. of the normal was recorded, while at Lairg, in Sutherland, the total was only 5 per cent. At Greenock there were only 3 days with measurable rain and at Glenbranter only two. In Ireland also rainfall was everywhere below the normal, but the scarcity was greatest in the north. For example, at Armagh Observatory only 6 per cent. of the normal was recorded; at Omagh, Co. Tyrone, 15 per cent., and at Ballymena, 20 per cent. In England rainfall was more variable. Locally in the north-east, east, south and the Midlands more than 100 per cent. of the normal was recorded, and at some places in the southern Counties more than 200 per cent., while in Northumberland, north-west England, Wales and most of south-west England there was a deficiency, the latter being most marked in north-west England and the northern half of Wales. Some notable periods of drought were reported: at Harrogate rain on the 13th September ended an absolute drought of 22 days and at Sheffield, Belper and Mayfield one of 21 days. At Totland Bay there was no measurable rain for 20 days ending on September 11th, and at Newquay for 19 days ending on the 16th. In the north and north-west of England no measurable rain fell in September at some places until after the 16th and at Felixkirk (Yorks) it was delayed until the 20th. Heavy rain, accompanied in some cases by thunder, occurred locally at times between the 18th and the 26th. A notable thunderstorm with an intense fall of rain was reported at Fleet (Hants) on the 26th. The largest measurements were, Fleet (Home Wood) 131 mm. (in 4 hours), Crookham 108 mm., Winchfield 102 mm. (in 4 hours) and Hartley Witney 99 mm. (in just over 4 hours). On the same day during a severe thunderstorm at Monkton Park, near Chippenham, 109 mm. were recorded, practically all of which fell in two hours. Heavy falls in 24 hours included 47 mm. at Ryde and Ventnor, Isle of Wight, on the 12th, 47 mm. at Hull on the 23rd, 55 mm. at Folkestone on the 24th and 69 mm. at Bromley (Hants), 51 mm. at Hoddington House (Hants), and 53 mm. at Long Sutton on the 26th.

**Sunshine.**—Abundant sunshine was a notable feature of the month and aggregates were above the normal in all districts, particularly in Ireland, Scotland, W., and England, N.W. (see Table I). Some new records for September were set up: at Valentia Observatory, Cahirciveen, at Ballinacura, Co. Cork and at Malin Head, the totals were the highest for September since records were begun in 1880, 1905 and 1914 respectively. At Armagh Observatory the total of 152 hours was the greatest since September, 1911. At Holyhead and Eskdalemuir Observatory the totals were also the highest for September since observations were started in 1914 and 1910 respectively.

**Fog.**—Fog occurred frequently, particularly during the first week, on the 11th, 12th, 19th and between the 23rd and 30th. It was perhaps most widespread from the 2nd to 4th and between the 27th and 30th.

**Miscellaneous Phenomena.**—A waterspout was observed on the afternoon of September 23rd over Eday Sound, Orkneys. Aurora was observed in northern and western districts of Scotland on each night from the 7th to 11th, on the 13th, 14th, 16th, 21st and again from the 24th to 26th. At Oxford solar haloes were noted on 9 days.