

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

(Supplement to the Weekly Weather Report.)

SUMMARY OF OBSERVATIONS COMPILED FROM THE RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS IN THE UNITED KINGDOM, WITH A CHART OF RAINFALL CONTRIBUTED BY THE BRITISH RAINFALL ORGANISATION.

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE,

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SUMMARY OF OBSERVATIONS.

Pressure, Winds and Weather.—The mean distribution of atmospheric pressure for the month of September was in very fair agreement with the normal. The central space of an extensive region of low values was indicated over the more northern part of the Atlantic, to the south-westward of Iceland, where the barometer readings averaged less than 29.6 ins., while an area of relatively high values, 30 ins. and upwards, occupied the greater part of Europe, from the Bay of Biscay eastward. The British Isles were thus situated in the middle region between the extremes of pressure, with the barometric results differing but little from the usual level. At Jersey there was a small excess, and over the rest of the Kingdom a deficiency, in many cases of less than 0.05 in., and nowhere amounting to 0.1 in. There were no great barometric changes, the range during the month being small, from $\frac{1}{2}$ in. in the Channel Islands and the Hebrides, to $1\frac{1}{2}$ in. on the Irish Sea. In the main, therefore, the pressure distribution was of a Southerly to Westerly type, winds from this quadrant largely prevailing, occasionally veering into the North-West quarter, but rarely visiting the eastern half of the compass. Although the conditions were, generally speaking, of a very unsettled character, and the weather presented great variations, gales were few in number. But while wind storms were uncommon, rain storms of considerable intensity were rather frequent, and the thermometric records disclose some remarkable fluctuations of temperature—from unseasonable cold in the first half of the month to equally unseasonable warmth at the close.

A moderately deep depression, with minimum pressures of about 29 ins., which reached Ireland on August 31st, was centred over Wales and the west and north of England on the morning of September 1st, then passed quickly eastward, reaching the Baltic region on the following day. On the 1st the South-Westerly to Westerly wind blew a gale in many localities, a strong gale at Jersey, Dover and Dungeness, and a whole gale at Portland Bill. The anemometrical records show that at Scilly a mean hourly velocity of 56 miles was reached, the velocity exceeding 50 miles an hour through eight consecutive hours, while in one of the squalls a velocity at the rate of 69 miles an hour was registered. Brighton had a gust at the rate of 61 miles, and Plymouth and Shoeburyness 57 miles per hour. In the rear of the disturbance the Northerly wind was not so severe, Holyhead and Malin Head reporting gale force, and at Alnwick Castle a gust at the rate of 55 miles an hour was recorded. Thunderstorms occurred in many parts of England. The greater portion of the rainfall associated with the storm fell during the rain-day August 31st. It exceeded 1 inch in many places, mostly in South Wales and the Midlands.

A small and shallow disturbance which moved eastward across the extreme southern districts on the 3rd and 4th was accompanied by very little wind, but it deposited from $\frac{1}{2}$ in. to an inch of rain at a number of places. Under the influence of a depression over Iceland on the 5th a South-Westerly gale was felt at Malin Head, and very heavy rain fell over our northern districts, up to 1.9 in. at Glencarron, and 2 ins. at Laudale.

Extremely unsettled weather marked the progress of a slow moving depression which made its appearance off the west of Ireland on the morning of the 7th. Taking a north-easterly course it occupied three days in passing to the south-west coast of Norway, the lowest pressure being 29.15 ins. at Aberdeen on the 9th. Strong or high South-Westerly to North-Westerly winds blew in most districts, and each day from the 7th to the 10th the force of a gale was attained locally, on the 9th a strong South-Westerly gale at Nottingham and Pembroke, Westerly at Portland Bill, and North-Easterly at Wick. A squall at the rate of 53 miles per hour was registered at Shoeburyness. Very few thunderstorms were reported between the 7th and the 10th, but in the extreme northern and north-western parts of the United Kingdom rain was heavy and persistent. In numerous instances the falls were an inch or more in a day—on the 7th, 1.8 in. at Killibegs, and 1.9 in. at Rothesay; on the 8th, 1.6 in. at Kinlochewe (Ross), 1.7 in. at Blacksod Point, 1.8 in. at Foynes, Mount Callan (Clare), and Glencarron, 1.9 in. at Stornoway and Wick, 2 ins. at Markree Castle, and 3.6 ins. at Ardross Castle (Ross); and on the 9th, 1.6 in. at Killibegs, and 2.2 ins. at Sandside, Orkney. From the 5th to the 9th Kinlochewe received 5.3 ins., from the 7th to the 9th Killibegs had 4.7 ins., and on the 8th and 9th Ardross Castle exceeded 4.9 ins. At Ampleforth Abbey on the afternoon of the 9th there was an extremely heavy shower (0.3 in.) of sleet, rain and snow; at Liverpool Observatory on the following morning snow flakes fell with rain; and on the 11th heavy rain, hail and snow fell at Berkhamsted for 25 minutes. As the disturbance was passing away a very small secondary irregularity of

pressure moved across southern England, occasioning minor thunderstorms and small quantities of rain and hail in many neighbourhoods. Canterbury, however, was visited by a fierce thunderstorm between 5 p.m. and 6 p.m., accompanied by a deluge of rain and hail. In hollows the hail accumulated to a depth of 15 inches, and stopped pipes and drains. Streets and houses were flooded. In the east of the City the rainfall was only 0.45 in., but in the north it was 1.45 in., in the centre 1.99 in. (of which $1\frac{1}{2}$ in. fell in about 20 minutes), and in the south 3.15 ins.

After this the conditions became much less disturbed, although they remained of an unsettled type until practically the end of the month. The Atlantic low pressure system maintained its position well to the westward of our coasts and near Iceland, and only some small secondaries visited these islands. As a rule these did not cause much wind, but a Southerly gale was felt at Roche's Point on the 25th, and at Blacksod Point on the 29th. Occasionally there were local thunderstorms, and here and there rain fell rather heavily, 2.1 ins. at Graythwaite (Lake Windermere) on the 16th, and 1.7 in. at Kilkenny on the 19th. Even in the closing days, when the weather had become very fine and warm over England, there were several falls of from 1 in. to 1.5 in. of rain in Ireland and Scotland.

The more disturbed half of the month was marked by cold weather over the country generally. Maximum afternoon temperatures below 60° were commonly experienced, in very numerous instances they were below 55°. Between the 3rd and the 5th Stokesay, Markree Castle, Strathpeffer and Sumburgh Head reported 51°, and Llangammarch Wells under 50°. Similarly low maxima occurred between the 9th and 13th, Rhyl, Nairn and Wick having 50°, and Buxton only 49°. At Whitworth Park, Manchester, the maximum of 52.5° on the 10th occurred in the night. During the same period some of the nights were exceedingly cold, shade minima below 35° being registered at many stations. On the 5th Wokingham touched 31°, Llangammarch Wells 29°, and Balmoral 27°, and on the 12th or 13th Lincoln, Buxton, Carlisle and Kilmarnock registered 31°, Garforth and Colmonell 30°, Wokingham 29°, and Llangammarch Wells 28°. During a temporary burst of warmth on the 19th and 20th the thermometer passed 70° in many localities, mounting to 79° at Canterbury and Whitby. Quite at the close the weather suddenly became abnormally warm, so that on the last two days readings above 75° were numerous, a dozen stations rose to 80°, and on the 30th Leeds and Whitby had 81°, and Epsom and Maidenhead 82°.

An auroral display was witnessed at Liverpool, Heddon-on-the-Wall, and other places on the evening of the 29th.

Fog was reported on various parts of our coasts on the 7th and 8th, otherwise atmosphere during the first half of the month was generally clear. From the 17th to the end, however, it was present every day in many localities. Inland, also, there was an appreciable increase in the frequency of fog, especially during the morning hours.

All round our shores the temperature of the sea water was decreasing. Off the west of Ireland, the south-east of England, and on the eastern side of the Irish Sea the mean values showed a reduction of from 3° to 5° since August, while on the east coasts of Ireland and Britain the reduction was 1° or 2°. In most neighbourhoods the water was a little warmer than the air, but on the eastern part of the English Channel it was 3° or 4° warmer.

Rainfall.—Notwithstanding the many heavy rainstorms, the aggregate totals for the month show that there was an excess of precipitation only in Scotland, Ireland, the north-west of England and the English Channel. Some stations in those regions had an excess of more than 3 ins., while several parts of England returned a deficiency of more than an inch, $1\frac{1}{2}$ in. at Folkestone, Portsmouth and Woolacombe. The largest totals were 11.8 ins. at Killibegs, 11.1 ins. at Glencarron, and 10.4 ins. at Caragh Lake (Kerry); the smallest an inch at Shoeburyness, Southend and Folkestone, and 0.7 in. at Clacton-on-Sea. Rain was measured on 28 days at Stornoway, Gruline (Mull) and Cahir, and on 27 days at Balta Sound and Killarney, against 9 at Shoeburyness, 8 at Felixstowe and in the Forest of Dean (200 feet), and 7 at Southend.

Bright Sunshine.—The duration of bright sunshine was below the average in nearly all districts, the difference amounting to 61 hours at Strathpeffer, 51 hours at Pembroke, and 48 hours at Armagh and Birr Castle. There was a small excess at many southern stations. Ramsgate, Broadstairs, Dover, Eastbourne and Jersey, with from 185 to 181 hours for the whole month, had 49 per cent. of the possible duration, while Crathes, with 54 hours, had only 14 per cent., West Linton, Balmoral and Strathpeffer returning 15 per cent.