

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

(Supplement to the Weekly Weather Report.)

SUMMARY OF OBSERVATIONS COMPILED FROM 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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LITTLE WIND, HEAVY LOCAL RAINS.

Pressure, Winds and Weather.—During September the distribution of atmospheric pressure over the United Kingdom and the surrounding regions underwent considerable but not violent changes. The type which was in the ascendant through the closing week of August was maintained through the first five days of September. An anticyclone embraced the northern regions, from Iceland across to Scandinavia, including the greater part of this country, while a number of small and very shallow depressions skirted the southern border of the system, moving slowly on most irregular easterly paths, and producing a very changeable state of the weather over our southern districts. A marked alteration in the situation was developed on the 6th, when the depressions dispersed, and the northern high pressure expanded southward and south-westward across the British Isles, being joined by the anticyclonic system which had occupied the middle region of the Atlantic. It was during this interval that the maximum pressure for the month was attained, the barometer rising above 30.5 in. at the northern stations on the 6th and 7th, to 30.56 in. at Wick on the former date, and at Glasgow on the latter. On the 10th a well marked depression was moving on a south-easterly course from Greenland towards Iceland, and maintaining its advance it brought the whole of these Islands within its influence in the course of the following day, the anticyclone withdrawing to some distance out on the ocean. This started the longest spell of unsettled conditions during the month, the country being under a low pressure distribution until the 20th. From the 13th to the 15th the central space of the system lay over our western districts, the barometer standing below 29.5 in. over a considerable area, and on the 14th it descended to 29.07 in. at Birr Castle, the lowest record for the month. From the 18th to the 20th the low pressure was much more shallow, the barometer only a little below 30 in. On the 21st an anticyclone of moderate intensity moved up from the eastern side of the Atlantic, crossed the British Isles, and joined another high pressure lying over Northern Europe. From the 22nd until the end of the month and the opening days of October the pressure distribution was variable, the country occupying a position between depressions situated on the eastern half of the ocean, between Madeira and Iceland, and moving in to the Bay of Biscay and the Spanish Peninsula, and anticyclonic areas which at various times were situated to the eastward, northward, and north-westward.

Combining these very varied conditions the mean pressure distribution for the whole month is found to be the reverse of what it was for July and August. The results disclose an area of relatively low barometric values, about 29.9 in., outside our south-western coasts, and of relatively high ones, nearly 30.1 in., over an extensive region of Northern Europe. At the home stations the values ranged from 29.91 in. at Scilly to 30.04 in. at Lerwick, so that the distribution was of a general South-Easterly type, as against the normal Westerly to South-Westerly. Over the northern half of the kingdom the means were above the normal, by as much as 0.21 in. in Shetland, and over the southern districts they were below, by 0.07 in. at Portland Bill, and 0.08 in. at Scilly. Though the prevailing type was South-Easterly, the winds experienced, owing to the many shiftings of the various pressure systems, were from all quarters of the compass.

The month may be regarded as singularly free from stormy weather, most of the depressions of the period being very shallow, and not favourable to a decided increase in the velocity of the wind. At the telegraphic reporting stations, force 6 (a strong breeze) was not exceeded during the first ten days. With the approach of the disturbance from the Greenland region, a more breezy spell set in on the 11th, when a high wind (force 7) was felt round the north of Scotland. When the centre of the system took up its position over the country a complete cyclonic wind circulation was set up, but the gale produced affected only very limited areas, and nowhere did it present any violent features. Force 8, from South-West, was attained at Malin Head and Stornoway on the 12th; from South at Holyhead and Portland Bill on the 14th; and at Roche's Point next day. The only strong gale (force 9) was from the North-Eastward, at Lerwick and Malin Head during the evening or night of the 14th.

There was even less wind during the second half of the month. From the 22nd to the 25th, with a moderately deep depression out on the Atlantic and an anticyclone about the Scandinavian region, the force of a strong Southerly wind was exceeded at some of the more exposed situations on the western and northern coasts, force 8 at Malin Head on the 22nd, and at Wick on the 23rd, and force 9 at Lerwick and Wick on the 25th.

These estimates, indicating the general absence of boisterous conditions, are confirmed by the records of the self-registering anemometers in many parts of the kingdom. They disclose very few instances of a

mean hourly wind velocity above 38 miles, the limit of a high wind, while even in gusts registrations above 40 miles per hour were uncommonly rare, the highest being 46 miles at Pendennis Castle on the 4th, and at Holyhead on the 20th, and 48 miles at Holyhead, and 51 miles at Scilly on the 14th.

Though there was very little wind the weather itself was of an unusually erratic character; the rainstorms experienced were distributed in the most haphazard manner, many of them affecting small areas. The heavy downpour which broke over South-Eastern England near the close of August expanded so as to embrace the greater part of Southern England on September 1st, accompanied by thunderstorms in several localities, the precipitation ranging up to more than an inch at Aldershot and Wisley, 1.3 in. at Ridlington (Rutland). The southern half of Britain had another very wet day on the 4th, with sporadic thunderstorms, which were severe in places. The largest rainfalls were 1.7 in. at Cardiff, Princetown and Worthing, and 2.1 in. at Abersychan. At Princetown the thunderstorm was very violent, eight bullocks being killed by lightning in one spot, and nearly the whole of the 1½ in. of rain which was measured falling within the hour from 6.30 a.m. to 7.30 a.m. Next day there were further heavy falls over the south-western counties, up to 1.4 in. at Princetown and Ashburton, and 1.5 in. at Sheepstor. At Newquay about ½ in. fell in 20 minutes, in a severe thunderstorm. From the 6th to the 10th there was little or no rain, but on the 11th heavy falls were working down from the Greenland-Iceland region. In Western Scotland the amounts on the 11th ranged up to 1.8 in. at Bendamph. On the 12th the largest quantities were in Wales, up to 2 in. at Haverfordwest, 2.6 in. at Bethesda, and 3.9 in. at Llanberis (Penygwryd). On the following day heavy falls were scattered over widely separated parts of the kingdom, up to 1.7 in. at Armagh and Dwyran, 2 in. at Haverfordwest, and 2.1 in. at Lisburn. Various districts had thunderstorms on the 14th, but the heaviest rains were in Ireland, 1.6 in. at Enniscoke, 1.7 in. at Mount Callan, and 2.2 in. at Ennistymon. Thunderstorms were more numerous on the 15th, but heavy rainfalls were fewer, 1.3 in. at Ballinacurra, 1.4 in. at Dunrobin, and 1.8 in. at Roche's Point. A waterspout was observed crossing the mouth of the Towry river, Carmarthen, and Oundle was visited by an extraordinary hailstorm, yielding 0.52 in. of water in 20 minutes. One mass of the hail had not melted four days later. The 16th witnessed further sporadic thunder and rainstorms, Newcastle-on-Tyne being swept by a torrential fall of 2.65 in. in 1½ hour. Next day the Midlands had heavy downpours, up to 1.7 in. at Sheffield, and a "record" amount of 2.1 in. at Bawtry. Ireland had the heaviest on the 19th, 1½ in. round Dublin; on the 22nd, 1.4 in. at Valencia; and on the 24th, 2 in. at Broadford (Clare). On the 26th the north of England received the heavy falls, up to 1.6 in. at Lancaster, and 1.8 in. at Kirkby Lonsdale. Over an inch fell on the west coast of Ireland on the 27th.

Temperature was in excess of the normal at nearly all stations, by more than 2° in many instances. The mildest period was round the 27th, when many places had afternoon maxima of 75° and upwards, 79° in several cases, and 82° at Whitby. The nights at this time were very mild also, with minima above 60° in various districts, 63° at South Kensington, 65° at Manchester. Frost in the shade occurred in some of the more open situations, mostly on the morning of the 7th, when Braemar and Garforth touched 29°, West Linton 28°, and Kingussie 27°.

The temperature of the sea water round our coasts was decreasing, and in some places it was from 2° to 4° colder than in August. As a rule, however, it was 1° or 2° warmer than the air on shore.

During the second half of the month fogs were reported frequently on the western and eastern coasts, locally thick on several days, but along the south coast they were seldom recorded.

Rainfall.—As noted above the distribution of precipitation was very irregular. This fact is brought out in the results for the whole month. Newcastle-on-Tyne had 324 per cent. of the normal, Shields and Haverfordwest 205, Seaforde (Down) 200, Glasnevin 197, and a number of other stations more than 150 per cent., against less than 50 per cent. at several, 40 at Buxton and Seathwaite, 38 at Southend, 37 at Fort William, and 23 per cent. at Jersey. Few totals exceeded 5 in., but some stations in Snowdonia received over 10 in. The aggregates below ¼ in. were 0.7 in. at Brandon and Jersey, and ¼ in. at Clacton. The frequency of precipitation was less than usual, 22 days at Roche's Point and Valencia, and 21 at Baltasound, Blacksod, Foynes, Princetown and Wilton, 10 or less at many stations, six at Ruthwell.

Bright Sunshine.—With few exceptions the duration of insolation was below the normal. Jersey had 110 per cent., and Fort Augustus, Newton Rigg, York and Westminster 109, but several districts had less than 75 per cent., 61 at Cullompton, 59 at Aberdeen and Woolacombe, and 57 per cent. at Deerness.