

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.—During the period under review very breezy conditions ruled, so that only on the 5th and 6th were there no instances of more than a strong wind at any of the telegraphic reporting stations, whereas on as many as twenty-one days there were one or more records of gale force, recalling the winter months of 1898–9. There was only one brief interval, between the 4th and the 7th, during which the British Isles were covered by an area of high atmospheric pressure, and only on the 6th was the southern half of England within the central space of the system, which was mainly a Continental one. In the night of the 6th or morning of the 7th the barometer rose to 30·60 ins. at Jersey, Dover, and Oxford, and to 30·61 ins. at Clacton-on-Sea and Yarmouth. Readings above 30·5 ins. were registered all over England and Wales, but not in Scotland and Ireland. The rest of the month was of a generally disturbed character. At first numerous very large and deep depressions from the Atlantic and Greenland reached Iceland and passed eastward, in most cases with their central spaces to the northward of the Arctic Circle. Out of the first nineteen days of the month the barometer was below 29 ins. in these more northern regions on as many as fourteen days. The centres of only three of these systems passed to the southward of Iceland, the first, and the deepest of the month, moving north-eastward across the Farøe, the second skirting the south coast of Iceland, and the third visiting Shetland. In all cases, however, these Arctic disturbances covered such extensive areas that their southern limits were frequently found as far as the English Channel, sometimes down to Central France. At the commencement of the fourth week the situation underwent an important modification, which resulted in a complete change in the character of the weather over these islands. Instead of keeping to the northward of the 60th parallel the centres of the deep cyclonic areas coming from the Atlantic were found to the southward of the 55th parallel. The first of them moved in quickly across the north of Ireland in the night of the 23rd, and increased in depth to a minimum 28·59 ins. at Yarmouth on the evening of the 24th, when the centre was off the coast of Norfolk. This was dying out over southern Sweden when another moved in across southern Ireland in the night of the 27th, like its predecessor increasing in depth as it advanced, so that when the centre arrived on the North Sea, off the coast of Durham, the barometer had dropped to 28·54 ins. at Shields. There was thus such a decided predominance of cyclonic systems against only one anticyclone of short duration that the mean pressure for the whole month was everywhere below the normal. The deficiency was greatest in the north, amounting to 0·29 in. at Sumburgh Head, and 0·23 in. at Wick, Nairn, and Aberdeen, diminishing southward to 0·07 in. at Jersey, and 0·04 in. at Scilly. The range of pressure was large at all stations, from 1·4 in. at Nairn to 2 ins. at Shields, Yarmouth, and Clacton-on-Sea. In the 24 hours from 7 a.m., 23rd, to 7 a.m. 24th, the barometer fell more than an inch over nearly the entire country, 1½ in. at Liverpool. The distribution of mean pressure for the month was in general agreement with the normal, a well-marked Westerly type, but with a steeper gradient than usual, the difference between Jersey and Shetland amounting to 0·54 in., against the average of 0·32 in. From 29·98 ins. at Jersey the values diminished northward at a fairly regular rate to 29·44 ins. at Sumburgh Head, and to 29·26 ins. at Reykjavik (Iceland). Winds from about West and South-West largely prevailed, but with the depressions of the closing week keeping in more southern latitudes, Easterly and North-Easterly winds were experienced in many localities.

It was not until the 9th that the conditions assumed a very stormy character. On that morning the steamer "African Prince" encountered a severe South-Westerly gale in about 59° N., 17° W., the barometer falling rapidly until it touched 27·86 ins. at 8.30 a.m. At this level it remained for half an hour, the wind then suddenly veering into North-West and increasing to hurricane force, the barometer rising at a remarkable rate, 0·58 in. in three hours. By evening the centre of the depression was near the Farøe, where the barometer had dropped to 27·89 ins. Already the influence of the disturbance was felt over the entire area of the United Kingdom, and generally over north-western Europe. The disturbance travelled north-eastward to northern Scandinavia, but it continued to affect our weather until the 12th, gale force occurring daily on our coasts, a whole gale from South-West or West on the 10th at Wick, Castlebay and Malin Head, on the 11th at Malin Head and Portland Bill, and on the 12th at Malin Head. Automatic records show that Scilly had a mean hourly velocity of 53 miles on the 12th, but the rate attained in gusts rose to 72 miles per hour at Scilly and Dover on the 11th, 65 miles at Roche's Point, and 67 miles at Scilly on the 12th. Rain was general, but there were hardly any falls of as much as an inch in a day. Various places had snow on the 11th and 12th. The heaviest rains of the month occurred on much less stormy days—on the 13th over western Scotland, up to 2·4 ins. at Kinlochewe, and on the 15th over north-western England and western Scotland, up to 1·7 in. at Laudale, 1·8 in. at Darweil, Kirkby Lonsdale and Graythwaite (Lake Windermere) and 2·1 ins. at Stonyhurst.

With another deep depression moving between Iceland and southern Norway the period from the 16th to the 19th gave South-Westerly to Westerly high winds or gales at numerous stations daily, a strong gale at Jersey and Nottingham on the 18th. At Scilly a mean hourly wind velocity of 55 miles was reached on the 18th, while in gusts a rate per hour of 65 miles was attained on the 16th at Southport, and on the 18th of 66 miles at Scilly, and 71 miles at Pendennis. At Fort William the rainfall on the 16th amounted to 1·7 in., other places in the same region receiving more than an inch, and in the next two days snow fell in several parts of Scotland, deep at Kinlochewe, and 7 ins. at West Linton.

Speaking generally, the temperature during this spell of three weeks of Westerly winds was moderate to mild, at times very mild. On several days the thermometer rose above 50° in many neighbourhoods, and maxima above 55° were fairly numerous. Colwyn Bay touched 59° on the 1st, Crathes, Rhyl and Sheffield 58° on the 2nd, and 57° was registered at Kingstown on the 8th and 9th, at Killarney on the 9th, at Cirencester on the 14th, at Laudale on the 15th, and at Portsmouth on the 16th. There were also large numbers of night minima above 45°; in the night of the 1st–2nd Dublin City remained as high as 52°, Phoenix Park, Foynes and Killarney 51°, several other Irish stations, Shrewsbury and Whitby 50°; Plymouth had a minimum of 50° in the night of the 8th–9th, and London 49° in the night of the 15th–16th.

Very widely different were the conditions towards the close of the month, the deep depressions crossing Ireland and England produced rough and bitterly cold weather. Jersey had a strong Westerly gale on the 23rd and 24th, Roche's Point on the 24th, Spurn Head a strong North-Easterly gale on the 25th, and Donaghadee on the 28th, the Scilly anemometer registering a mean hourly velocity of 57 miles on the 24th, with gusts at the rate of 80 miles an hour. Snow fell daily, and in many places in considerable quantities, Ireland receiving more than other parts of the kingdom. Amounts exceeding an inch of rain or of melted snow were rather numerous, up to 1·6 in. at Arlington (Barnstaple) on the 24th, 1·5 in. at Kingstown and Glasnevin on the 27th, at Newcastle (Wicklow) and Morpeth on the 28th, and at Kinlochewe on the 30th. Oban had 15 ins. of snow on the 26th, Bradford (Yorks) a foot on the 28th, and at Marchmont from the 23rd to the 29th there was an accumulation of 17 ins. Intense cold marked this spell, a very severe frost occurring generally between the 26th and 29th, a temperature below 10° being recorded as far south as Wokingham, northern records going down to 0° at Killmarnock –5° at West Linton, and –10° at Balmoral. The afternoon maxima were also very low, especially on the 27th, 20° at Fort Augustus and Nairn, 18° at Aberdeen, and 15° at Stonehaven.

Thunderstorms formed the most exceptional feature of the midwinter month. On as many as 23 days there were records of thunder, of lightning, or of both, thunder on eight successive days at Gruline (Mull), lightning on one day and thunderstorms on seven days between the 8th and 16th at Markree Castle. Many parts of Ireland and Scotland were affected on the 8th to the 11th, as were England and Wales on the 10th and 11th. The records on the 12th were in north-western England and western Scotland; on the 14th, 17th and 18th mainly in Scotland; on the 16th in Scotland and Ireland; on the 24th in Ireland and the Channel Islands, and on the 28th over the southern counties of England.

Fog was comparatively infrequent over the land, but on the western, southern and eastern coasts it was reported in many localities during the first week. On the north-east coast of England it was rather foggy from the 24th to the 27th.

The temperature of the water was the same as during December along the southern coasts, from Margate to Daunt's Rock, Queenstown. In most other places it was a little colder. The water, however, was warmer than the air, in many neighbourhoods by 4° or 5°, at Stornoway by 6°, and off Shetland by 8°.

Aurora was observed on a few occasions at some northern stations.

Rainfall.—With the exception of the west of Scotland and the south of Ireland there was an excess of precipitation, as a rule unimportant, being less than an inch, but Arlington was 2·3 ins. above the normal, Fort William 3·9 ins. and Stonyhurst 4·3 ins. On the other hand Colmonell and Roche's Point returned a deficiency of 2 ins., and Waterford 2·1 ins. At several mountain stations in the west and north the total falls were from 10 ins. to more than 18 ins., while in the eastern districts there were many totals below 2 ins., down to 1·2 in. at Spurn Head, Felixstowe and Shoeburyness. Rain fell on every day at Roche's Point (yielding little more than half the average quantity), on 30 days at Stornoway, and on 29 days at Valencia, against 13 at Colwyn Bay, Berkhamsted and Tottenham, and 10 days at Tealby.

Bright Sunshine.—There was nearly everywhere an excess of sunshine, Berkhamsted showing a gain of 26 hours, Blackpool 28, and Oxford 29 hours. The largest aggregates were 89 hours (36 per cent. of the possible) at Lowestoft, 88 hours (36 per cent.) at Bidston Observatory, and 87 hours (35 per cent.) at Rhyl; the smallest, 22 hours (9 per cent.) at Whitworth Park, 19 hours (9 per cent.) at Fort Augustus, and 16 hours (7 per cent.) at Manchester City.