

## 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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## SUMMARY OF OBSERVATIONS.

**Pressure, Winds and Weather.**—The distribution of atmospheric pressure during the opening month of the year was of a varied character. A decided rise of the barometer which was taking place on the closing day of December heralded the approach of an anticyclonic system from the neighbourhood of the Baltic, and by the evening of that day readings above 30 in. were registered over the whole of the British Isles. In the forenoon of January 1st the barometer stood at 30.57 in. at Jersey, and this proved to be the highest record in this country for the whole month, the extreme south of England being the only locality where on this occasion the readings were as high as 30.5 in. The central space of the anticyclone, however, remained on the Continent, moving slowly south-westward across the Vosges and the Pyrenees, and arriving over Spain on the 3rd, passing from thence out to the Atlantic, between Portugal and the Azores, on the evening of the 4th. These four days, therefore, were of a fairly quiet anticyclonic type on our side of the Channel, the low pressures of this period being found well to the westward and northward on the Atlantic and about Iceland. On the morning of the 4th a depression was off the south of Iceland, and this moved along an easterly path and reached Caithness on the following morning. This was the commencement of a spell of very disturbed conditions, which lasted generally from the 5th to the 25th. In this period of three weeks the northern half of the Atlantic was never free from extensive and energetic cyclonic systems, some of them very deep, the barometer falling to about 28 in. on the 15th in 55° N., 25° W. These disturbances were near enough to exercise considerable influence on the weather over these islands, which were visited by only a few secondary, though important, offshoots from the main body. That of the 5th over Caithness travelled quickly south-eastward across the North Sea, and within 48 hours it was disappearing across south-eastern Russia. At no time does it appear to have been deeper than 29 in. As it was moving down the North Sea wireless reports from the Atlantic showed that a deeper one was making a rapid advance towards Ireland, where it arrived on the morning of the 6th. On this day the barometer fell to 28.73 in. at Holyhead, 28.74 in. at Birr Castle and 28.75 in. at Spurn Head. Maintaining a course a little to the south of east the depression was nearing the Caspian Sea two days later. The other disturbances of the month, in the English Channel on the 18th and 25th, and a separate one on the North Sea on the 25th, were very shallow and unimportant in their results. This low pressure period in the west was a high pressure period in the east, and between the 12th and the 18th the barometer was at 31 in. and upwards at many Russian and Swedish stations, 31.21 in. at St. Petersburg on the 13th, and at Kuopio on the 14th. From the 26th to the end of the month there was a complete reversal of the pressure distribution over the United Kingdom, and for the first time in many weeks the central space of an anticyclone lay over the country, the system moving down upon us from the Iceland region, and the barometer mounting above 30.3 in. at many of the home stations from the 28th to the 30th.

For the whole month the mean pressure was influenced largely by the disturbed middle period of three weeks, the results indicating an area of low barometer out on the Atlantic, below 29.65 in. to the southward of Iceland, and of high readings over eastern and south-western Europe, 30.15 in. at Moscow, and 30.14 in. at Madrid. The British Isles thus occupied a position midway between the extremes of pressure, the mean values being between 29.77 in. on the coast of Mayo, and 29.96 in. over the south-eastern counties of England. In Scotland the results were above the normal, by as much as 0.18 in. at Lerwick, while with the exception of Shields all the English and Irish stations were below the normal, the largest deficiency being 0.16 in. at Valencia. The figures show a well-marked Southerly wind type of distribution over the country generally, the normal gradient being for Westerly to South-Westerly winds. For the midwinter month the extreme range of pressure was not as large as usual, less than 1.2 in. at Stornoway, and amounting to 1.7 in. at Clacton-on-Sea and Holyhead.

The first four days of the month were not marked by much wind, the force of a high wind being reported at some of the most northern stations, and squalls of gale force at Wick and Spurn Head on the 3rd. With the arrival of the depression on the 5th the conditions became much more disturbed, so that gales from directions between East, South and West were experienced nearly every day down until the 18th. The force of a strong or whole gale (9 or 10 on the Beaufort scale) was, however, attained only with cyclonic disturbances whose centres were out on the Atlantic and never reached our shores. On the 8th a strong South-East gale at Malin Head and Spurn Head, a whole East gale at Donaghadee; on the 9th a strong South-East gale at Aberdeen and Wick; on the 10th a strong South gale at Malin Head, South-West at Blacksod Point, and a whole South-East gale at Lerwick; on the 11th a strong South gale at Malin Head and Wick, a whole gale at Lerwick. A strong South gale was felt locally in northern Scotland on the 13th and 14th. But the next three days, 15th, 16th and 17th, with a

difference of pressure amounting to 3 in. between the Atlantic and western Russia, were the most stormy of the month, a strong gale blowing in many localities, a whole gale at Malin Head, Donaghadee, Spurn Head, Wick and Lerwick. Out on the North Sea the gale was very severe and destructive, numerous wrecks being reported, and on the Aberdeenshire coast alone there were 70 lives lost. The anemometrical records showed that the greatest mean hourly velocity of wind was 54 miles at Deerness on the 16th, while in gusts 64 miles per hour was registered at Pendennis on the 6th, 62 at the same place on the 15th, 61 at Yarmouth, 65 at Aberdeen, and 66 at Shields on the 17th. The gales died out on the east coast of Britain on the 18th, and thenceforward until the end of the month the wind rarely exceeded the force of a strong breeze anywhere.

From the 1st to the 18th rain was frequent and often heavy, and in many parts of the kingdom there were falls of an inch or more in a day, the largest records being 2.3 in. at Copper Mill, Snowdon, on the 3rd, 2.4 in. at Seathwaite on the 16th. On several days the rain was varied by snowstorms over extensive areas. The greatest depths of snow on the level that were noted by the observers were 10 in. at Crieff on the 8th, "several inches" at Clifton on the 15th; 6 in. at Buxton and Winslow, 7 in. at Ruthin and Southport, 9 in. at Kingston-on-Soar and Rugby, 10 in. at Shrewsbury and 11½ in. at Malvern on the 17th; 6 in. at Abersychan and Llangammarch Wells, 6½ in. at Welshpool, 7 in. at Bromyard and Cirencester, 10 in. at Strelly Hall, and 12 in. (drifts 6 ft.) at Buxton, and 12½ in. at Edgbaston on the 18th. The remainder of the month was generally very dry, with only a few trifling showers in many localities, none at all in many others, Donaghadee and Mallaranny having 14 rainless days (18th to 31st), and Blacksod Point 16 days (16th to 31st).

As a rule mildness was in the ascendant over the whole country through the first three weeks, the day temperature frequently above 50°, touching 57° at Dunfanaghy on the 1st, Killerton on the 4th, Minehead on the 9th, and Fort Augustus on the 15th. Very numerous night minima as high as 47° to 49° were also registered during this period, 50° at Penzance on the 14th. There were, however, sharp touches of frost of a fleeting character on the mornings of the 8th and 19th, the shade temperature descending on the former date to 15° at Eskdalemuir, 14° at West Linton and 13° at Balmoral, and on the latter date to 20° at Malmesbury, and 15° at Shrewsbury. On the 8th and 18th also the afternoon maxima at a number of stations were below the freezing point, 27° at Stonehaven on the 8th. On the 18th a glazed frost occurred in many parts of England. At Hampstead it was ¾ in. thick, causing "tremendous havoc amongst trees and telegraph wires." Towards the end of the month a spell of severe frost was setting in, very numerous shade minima below 20° being registered on the 29th and 30th, 11° at Aldershot, Buxton, Strelly Hall and Raunds, 10° at Llangammarch Wells and 7° at Balmoral, the afternoon maxima on the 29th being as low as 26° at Hodsock Priory, and 25° at Bawtry and Thrapston. (This frost increased in intensity in the opening days of February.)

Serious floods occurred about the middle of the month in the valleys of the Frome (Herefordshire), the Nen (Northamptonshire) and the Thames.

An earthquake was felt at 4.30 a.m. on the 28th at Gruline and Poltalloch. Aurora was observed at Gordon Castle on the 5th, Dunrossness (bright) and Fort William on the 22nd, and Baltasound on the 23rd and 28th.

Both on land and along the coasts fog was more frequently reported than for some years past, and in many instances it was noted as thick or dense.

The sea water round our coasts was nearly everywhere rather colder than it was during December, but it was warmer than the air on shore, by as much as 6° in several localities, 7° at Wick.

**Rainfall.**—There was a considerable deficiency of precipitation over the north of Scotland, and to a much less extent in western Scotland and northern Ireland. All other districts returned an excess. Fort Augustus had only 44 % of the normal, Strathpeffer 48 % and Glencarron 59 %, while in other districts there were instances of 200 % and upwards, 223 at Cambridge, 226 at Oxford and 230 at Coventry. The aggregate totals for the month ranged from 0.9 in. at Fortrose, 1 in. at Nairn, and 1.1 in. at Leith to 11.1 in. at Treherbert, 11.5 in. at Llydan, Snowdon, 11.6 in. at Seathwaite, 11.7 in. at Glenquoich, and 13.5 in. at Copper Mill. The frequency ranged from 8 days at Dunrobin, 9 at Dungeness and 10 at Donaghadee to 26 at Lerwick, and 27 at Baltasound, Deighton Grove, York and Roche's Point.

**Bright Sunshine.**—The duration of insolation showed an excess in the north of Scotland and of Ireland, and over the western half of England. Margate had only 47 % of the normal, Kew Observatory and Marchmont 49 % and Westminster 51 %, against 171 % at Fort Augustus.