

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

SUMMARY OF OBSERVATIONS COMPILED FROM RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS IN THE UNITED KINGDOM, AND AT GIBRALTAR AND MALTA, WITH A CHART OF RAINFALL CONTRIBUTED BY THE BRITISH RAINFALL ORGANIZATION.
ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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Many Rain-days and Abnormally Mild.

Like that of the two preceding months the weather of December was largely dominated by south-westerly and westerly winds, and very generally the character of the month was mild, rainy, and unsettled. A marked feature was the abnormal frequency of the rain, which, at some stations, fell every day; twenty-eight or twenty-nine rain-days were recorded at an unusually large number of places. As regards the quantity of rain measured, the totals at quite a number of stations, and more especially at some of the high level stations in the northern districts, exceeded those recorded in any previous December. A further outstanding feature was the abnormally high temperature for the time of the year registered on many days over the country generally, maxima as high as 28.9a and 28.8a being common. In this respect also all previous records for December were exceeded at many stations. At the beginning of the month, and during the last few days, the conditions in Scotland were continuously unsettled. From the 19th to 23rd the days were exceptionally cold, and the weather was very stormy around the 23rd and 26th, with falls of snow, sleet, and hail at times on various days from the 22nd onwards. Fog was comparatively rare.

The following notes supplied by observers illustrate the general character of the month:—*Kenninghall, Norfolk*.—A very wet and exceptionally mild month. *Norwich, Norfolk*.—The temperature registered on the 3rd (28.8a) was the highest recorded here in December during thirty-three years. *Copdock, Suffolk*.—A dull, damp, and very mild month. The highest maximum (28.7a) and the highest minimum (28.4a) both being 1.1a above any previous December readings in the past eighteen years. *Meltham, Yorkshire*.—The first half of the month was warmer than in any other corresponding period during thirty-eight years. *Tenbury, Worcestershire*.—A damp, changeable, and very mild month. The maximum temperature (28.8a) was the highest recorded in December for more than eighteen years, and the mean temperature was 3.3a warmer than usual. The number of rain-days was nearly double the normal, the total rainfall was, however, nearly 25 mm. deficient. *Totland Bay, Isle of Wight*.—It was the warmest December during thirty-three years here. The mean temperature was 28.1.7a, the nearest approach to this being 28.1.6a in 1898. *Dublin (Fitzwilliam Square)*.—A very open month of south-west and west winds, much cloud, and frequent rain. No snow, sleet, or hail was observed. Lightning was seen on the 11th and 19th. *Carrigoran, Co. Clare*.—A very gloomy and muggy month. Rain fell persistently from the beginning to the end of the month, and the sun was rarely seen. There was a particularly bad spell of weather about the 18th, with much distant thunder. No snow fell, and there was only an occasional light frost.

Air Pressure.—As will be seen from the map on p. 135, depressions which passed across, or in the neighbourhood of, the British Isles were very numerous. Some of their most conspicuous features were as follows:—During the early part of the month the depressions moved northwards along the western sea-board of the British Isles, and at times caused a considerable increase in the southerly winds over the Kingdom generally, winds which were associated with abnormally high temperatures for the time of year in all districts. At Blacksod Point, on the 9th at 13 h. 30 m., there was a terrific squall of hail, accompanied by thunder and lightning, and a wind of force 9 from the South-South-West. The hailstones were of abnormal size; the storm, which was associated with a depression centered to the South of Iceland, lasted about fifteen minutes. At 7 h. on the 12th, a deep depression was centered off the Hebrides, with a steep gradient eastwards, which caused strong gales from the South-East over the northern parts of the North Sea, a wind of force 9 being reported from Lerwick. On the 15th, at 7 h., a small depression was situated near Cahirciveen, which subsequently moved North-Eastwards, and occasioned windy and rainy weather over the southern half of the Kingdom. A depression, centered near Stornoway on the 18th, was accompanied by a V-shaped secondary over the East Coast; rain fell all over the British Isles, and was, in places, accompanied by hail. On the following morning, at 7 h., a depression of small size but considerable depth was near the north coast of Ireland, and at 13 h. was over the Irish Sea. As this disturbance passed Eastwards it caused rain at many places, and snowstorms in North Wales, East Cheshire, and the Peak District. In the latter locality the rivers became flooded; while on the main Manchester road the traffic was held up by several feet of drifted snow; and in Leeds the tramway service was similarly dislocated. Gales accompanied this depression, the wind at Scilly reaching force 10. Another intense depression, which was centered off the North of Ireland at 7 h. on the 22nd, and reached the East of Scotland by the following morning, was associated with a strong wind circulation all over the British Isles, and caused gales from the West in the English Channel, and from the North-West to North in the Irish Sea and in the North of Ireland. Snow also accompanied this depression and was especially heavy in the Richmond district of Yorkshire. Blizzards prevailed on the Swaledale and Arkengarthdale grouse moors, where the snow fell to a depth of nearly a foot, with deep drifts in places. Rain and a sudden thaw followed, and the river Swale was quickly flooded. In the rear of this

depression a cold northerly current overspread the Kingdom, and a large anticyclone extended North-Eastwards from the Azores to Southern Britain, the lowest temperature of the month occurring at many places. The cold spell was brief, however, as strong South to South-West winds, which reached gale force locally, set in on Boxing Day. At 7 h. on the 30th a depression of moderate intensity appeared over Northern Ireland, and, as it travelled Eastwards, the wind became northerly, with rain in several localities and snow in the North of Scotland.

At all the telegraphic reporting stations, except Scilly, where there was an excess of 0.8 mb., the mean air pressure for the month was below the normal, the deficiency ranging from 4.7 mb. at Malin Head to 0.1 mb. at Jersey. The lowest individual barometer reading was 976 mb. at Lerwick on the 27th, and the highest 1,030 mb. at Jersey on the 14th. As recorded by the anemometers, the highest gusts were 33 m/s at Scilly on the 19th, 32 m/s at Aberdeen on the 23rd, and 31 m/s at Valencia Observatory on the 10th, and at Pendennis Castle on the 11th.

Temperature.—The temperature was largely above the normal in all Districts, the excess ranging from 2.8a in the Midland Counties to 0.7a in Scotland North. Of the individual readings the highest was 29.0a at Dublin (Trinity College) and Hawarden Bridge on the 4th, and the lowest 26.2a at Leadnathie on the 26th. At Kew Observatory the maximum was 28.7a on the 3rd, and was the highest recorded in December at this station during forty-seven years. Three readings of 28.9a, 2a above this "record" for Kew Observatory were reported in Scotland, on the 4th at Glencarron and on the 12th and 13th at Leadhills, Lanarkshire. The abnormal character of the month as regards temperature may also be illustrated by the fact that during the week ended the 7th the mean temperature at West Linton, on the Pentland Hills, was 6.8a above the normal, at Edinburgh 6.2a above, and at Newton Rigg (Cumberland) and Ross-on-Wye 6.1a above.

Precipitation.—In Scotland North and East the month's total rainfall was 14 mm. below the normal, and there was a shortage of 18 mm. in England South-East, and a small deficiency of 3 mm. in the English Channel. In all other Districts the rainfall was above the normal, the excess ranging from 51 mm. in England North-West to 14 mm. in England East and in the Midland Counties. The precipitation was particularly copious at some of the stations in the more northern part of the country, and especially in Lancashire, Blundellsands and Southport, for instance, recording the wettest December during more than forty years. At Stonyhurst there was an excess of 146 mm., 91 mm. at Blackpool, 89 mm. at Bidston, Carnforth and Southport, 86 mm. at Buxton, and 82 mm. at Douglas. At Cally there was an excess of 80 mm., but at Glencarron, on the other hand, there was a shortage of 72 mm. At Beddgelert the total fall was 570 mm., with ten individual daily falls of over 25 mm., floods resulting on the 2nd and 15th. The observer at Sheepstor (Dartmoor) notes: "The wettest month I ever experienced. Other Decembers have had more rain, but certainly during the twelve years I have taken records here there has been nothing like the incessant rain of the last six weeks of the year, for it has done little but rain day and night." At the following stations the duration of the month's rainfall is given in hours: Aberdeen 56, Huddersfield 131, Worksop 63, Richmond (Kew Observatory) 59, New Malden 79, Sevenoaks 92, Eskdalemuir 165, Blundellsands 114, Bolton 162, Darwen 211, Hutton 131, Lancaster 123, Southport 135 and Cahirciveen (Valencia Observatory) 109.

Sunshine.—The sunshine was very variable, the mean daily amount ranging from 1.76 hr. per day in Ireland South to 0.84 hr. in Scotland North. The departures from normal were equally erratic, and varied from +0.30 hr. per day in Ireland North to -0.36 hr. in England South-East. In Ireland South there was 23 per cent. of the possible sunshine, but England North-West had only 12 per cent. At some of the large towns the total amount of sunshine for the month was very deficient, Bradford, for instance, getting only 3 hours, Manchester 7, and Burnley 10; compared with 76 at Seskin (Carrick-on-Suir), Limerick 67, Dublin (Phoenix Park) 66, Torquay 64, and Salcombe 62.

Optical Phenomena.—The broken character of the month was illustrated by the frequency with which solar and lunar halos were seen, several stations also observing lunar coronæ. Parhelia were seen at Eskdalemuir and Rugby on the 21st, and at Aberdeen on the 27th; at the latter station a moon pillar was seen on the 19th.

Aurora was seen on several dates, the most brilliant and the most widely seen display being that of the 25th.

