

## MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

(Supplement to 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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## MILD, WET, AND ROUGH.

The pressure distribution afforded a good example of a South-Westerly type of weather over the British Islands and a large area surrounding. Until after the middle of the period the barometer was uninterruptedly highest in south-eastern and central Europe or in a band extending thence across the Spanish Peninsula. It was seldom high in the Azores region and often rather low between those islands and Portugal. Late in the month, however, pressure gave way over the central countries of Europe, and the highest readings were not infrequently found over the Azores and Madeira. Depressions were extremely numerous over the North Atlantic, and their direction of movement was, as a rule, north-east or east north-east. Several of these systems, after travelling east north-eastward over many hundred miles, changed their course to north north-east on approaching the 10th meridian, and during the whole month only two centres penetrated further east in the latitude of this country. One of these was a secondary on the 12th which came as far east as longitude 7° W., and the other the unusually deep disturbance of the 22nd, whose easterly course was not arrested until it was close upon longitude 5° W. Many of the cyclonic systems were of considerable size and intensity, and strong winds and gales from some point between South and South-West or West were of frequent occurrence, especially on the exposed parts of the western and north-western coasts, while the swift flow of humid air from the more southern waters of the Atlantic kept the temperature some degrees above the normal, and brought a good deal of precipitation. At the beginning of the month, when the barometer was below 28.6 in. in a large depression having its minimum to the southward of Iceland, a Southerly to South-Westerly gale was experienced very generally on the western and northern coasts. At Quilty and at South Shields the gust velocity on the 1st reached 22 metres per second, and on the following day Eskdalemuir recorded a gust of 27 metres per second and Paisley one of 30 metres per second. The extreme north and north-west coasts had another gale on the 6th, and this was followed on the 7th by a Southerly gale along all the western, southern, and south-eastern seaboard, as well as at many places inland. Among the highest gust velocities were 27 metres per second at Warlingham, 28 metres per second at Roche's Point, and 31 metres per second at Pendennis Castle. By the 8th the depression had become much modified in form, and the wind was generally less strong. A gust velocity of 23 metres per second was, nevertheless, reported at Gorleston and 28 metres per second at Southport. The boisterous winds of the first week were accompanied by very high temperature for the time of year over the whole Kingdom. Over the greater portion of the country the excess amounted to more than 6°, and in the north of England exceeded 7½°. Large quantities of rain fell in Ireland and the north of Scotland—as much as 1.72 in. at Valencia on the 4th—but in most parts of Britain there was little rain and much sunshine. An exception to this rule occurred on the 7th when there were some heavy downpours in the south-western counties. At Ashburton the amount for the day was 1.65 in.; at Sheepstor 1.80 in., and at Princetown 2.62 in., while at several other stations in the south-western corner of England, as well as at Salisbury, the fall exceeded an inch. For a brief period after the 8th the general condition was quieter, but on the 10th gales were felt on various parts of the western and south-western coasts, and for some days following gale force was recorded at times on almost all British and Irish coasts. The greatest gust velocity reported in connection with the depression of the 12th was 31 metres per second at Warlingham, Scilly, and Roche's Point, 33 metres per second at Plymouth, and 38 metres per second at Pendennis Castle. At Kew, during a squall on the 12th, a gust of 29 metres per second was recorded. The effect of the depression of the 14th–15th extended over a larger area. Gust velocities of more than 30 metres per second were experienced on various parts of the coast, the highest figures being 32 metres per second at Eskdalemuir and 33 metres per second at Paisley on the 14th, and 34 metres per second at Southport on the 15th. With the series of depressions of the 12th–15th rain was general, and some very heavy downpours within 24 hours occurred in the mountainous and hilly districts of Wales and the south-west of England. Among the largest were 1.44 in. at Sheepstor, 2.02 in. at Princetown, and 2.65 in. at Pen-y-Gwryd on the 13th; 1.48 in. at Princetown, 1.60 in. at Bungalow, and 3.15 in. at Pen-y-Gwryd on the 14th. An interval of relative calm ensued after the 15th, but the wind occasionally rose to gale force on some extreme points of the west and south-west coasts, and on the 17th over a wider area. By the 20th a large and deep depression was advancing towards these Islands from the westward, and before 7 a.m. on the 21st gales from the Southward and South-Westward had become general over Ireland and Great Britain and from the South-Eastward in Shetland and beyond the North Sea. On the morning of the 21st the core of the depression lay some distance to the north-westward of Ireland, whence it travelled away northward. Before the gale had subsided another, and still more intense, depression approached these Islands from the south-westward. It proved to be the last of the month. By the morning of the 22nd, when the centre of the system lay over the south-east of Ireland, the minimum

isobar was as low as 955 millibars, and strong winds and gales from all points of the compass were general. The lowest pressure recorded was 949.8 millibars at Dublin between 9 and 10 a.m. Over the whole of the United Kingdom and a considerable portion of the surrounding area pressure was below 982 millibars, and the vast area comprised between Madeira and the north of Norway felt the influence of the depression. The system moved slowly in a northerly direction, gradually lost intensity, and dispersed during the night of the 24th–25th after it had reached a position between the Farøe and Iceland. Without this depression the mean level of pressure would have been below the average for February; as a result of it the deficit was considerable. In the Hebrides the mean pressure was only 993 millibars, against an average of 1009 millibars; and in the Channel Islands it was 1010 millibars, a value 6.6 millibars below the average. The highest pressure observed was 1025.4 millibars in the south-east of England on the 27th. At Dublin the maximum reading was also on the 27th, when the pressure was 68 millibars higher than at the time of its minimum on the 22nd.

The gales of the 21st and 22nd were of great violence on various parts of the coast. On the former day Pendennis Castle experienced gusts of the velocity of 35 metres per second, Scilly 32 metres per second, Plymouth 29 metres per second, Quilty 28 metres per second, and Shoeburyness 24 metres per second. On the 24th Pendennis Castle recorded 28 metres per second, Holyhead 29 metres per second, Eskdalemuir and Paisley 22 metres per second or 23 metres per second, Aberdeen 24 metres per second, Rosyth 22 metres per second, and some stations along the east coast of England 24 or 25 metres per second. The temperature accompanying the passage of this depression, although above the February normal, was much less high than with the earlier depressions, and the thermometer seldom touched 50° even in the south-west. The rainfall was general and copious. Some very heavy falls were again experienced in the west and south-west, especially in the south of Ireland and North Wales.

**Rainfall.**—The persistent rain in Ireland and the west and north-west of Great Britain formed a striking feature of the month. At Mallow, Co. Cork, the rainy spell, which began on January 23rd, continued daily all through February, and did not end until March 7th, a period of 44 days. Observers in the South of Ireland characterise the month as “the wettest February known,” “a miserable wet month,” “very wet miserable month, squally.” At Valencia the total amount is the greatest for the past 46 years. But while the total quantity was exceptionally heavy in Ireland and the normally wet districts it was not so in the central plains and along the eastern coast, where the aggregate was less than the average. The rainfall map on page 15 is similar to that of February, 1910, but the contrast was then less marked. In some parts of the Thames Valley the rainfall exceeded the normal, and in the neighbourhood of Wisley floods occurred between the 14th and 21st. From time to time, when the temperature fell temporarily during a shift of wind to West or North-West in the rear of a depression, hail, sleet, or snow showers were reported, but generally the precipitation came in the form of rain. On several occasions it happened that the night was wet and the day dry, and often bright. A remarkable instance of this was noted at Bramhall, near Stockport, where the falls during the 11 hours ending at 8 a.m. daily gave as much as 1.55 in., while the total of the various measurements collected during the 13 hours ending at 9 p.m. was only 0.34 in. Brief thunderstorms passed over various districts between the 10th and 21st, and aurora was observed at Aberdeen on the 19th.

At numerous stations in the north-west and west the rainfall was more than 200 per cent. of the average, the highest figures being 230 per cent. at Poltalloch and Markree Castle, 248 at Salisbury, and 278 at Malin Head and Blacksod Point. At several midland and north-eastern stations the fall was less than the average. At North Shields the percentage was 66, at Bawtry 54, Gordon Castle 45, Spurn Head 44, and at Hull 43.

**Temperature** exceeded the average throughout the Kingdom, the divergence being very marked over a large area in Great Britain. At Camden Square, London, the thermometer rose to 50° or above from January 29th to February 15th, the period of 18 consecutive days forming a record at that station for the time of year. The mean temperature of the sea surface water differed little from that of January, and from that of the air.

Coastal fogs were experienced at rare intervals on the south-west coasts, and occurred on the east and south-east coasts during the quiet weather towards the end of the month.

Bright sunshine varied considerably, but was generally deficient. At Stornoway it was only 53 per cent. of the normal, at Glasgow 58 per cent. and at Markree Castle 62 per cent. At Eastbourne the percentage was as high as 144, at Geldeston 146, Margate 149, Greenwich 171, and Westminster 221.