

## 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.**—The distribution of atmospheric pressure over the British Isles during the month was mainly anticyclonic. Throughout the period areas of high pressure were continually present, and always on the move in our immediate neighbourhood or about the western half of the Continent, occasionally eastward into Russia. Nearly all the areas of low pressure were, under these circumstances, kept at a considerable distance from our shores. In numerous instances the centres of depressions moved from the north-west quarter of the Atlantic across Iceland, or passed up between Iceland and Greenland, and disappeared over the Arctic Sea beyond the North Cape. In the night of the 5th the barometer fell below 28 in. in the north of Iceland, and rose above 31 in. at Moscow, remaining at this high level until the evening of the 7th. In the north of Iceland the barometer fell below 28.5 in. in the night of the 16th, and next morning it mounted to 30.9 in. over Bavaria. The mean results for the entire month show that the highest values, above 30.35 in., were southward of the English Channel, diminishing northward across these islands to less than 29.5 in. in the south-west of Iceland. At our home stations the figures ranged from 30.35 in. at Jersey, and 30.33 in. at Scilly to 30.08 in. at Wick and 30 in. at Sumburgh Head. Everywhere the values were well in excess of the average, by as much as 0.28 in. in Shetland, and 0.38 in. at Roche's Point. With these fairly uniform deviations the general distribution of pressure was very similar to the average, and consequently the type was distinctly South-Westerly to Westerly, with a fair representation of winds in other quarters as the various systems altered their positions. But although the barometer maintained an abnormally high level nearly all through the month, the differences of pressure were, as a rule, considerable, so that for the thirty-one days the mean gradient between the south of Ireland and the north-west of Iceland amounted to as much as 0.85 in. This fact affords an explanation of the breezy character of the month. The returns from the telegraphic reporting stations show that the 23rd was the only day on which the force of a strong wind was not exceeded in any part of the country, while on as many as twenty days the strength of a gale was registered at one or more stations.

A cyclonic system which was moving eastward along the Arctic Circle on the last day of December changed its direction on reaching the Norwegian coast, and during the first two days of the New Year passed across Norway and Denmark, and finally dispersed over the Low Countries. During this time a well-marked anticyclone, which at first was centred near our western coasts, moved round by the north of Scotland to Scandinavia, so that there was a decided gradient for Northerly and North-Easterly winds over these islands. Gale force extended as far south as Scilly, and on the 1st a strong gale (force 9) was attained at Sumburgh Head, a whole gale (force 10) at Spurn Head on the 2nd. The Aberdeen anemometer registered gusts at the rate of 60 miles an hour on the 1st. This polar current, however, was not productive of anything approaching severe winter weather, only slight night frost being experienced here and there, and the precipitation, which was small in quantity nearly everywhere, was mostly in the form of rain, a little snow or hail falling in places in the eastern half of England. On the morning of the 2nd a thunderstorm occurred at various eastern stations, between the Tyne and the Thames, severe at Norwich, accompanied by snow and hail. At the same time there was at Epsom "a remarkably brilliant display of sheet lightning. Many of the flashes were of such marked intensity, contrasted with the extreme blackness of the sky, that the surrounding country was clearly lit up."

From the exceptionally deep depression crossing Iceland in the night of the 5th, to which reference has already been made, an elongated "V"-shaped secondary extended next morning southward from the Farøe down our western channels to the Bay of Biscay, and moved slowly eastward across Britain for the North Sea in the course of the day. At Stornoway the barometer dropped to 29.19 in., the lowest reading of the month in these islands. A Southerly gale blew in many parts of the kingdom, a strong South-Westerly gale at Malin Head, and a strong South-Easterly gale at Sumburgh Head. As the "V" advanced rain fell everywhere, in moderately large quantities in several neighbourhoods, nearly an inch at Bettws-y-Coed and Colmonell, and 2.1 in. at Gruline (Mull). A few northern and western stations reported snow or hail showers.

From the 8th, when the country occupied the middle region between an anticyclone centred over Bavaria, barometer 30½ in., and a deep depression northward of Iceland, barometer below 29 in., until the 13th, the distribution of pressure was continually undergoing important variations—the anticyclone sometimes on the Continent, at others over the sea to the south-westward. The main disturbance bore away beyond the Arctic Circle as it moved eastward, but secondary systems visited the British Isles. Small "V"-shaped irregularities of pressure crossed the southern districts on the 9th, and on the following day wireless reports from steamers indicated the existence of a large area of low pressure over the upper portion of the Atlantic.

It was moving rapidly; by the morning of the 11th its centre had already reached the Moray Firth, and continuing on its easterly path it disappeared across Russia on the 13th. On the evening of the 11th it threw off a secondary system over the Irish Sea. By the morning of the 12th this secondary had reached the Straits of Dover, and had acquired considerable energy, its influence being felt over the whole of Western Europe. Afterwards it moved down across France to southern Spain, then eastward across the Western Mediterranean. The approach of the Atlantic depression was marked by a strong South-Westerly gale at Blacksod Point and Malin Head on the 10th. On the following days, with the lowest pressure to eastward or south-eastward, the wind was from Northerly directions, attaining the force of a strong gale on the 11th at Malin Head, Donaghadee, Roche's Point and Holyhead, a storm (force 11) at Scilly; a strong gale on the 12th at Holyhead, a whole gale at Malin Head, Newquay, Scilly and Spurn Head; and a strong gale on the 13th at Dungeness and Spurn Head. The anemometer registered a mean hourly velocity of 51 miles at Scilly, 52 at Dover and Holyhead, and 54 at Pendennis on the 12th, the highest velocities in squalls being at the rate of 66 miles per hour at Pendennis, 69 at Scilly, and 71 at Dover. Rain was general during this windy spell, and in some localities heavy. On the 10th, the largest amounts were in the west and south of Scotland and north-west of England, in several instances exceeding an inch, ranging up to 1.82 in. at Ford, 2.1 in. at Cruachan, both on Loch Awe, and 3.4 in. at Seathwaite. Next day the largest quantities fell in Kent, 1.1 in. at Kearsney, and 1.2 in. at Dover Water Works. In the north-east, between Durham and West Linton, thunderstorms were experienced on the 12th, and snow fell in many places, again in small quantities, the largest noted being a depth of 3 in. at Ardross Castle, Ross-shire.

With one or two unimportant exceptions the atmospheric pressure during the remainder of the month was continuously high, the barometer reaching 30.82 in. at Jersey and Newquay on the 18th, and 30.77 in. at Nottingham on the 31st. Nevertheless, high winds and gales were frequently reported—a strong South-Westerly gale at Sumburgh Head on the 15th and 24th, and at Malin Head on the 25th, a whole gale from South-West at Malin Head on the 26th and 28th, and from South at Blacksod Point on the 28th. At Pendennis, in the night of the 30th, the anemometer registered a mean hourly velocity of 53 miles, with gusts at the rate of 66 miles per hour. On the 24th, heavy rain fell in the west of Scotland, up to 1.5 in. at Cruachan, but, speaking generally, the period from about the 12th to the end was very dry, many localities having from 17 to 20 rainless days, many others only one or two trifling showers, or moisture in the form of dew or fog, during the same spell, the drought continuing far into February.

As a whole, the month was mild, the mean temperature exceeding the average in the northern and western districts, by as much as 3° at Kingussie and Strathpeffer. There was frost occasionally, but temperature rarely descended as low as 25°, although it fell to 16° at Balmoral on the 4th, and at West Linton on the 31st. Many afternoon maxima were up in the fifties, Killarney having a maximum of 59° on the 25th. High night minima were also common, up to 49° at Penzance on the morning of the 9th, and 51° at Colwyn Bay on the 26th.

Aurora was reported by various observers in Scotland on the 2nd-4th, 8th, 22nd-25th, 27th and 31st.

Fog was rather more prevalent than for some time past in the inland districts, Lincoln experiencing on the 19th the thickest fog for over twenty years. Sea fogs were very frequent, especially off the east coast, at times dense.

The coastal water was colder than in December, by as much as 5° at the Shipwash, the Goodwin and Eastbourne, and 6° on the Straits of Dover. At nearly all points the water was warmer than the air, by from 4° to 6° along the south coast.

**Rainfall.**—In all districts precipitation was below the average, the deficiency ranging up to 3.1 in. at Falmouth and Valencia, 3.5 in. at Roche's Point and 4.5 in. at Killarney. In numerous instances the month's totals were less than an inch, 0.5 in. at Hoylake, 0.4 in. at Kingstown, and 0.3 in. at Shrewsbury and Hawarden Bridge. Only in the more mountainous regions were there falls exceeding 6 in., up to 11.2 in. at Seathwaite, and 14.4 in. at Glenquoich (Inverness). Over a large area nearly the whole of the precipitation was received within the first 12 days, on only 6 days at several stations, 5 days at Colwyn Bay, 4 days at Hawarden Bridge. Some localities had more than 20 days, Glencarron 24, Stornoway 25, and Baltasound 28.

**Bright Sunshine.**—Most districts had an excess of sunshine, Cirencester being 19 hours to the good, and Cullompton 21 hours. On the other hand, Marlborough had a deficiency of 15 hours and Margate of 18 hours. The aggregate totals ranged from 11 hours (4 per cent. of the possible) at Bunhill Row, 14 hours at Fortrose, Ross-shire, and 16 hours at Manchester and Prestwich (7 per cent.) to 80 hours at Weymouth, and 81 hours at Bognor and Salcombe (31 per cent.).