

# 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.

AND PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE. To be purchased, either directly or through any Bookseller, from WYMAN AND SONS, LTD., FETTER LANE, E.C. ; or H.M. STATIONERY OFFICE (SCOTTISH BRANCH), 23, FORTH STREET, EDINBURGH ; or E. PONSONBY, LTD., 116, GRAFTON STREET, DUBLIN ; or from the Agencies in the British Colonies and Dependencies, the United States of America, the Continent of Europe and Abroad of T. FISHER UNWIN, LONDON, W.C.

THIRTY-SEVENTH YEAR.

Vol. XXIX. (New Series)  
Weekly Weather Report.

No. XII.

DECEMBER, 1912.

[Price 6d.]

## STORMY AND MILD.

**Pressure, Winds and Weather.**—The general character of the weather experienced over the United Kingdom during the closing month of the year can be inferred, with some degree of accuracy, from the distribution of mean pressure and the movements of depressions, Maps 1 and 2, p. CXXV. It will be seen that the pressure distribution was of an unusually well-marked South-Westerly type, and the explanation of this is found in the neighbouring Map, which shows that of the numerous depressions of the period nearly every one moved towards some easterly point across the sea beyond the north of Scotland. This country was consequently in the southern portions of the disturbances, which were so persistent in following each other from the upper region of the Atlantic that the month passed without a visit from the central space of any anticyclone, the nearest approach being on the 3rd and 30th, during the temporary northward expansion of Continental high pressure systems. In the former case the centre of the area was over the Spanish Peninsula, a ridge of barometric readings of 30 in. and upwards embracing the whole of this country, the values along the English Channel exceeding 30.4 in., Jersey touching 30.48 in. On the 30th the centre of the system was over France, and the barometer again mounted to 30.47 in. at Jersey, but the ridge did not extend as far as Scotland. Practically throughout the month pressure was maintained at a high level from Spain across the southern half of Europe, and there were very few breaks in the continuity of the anticyclonic conditions westward from Portugal to and beyond the Azores. To the northward, on the other hand, very deep depressions were the rule on the northern portion of the Atlantic, the barometer sinking below 29 in. frequently, and on the 11th it passed below 28 in. in eastern Iceland. The mean results, therefore, represent roughly the prevailing situation from day to day. At Lisbon the barometer averaged 30.26 in., and on the south coast of Iceland 29.14 in., so that there was a very steep South-Westerly gradient of more than an inch over 1,500 nautical miles, corresponding approximately with a mean gradient velocity of 25 miles per hour.

Across the British Isles the mean values ranged from 30.06 in. at Jersey to 29.40 in. in Shetland. The Jersey value was 0.06 in. above the normal, but over the rest of the Kingdom all stations were below the normal, the deficiency increasing northward, to as much as 0.29 in. at Lerwick. The normal December difference between Jersey and Lerwick is 0.31 in., but on this occasion it was more than doubled, amounting to 0.66 in., or a gradient of an inch per 1,000 miles.

Owing to the large number of depressions there were few days on which the barometer rose above 30 in., while generally it was at a low level, passing below 29 in. at one or more stations on as many as nine days—on seven days over the northern districts, and on two days in the south. The lowest records for the month were 28.65 in. at Lerwick, and 28.66 in. at Wick on the 14th, and the same reading again at Wick on the 24th, Blacksod on this date descending below 28½ in. In the unusual absence of anticyclones the range of pressure was comparatively small for a winter month, Wick being the only station where the extreme readings differed by 1½ in., several showing just over an inch, and Jersey an inch.

One result of the passage of so many deep depressions in our vicinity was the windy character of the month as a whole. At the telegraphic reporting stations there were only four days on which the wind did not exceed the force of a strong breeze, while on twenty-four days one or more stations experienced a gale. In nearly every instance the direction of the gales was from points between South and West.

During the first week high winds or gales were of daily occurrence, but these presented no unusual features, squalls of the force of a strong gale being felt at Dungeness on the 1st, and early in the morning of the 2nd the anemometer at Scilly registered gusts at the rate of 58 miles an hour. The accompanying weather was of an exceedingly unsettled type, very damp, but though there was daily precipitation the amounts measured were not, as a rule, very heavy, falls of as much as ½ in. in a day being exceptionally few in number for such conditions as existed. Singularly enough this feature was maintained throughout the entire month. **Snow** fell extensively on the 1st, but with the exception of 6 in. at Ardrross Castle, and 4 in. at Harrogate, the quantity was small. There were unimportant falls on various other days. The only notable rainfalls of this period were 2.1 in. at Glencarron, on the 3rd, and 1.7 in. at the same place and at Fort William on the following day.

A very stormy spell set in on the 9th, though the centres of the depressions were mostly about the Iceland region. Through eleven successive days down to the 19th gales were experienced. Even the records of strong gales (force 9) during this period are too numerous to be mentioned individually. A whole gale (force 10) was felt on the 9th at Malin Head ; on the 13th at Malin Head, Donaghadee and Dungeness ; on the 14th at

Donaghadee and Dungeness ; on the 15th at Dungeness ; and on the 16th at Malin Head. The anemometrical records disclosed many violent squalls, in which the wind velocity exceeded a rate of 60 miles an hour, on the 14th attaining 70 miles at South Shields, and 72 miles at Rosyth. In the more mountainous parts of the kingdom there were some very heavy rainstorms during this period—on the 10th, 2.2 in. at Gruline (Mull) ; on the 11th, 3.1 in. at Llanberis (Pen-y-gwryd) ; on the 13th, 2.7 in. at Bettws-y-Coed, 3.6 in. at Pen-y-gwryd, and 5.7 in. at Seathwaite ; and on the 19th, 2.5 in. at Fort William. For the four consecutive days, 11th to 14th, the aggregate total at Bettws-y-Coed was 5.5 in., at Seathwaite 8.8 in., and at Pen-y-gwryd 9.7 in. Ardrross Castle had 6 in. of snow on the 17th. Thunderstorms occurred at various places, mainly in the north and north-west, on the 11th, 12th, 14th, 16th, 17th and 18th, accompanied by falls of hail in many instances.

From the 20th to the 23rd the conditions were much quieter, but on the morning of the 24th a deep depression, moving on a north-easterly course, began to affect our western coasts, and thenceforward to the close of the month gales and strong gales were reported every day. A whole gale raged on the 24th at Blacksod Point, Malin Head, Donaghadee and St. Ann's Head, and violent squalls at the rate of 74 miles an hour at Pendennis, 76 miles at Holyhead, and 360 gusts ranging up to 81 miles at Rosyth ; on the 25th a whole gale at Malin Head and Wick, 120 gusts ranging up to 69 miles at South Shields, and at Rosyth 75 miles an hour. With the 26th came the worst of the series, a small disturbance moving across southern Ireland and southern England and causing a very remarkable fall of the barometer, which at St. Ann's Head amounted to 0.8 in. in 4½ hours. Of this large drop one-third of an inch occurred almost instantaneously, at the last moment, during a fierce squall, the instrument recovering immediately over ¼ in. A whole gale blew at St. Ann's Head and Dover, a storm (force 11) at Scilly, Portland Bill and Dungeness, squalls at the rate of 88 miles an hour being registered at Scilly, and 98 miles at Pendennis. The advance of the storm was marked by thunderstorms and heavy hail squalls at a number of places. Ordinary, rainfall and other, observers describe the gales of the 24th and 26th as very violent. The largest rainfalls during the closing week occurred on the 30th, 1.9 in. at Fort William, and 2.4 in. at Seathwaite.

The severe frost at the end of November held through the first two days of December, when there were numerous night temperatures below 20°, as low as 9° at Aberdeen, 8° at Newton Rigg, Crathes, West Linton and Nairn, and 2° at Balmoral, with many of the afternoon maxima on the 1st below the freezing point, 26° at Nairn and 24° at Balmoral. The remainder of the month was exceptionally mild, no frost at all in many places, while an unusually large number of day maxima were above 55°, as high as 60° at Colwyn Bay on the 13th, at Newton Rigg and Rauceby on the 14th, and at Hoylake on the 27th. On some nights the minima were well above 50°, up to 53° in some cases, and in the night of the 27th the temperature at Kew Observatory ranged between 52° and 55°. For the whole month the mean temperature was in places more than 6° in excess of the normal.

Resulting from the frequent rains the Thames, Nene, Frome (Bromyard) and other valleys were flooded before the end of the month.

Aurora was observed at Baltasound, Stornoway and Gordon Castle on the 2nd.

Fog was of rare occurrence inland, moderately frequent on the coasts.

The coastal water was from 2° to 4° colder than during November in many localities, but it was still rather warmer than the air on shore.

**Rainfall.**—There was a deficiency of precipitation over north-eastern England, but generally there was a considerable excess, resulting from the abnormally frequent falls of moderate quantities, numerous stations returning 30 or 31 rainy days, while very few had less than 15, Whitby 11. Aggregate totals exceeding 10 in. were unusually numerous, ranging up to 23.4 in. at Seathwaite, 25 in. at Balquhitter, 25.2 in. at Ballachulish, and 29.9 in. at Glenquoich, many stations in Snowdonia recorded more than 20 inches for the month, while at one station a total of 74 inches was recorded for the two months November and December ; at the other extreme Aberdeen and Dyce had 1.2 in., and Crathes and Stonehaven 1.1 in. Pottaloch received 221 per cent. of the normal, Crieff 220, Fort William 211, and Fort Augustus 209 ; against 55 at Whitby, 47 at Alnwick, and 39 at Aberdeen.

**Bright Sunshine.**—Though there was a marked absence of fog, the month, owing to the great frequency of rain, was very dull. The only excess of insolation was in the Thames Valley, 119 per cent. of the normal at Westminster, and 107 at Oxford. Over the country generally the percentages were much smaller, ranging down to 29 at Stonyhurst, 27 at Deerness, 22 at York, and 10 at Glasgow. The month was all but sunless at Manchester (City), Baltasound and some other stations.