

## 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.**—Practically all through the month of February the atmospheric conditions over the entire area of the United Kingdom were of a persistently unsettled and frequently stormy type. There was only one day, the 9th, on which the country was covered by a high pressure system, and it was of only moderate intensity. As the northern portion of its central space moved eastward across Southern England the barometer rose to 30.4 ins. or above at various stations, to 30.45 ins. at Yarmouth, and 30.46 ins. at Jersey. With this exception pressures in excess of 30 ins. were confined to southern stations on occasional days, the anticyclones usually occupying the western or the eastern portions of the Continent or almost the entire region, while at times the highest pressure was found to extend from the Atlantic across Northern Africa. Over the British Isles or the sea to the westward and northward more or less important cyclonic systems were continuously in evidence, the disturbances as a rule being very deep, the barometer standing below 29 ins. at various stations on as many as twenty-four out of the twenty-eight days. The direction in which the minima of pressure advanced was, however, very varied. Four of the systems passed across these islands to the North Sea or the Baltic region, and two followed northerly paths in the immediate vicinity of our western coasts, disappearing beyond the Arctic Circle; the others were all centred in far northern localities. The deepest depression of the month was found over Donegal Bay on the evening of the 20th, when the barometer sank to 28.14 ins. at Blacksod Point, 28.15 ins. at Malin Head, and below 28.5 ins. at nearly all the western stations. The range of pressure over the country generally was considerable, least in the south and south-east of England, 1.3 in. at Jersey and in London, greatest in Ireland, 2.1 ins. at Malin Head, Blacksod Point, Valencia and Birr Castle.

The mean pressure for the month was everywhere very much below the normal level. At Jersey the deficiency amounted to 0.29 in., and at Dungeness to 0.32 in., increasing to more than  $\frac{1}{2}$  in. over the northern districts, 0.52 in. at Malin Head, Stornoway and Wick, and 0.53 in. at Sumburgh Head. There was thus a much steeper gradient than usual—nearly double—a difference of 0.50 in. between Jersey and Shetland, against the normal of 0.26 in. The actual means ranged from 29.85 ins. at Paris, and 29.75 ins. at Jersey to 29.25 ins. at Sumburgh Head, further diminishing to 29.12 ins. in the Farøe, and 29.03 ins. at Reykjavik, Iceland. The distribution of mean pressure was of a well-marked Southerly to Westerly type, and the winds reported were mainly from this quarter, occasionally passing to the Eastward of South, or to the Northward of West. As would be inferred from the steepness of the mean gradient the month generally was rough and boisterous, the force of a strong wind being exceeded at one or more of the telegraphic reporting stations on twenty-six days, attaining gale force on nineteen days, a strong gale or over on ten consecutive days, 13th to 22nd, and again on the three days, 25th to 27th.

With the exception of a small depression which passed from the north of Ireland to Denmark on the 7th, the disturbances of the first half of the month were all found in the extreme north of the area under observation. Their principal influence on our weather was the production of rain daily over the country generally. Large falls were, however, uncommon. Kinlochewe had 1.5 in. on the 4th, and a little over an inch was measured locally in Lancashire and Cumberland on the 6th. Strong or high winds were frequently and widely felt, but at few places was the force of a gale reached.

On the evening of the 13th, with the appearance of a large depression on the Atlantic, at a considerable distance westward from the Hebrides, a very stormy period set in. For about four days the system remained almost stationary, then advanced between the Farøe and Shetland by the evening of the 17th, with the barometer as low as 28.36 ins., and subsequently disappeared on a north-easterly course. South-Westerly high winds and gales were reported at numerous stations daily from the 13th to the morning of the 18th, a strong gale at most places on the western coasts, from Scilly to Stornoway, a whole gale at Portland Bill and Nottingham. The anemometrical records show that on the 14th Pendennis had a mean hourly velocity of 56 miles; on the 17th 52 miles, Kingstown and Southport 55 miles; and on the 18th Scilly 53 miles. There were many instances of velocities in gusts exceeding a rate of 60 miles per hour—on the 17th Southport registered one of 76 miles an hour. Again, although there was abundance of rain every day, there were only some half-dozen cases of an inch. Thunderstorms occurred each day in widely separated districts.

After the 17th the conditions assumed an even more tempestuous aspect. Wireless reports from steamers out on the Atlantic showed that on the morning of the 18th the centre of a very deep cyclonic system, with the barometer below 28.6 ins., had appeared in 47° N., 24° W. By evening it had advanced to 49° N., 18° W., barometer 28.2 ins. Next day it was skirting our western coasts, a ship beyond the north-west of Ireland

reporting a barometer reading as low as 28.13 ins. When the disturbance reached the Farøe on the morning of the 20th, with the barometer below 28.4 ins., wireless reports disclosed a new pressure minimum in 52° N., 15° W., barometer 28.2 ins. Following practically the same line of progression as its predecessor, and travelling at the same rate, it disappeared beyond the Arctic Circle on the 22nd. On the western sides of these systems ships out on the Ocean experienced severe Westerly to Northerly gales, while over the United Kingdom the wind was mainly from South and South-West. The records of a strong gale are too numerous to be detailed, a whole gale at Nottingham, Jersey and in London, a storm (force 11) at Portland Bill. These estimated forces were confirmed by the autographic registers at the anemometrical stations. Of these the largest wind-paths in one hour were:—on the 18th, 53 miles at Scilly, and 60 miles at Pendennis; on the 19th, 51 miles at Scilly; on the 20th, 53 miles at Scilly and Shoeburyness, and 62 miles at Pendennis; and on the 21st, 56 miles at Plymouth, 59 miles at Kingstown, and 63 miles at Southport. Very severe gusts were frequent, a velocity at the rate of 87 miles an hour being reached at Pendennis on the 18th; 70 miles at Plymouth, and 72 miles at Scilly on the 19th; 70 miles at Southport and Shoeburyness, 82 miles at Pendennis, and 86 miles at Scilly on the 20th; and 73 miles at Plymouth, and 85 miles at Southport on the 21st. Thunderstorms, or thunder or lightning alone, occurred at a large number of places in the southern half of England and in Wales on the 20th, and in a few scattered localities in the three kingdoms on the other days. The heaviest rainfalls were 1.5 in. at Caragh Lake, Kerry, on the 18th, 1.3 in. at Gruline, Mull, on the 19th, and 1.5 in. at Penrhyn Quarries on the 20th. Snow fell in various localities, but to no great depth, Dumfries noted  $5\frac{1}{2}$  ins., and Cally 2 ins. on the 20th.

During the remainder of the month secondary disturbances detached from a large system out on the Atlantic passed across Ireland and England to the North Sea or the Baltic, so that unsettled weather was maintained to the end, rainy generally, snow in many places, heavy at Foynes for five hours on the morning of the 24th, and about 3 ins. at Alnwick and Heddon-on-the-Wall on the 26th. With the exception of the 24th the force of a gale or a strong gale was reported each day, and on the 22nd gusts at the rate of 73 miles an hour were registered at Roche's Point.

Throughout the month temperature was more than usually uniform somewhat above the normal. On the 5th or 6th maxima above 56° occurred in various parts of Wales and Ireland, 59° at Foynes. There were few afternoon values below 40°, but on the 8th Eskdalemuir and Sumburgh Head did not exceed 33°, and next day Stonehaven only touched 30°. Night minima below 25° were rarely registered, but on the 9th Crathes, Laudale, and Poltalloch went down to 20°, West Linton to 18°, Eskdalemuir to 14°, and Balmoral to 9°. On the other hand there were large numbers of night readings of 46° and upwards, the warmest nights being those of the 5th and 6th, when several Irish stations remained as high as 51°, Colwyn Bay, Kingstown and Killarney 52°.

Fog was uncommon both on land and at sea. From the 5th to the 7th it was reported at several places on the western and southern coasts, thick at the Owers light vessel, and from the 3rd to the 8th locally on the east coast of England.

The temperature of the sea water along our coasts was not very different from what it had been during January, slightly lower in most localities. On the north-east coast of England the water was about a degree colder than the air on shore, but in most other districts it was rather warmer, by as much as 3° off the south-west and north-east and north of Ireland, 4° at Stornoway, and 6° off Orkney.

**Rainfall.**—Precipitation was exceptionally frequent, on 27 or 28 days in a large number of instances, but Dunrobin had only 13 rain days. Balmoral 14, and a few other places less than 20. This remarkable frequency was more striking than the quantity received. Several northern stations returned less than the normal amount, and speaking generally the excess at other stations was less than 2 ins., but some western ones had an excess of more than 3 ins., Killarney 4.1 ins., and Markree Castle 4.4 ins. Totals exceeding 6 ins. were numerous, and in the hilly districts many stations had more than 10 ins., ranging up to 22.2 ins. at Seathwaite, and 45.1 ins. at the Styne, Cumberland. Aggregates under 2 ins. were few, but Nairn had just under an inch, and Fearn, Lower Pitkerrie, 0.6 in. In many parts of the kingdom much land was under water as the result of the persistent rains.

**Bright Sunshine.**—Notwithstanding the frequent rains the duration of bright sunshine was nearly everywhere above the average, by more than 20 hours in several cases, 38 hours at Phoenix Park, and 42 hours at Torquay. The largest aggregates were 110 hours at Nairn and Rhyl, 111 at Salcombe, 113 at Scilly, 115 at Penzance, 117 at Torquay, and 118 at Kingstown. At the other extreme Glasgow had 42 hours, Kilmarnock 40, and Balta Sound 38 hours.