

## 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, AND AT GIBRALTAR AND MALTA, WITH A CHART OF RAINFALL CONTRIBUTED BY THE BRITISH RAINFALL ORGANISATION.

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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## QUIET: DRY IN THE SOUTH AND WEST.

The weather of the first half of the month was mainly mild and unsettled: during the third week it turned colder and remained so until the end of the month except for an unusually mild burst about the 24th.

At the beginning of the month a Westerly to North-Westerly gale continued on various parts of our coast in the rear of a depression, track A on the Chart on page 2, which was travelling away over the North Sea to the Baltic region. At Southport the velocity in gusts reached 30 m/s and at Holyhead 28 m/s, while at Scilly the record was 29 m/s. Along the east and south-east coasts gusts of 24 m/s were reported at Shoeburyness, and of 22 m/s at Spurn Head, Gorleston and Brighton. By the evening of the 2nd, however, the wind had fallen to a light or moderate breeze generally, and under the influence of another disturbance on the Atlantic, had backed to the South-Westward in Ireland. The centre of this disturbance, track B, travelled in a north-north-easterly direction outside our western and north-western coasts, and the wind reached the force of a gale in Shetland, the Hebrides, and at some places on the mainland of Scotland. At Paisley on the 4th a gust attained the velocity of 23 m/s, and at Eskdalemuir and Edinburgh gusts of 23 m/s and 22 m/s respectively were recorded on the 5th. With the Southerly and South-Westerly winds rain fell very generally, but the quantity was not large except locally in Wales and Scotland. On the 2nd and 3rd some of the Snowdonian stations had about 40 mm., on the 4th Fort William measured 50 mm., Glencarron 62 mm., and Ballachulish, Loch Leven, 79 mm. The wind was brought round to the North-West again by the 6th owing to another depression, track C, moving south-eastward over the North Sea, and some parts of the northern and eastern coasts recorded a brief, squally gale, while Snowdonia again received heavy rain, and most other parts of the Kingdom occasional showers. On the 8th the first well-marked anticyclone of the month began to extend over these Islands from the north-westward, and the centre of the system continued either over the United Kingdom or within the immediate neighbourhood of the western or south-western coasts until the 17th except on the 11th, when it retired to the southern part of the Bay region as a secondary depression passed eastward across this country. During this time the main wind current was from between North-West and West, and its force very light to moderate, while the only precipitation came as local showers—mostly of rain, but occasionally of snow or sleet.

A small depression appeared over the north of England and adjacent part of Scotland, on the 16th and 17th, but it subsequently increased in depth and travelled south-eastward, track E, causing the wind to increase to a gale from the Northward over a considerable portion of the Kingdom, and heavy snow in Scotland and the north and east of England. On the 18th the wind blew with a velocity in gusts of 30 m/s at Spurn Head, 25 m/s at South Shields, 27 m/s at Eskdalemuir, 23 m/s at Edinburgh, 22 m/s at Paisley, 24 m/s at Southport, and 28 m/s at Holyhead. On the 19th a velocity in gusts of 30 m/s occurred at Dover and 22 m/s at Benson. Between the 20th and 24th the pressure distribution underwent several vicissitudes, the passage of an anticyclone from the south-west of England to Denmark and Norway being succeeded by a depression which moved north-westward from the Bay of Biscay. By the 25th a high pressure system had again become established in the north and north-west of the United Kingdom, and although it decreased very sensibly in intensity, it continued until the close of the month. The wind during this time was generally North-Easterly, light to fresh in force, and the weather cold and mostly bright, but with occasional snow showers.

**Barometer.**—It will be seen from map 1 that the mean pressure distribution was unusual, the resultant gradient wind being North-West, while normally it is Westerly. An examination of the mean distribution of the isobars for each March since 1884 shows that in 11 of the 31 years the resultant gradient wind has been from some point of the compass between North and West. In one year—1909—it was Easterly, and in 1911 between North-East and North-West. During the same period for February the resultant gradient wind has been between North and West on 9 occasions, while in April similar conditions obtained 10 times to 1914. In all the three months the resultant gradient wind has been more frequently between South and West than from any other direction.

The mean pressure for the month was a little above the average and the mean range a trifle less than usual. The highest readings accompanied the slow moving anticyclone which disappeared on the 17th, the barometer mounting to 1034 or 1035 millibars in Ireland, south-western England and northern Scotland on the 8th or 9th. The lowest pressure, about 990 millibars, was recorded in the north and north-east with the retreating low pressure system of the 1st, but over the greater part of England the barometer was lowest with the depression of the 18th and 19th.

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**Rainfall.**—For the first month since October the rainfall was below the average in almost all parts of the Kingdom. The few exceptions were in the north and north-east of Britain, the chief instance being at Gordon Castle, where the fall was 154 per cent. of the average. Over a very large portion of the Kingdom the fall was less than half the normal and at several stations in the west and south the percentage was below 30. At Newquay the percentage of the average was only 20, at Scilly 17 and at Foynes 15.

At eight of nine stations in England, where rainfall is measured twice within 24 hours—at 9 a.m. and 9 p.m.—the total fall for the 12 hours ending at 9 a.m. was considerably greater than that measured for the 12 hours ending at 9 p.m. At these eight stations the fall during the daytime was only 55 per cent. of that which fell between 9 p.m. and 9 a.m. The exception occurred at Egremont, where the fall for the 12 hours ending at 9 p.m. was twice as great as that for the 12 hours ending 9 a.m. But even including Egremont, the percentage of the daytime fall was only 75 that of the night. At six other English stations taking measurements for the nine hours ending at 6 p.m. and for the 15 hours ending at 9 a.m., the rainfall during the daytime was relatively small. The actual total of the 6 p.m. measurements was 44 mm. and for the 15 hours 99 mm., while proportional measurements would have given 54 mm. and 89 mm., respectively.

The level of the underground water at Kew varied between 374 cm. above M.S.L. on the 1st and 294 cm. on the 21st.

**Snowstorms.**—Slight snowstorms were not uncommon in the northern and eastern districts and were also experienced at times in the south and west, while on a few occasions there was a more substantial fall. At Ardross Castle and Strathpeffer on the 1st of the month snow lay to a depth of about 30 cm. On the 18th or 19th a much larger area was snow covered; between 15 cm. and 19 cm. was reported over an extensive area in Scotland and the adjacent part of England, while a large portion of England further south had a depth of 10 cm. to 15 cm. In the drifts the depth was 136 cm. at West Witton, 150 cm. at Macclesfield and between 90 cm. and 182 cm. at Kirkcaldy. A violent blizzard raged at Eskdalemuir on the 18th causing snow drifts of 300 cm. On the same day the anemograph at Blackford Hill was choked with snow during a gale.

**Temperature.**—The early part of the month was, as in February, much milder than the latter part, although the absolute maximum readings occurred generally on the 24th. Other outbursts of relative warmth were experienced on the 6th, 12th, 13th and 14th. The first maximum above 60° occurred at Crieff on the 12th and similar readings were recorded in the north-east of Britain on the following day and over a wider area on the 14th. The highest readings of the month, 65°, were registered in the east of Scotland on the 24th and on the same day the thermometer rose to a little above 60° in various parts of England. Frost occurred frequently at night and was occasionally severe. On the 2nd the minimum was as low as 21° in central Ireland and on the 9th a minimum of 22° was recorded at Markree Castle. During the latter half of the month low minima were more general, the lowest reading being 11° at Balmoral on the 20th. On the 19th the thermometer fell to 13° at Kettins, on the 20th to 15° at Logie Coldstone, while later minima below 20° were registered at various places: 17° at Garforth and 18° at Llangammarch Wells and at some Scottish stations on the 30th. On the same day Raunds and Woburn recorded 19°. The coldest days did not, as a rule, coincide in time with the coldest nights. During the cold spell towards the end of the month the thermometer generally rose to 40° or above in all parts of the Kingdom and the lowest maximum readings occurred in most places on the 18th, when over a large area in England the reading was much below 40°—at several stations below 35° and at Bellingham as low as 31°. The mean temperature of the water of the river Derwent at Belper was 40°·8, or 0°·2 lower than the mean temperature of the air.

**Coastal Fogs** were rather prevalent on various parts of our western coasts early in the month and again on the 22nd, 23rd and 24th, but fog was by no means a common feature on the coast generally.

**Bright Sunshine.**—The duration ranged from a mean of 4·2 hours a day in Scotland West to 3·2 hours in England South-East and to 2·7 hours in Scotland North. In Scotland West there was an excess of 0·6 hour per day, in England South-East a deficit of 0·8 hour and in the English Channel a deficit of one hour daily. It will be seen from these values that the incidence of bright sunshine was very unusual. At Glasgow the percentage of the average was as high as 133 and at Blackpool 127, but at Cambridge it decreased to 74 and at St. Leonards to 71.

**Aurora** was observed at Deerness, Aberdeen, and Carrick-on-Suir on the 7th and again at Aberdeen on the 8th.