

## MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE

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 ORGANIZATION.

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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### Cold and Unsettled. Frequent Snow.

Although the general character of the weather was of an unsettled type no depressions of important intensity passed directly across this country, and few appeared in its immediate vicinity. There was, on the other hand, no instance of an anticyclone maintaining its position over these Islands.

The anticyclone which enveloped the whole of the British Isles on the 1st, moved eastward on the 2nd, and underwent considerable modification in form. It subsequently became nearly stationary over Scandinavia, while a depression approached our south-west and west coasts. The wind over the United Kingdom, which had been light and variable, consequently became South and South-East, and increased greatly in force. On the 3rd, 4th and 5th gales from the South-Eastward were felt on various parts of the western and northern coasts, and gust velocities of about 25 m/s were recorded at some of the anemometrical stations. On the 6th, when the direction had become more Easterly, the gale extended over a wider area, and on the 7th, when the depression, track A, had reached the southern part of the Bay of Biscay, the gale was from East and North-East. The highest gust velocity reported on the 6th was 29 m/s at Eskdalemuir, and on the 7th 27 m/s was recorded at Shoeburyness and Southport and 28 m/s at Holyhead. Snow showers were experienced in the northern and eastern districts, but nearly all the rain associated with the disturbance occurred in Ireland and the western districts of Britain. On the 3rd, Cahir (Tipperary) had 23 mm. and Seskin (Carrick-on-Suir) 28 mm., and on the 4th more than 25 mm. fell over a large portion of Ireland, 34 mm. at Ranelagh (Dublin) and Lisburn. On the 5th there was a fall of 26 mm. at Falmouth, and on the 6th 25 mm. at Mountmellick (Queen's Co.). A thunderstorm passed over Redruth and Falmouth on the 5th, and thunder was heard at Holyhead on the 6th. Further rains and some snow were caused in many districts by the next depression on the 9th, track B, but much more general and copious falls were brought by the shallow depressions of the 10th and 11th, tracks C and D. In Wales and south-western and northern England some of the falls exceeded 25 mm., the largest being 31 mm. at Cullompton, 31 mm. at Kingsbridge, and 40 mm. at Salcombe on the 11th. At some south-western stations the rain was accompanied by thunderstorms. From the 10th to the 18th an anticyclone extended over our south-western and southern districts, and the wind came temporarily from South-West and South. Late on the 18th, however, when a depression began to move south-eastward from Iceland, a brisk wind from West to North-West set in, and on the 19th and 20th a squally gale was experienced on many parts of the coast. In the gusts the wind blew at the rate of 29 m/s at Southport and Holyhead, 28 m/s at Edinburgh and Pendennis Castle (Falmouth), 27 m/s at Scilly and 26 m/s at Weaver Point (Cork Harbour). While the centre of the depression was passing down the North Sea rain, sleet, or snow showers were very general, and in some northern and north-eastern localities the quantity was considerable. On the 21st a high pressure system began to extend eastward from the Atlantic, and for a brief period a band of high pressure stretched from Ireland to the Baltic. Small irregularities of pressure indicated, however, that the conditions had not become settled, and showers of rain or snow continued in nearly all places. Snow fell during a thunderstorm at Shoeburyness on the 22nd. On the 25th and 26th, when a well-marked depression lay over the south of Scandinavia and the wind was Northerly over the British Isles, a gale was again experienced at many stations. At Alnwick Castle and South Shields the gusts reached 24 m/s, and at Dover, Warlingham, and Pendennis Castle 23 m/s. At the end of the month a depression centred off the north of Scotland was travelling eastward, and strong winds from between West and North had become general; in some places a gale was reported, while showers, or more considerable falls, of snow occurred nearly everywhere. On the 29th there were thunderstorms at Darwen and Haverfordwest, and on the 30th at many stations in the south and south-west of England.

**Temperature.**—There was no real break in the cold, wintry conditions, and the seasonal increase of temperature which should be a somewhat marked feature of March weather was very slight. Frost occurred either very generally or locally every night, but the coldest part of the month over the Kingdom as a whole fell between the 6th and 10th. Minimum readings below 267a were recorded in all parts of Great Britain and in Ireland North, and at many stations the readings were below 261a. The lowest values of all were in Scotland: 253.5a at Braemar (3°F. below zero) 254a at West Linton, 255a at Balmoral and Kettins (Forfar), 254a at Logie Coldstone (Aberdeen) and Crathes (Kincardine), 258.5a at Eskdalemuir, and about 259a at Crieff and Dundee. At Alnwick Castle the figure was 259.7a, and at Hereford and Hoyle 260a. The readings at Braemar and West Linton are the lowest on record for Scotland in March since the observations began in 1856. All these extremely low temperatures were for the night of the 6th-9th when the sky was clear and the "saddle" between two depressions was over the east coast. The greatest cold in the western districts was brought by the strong North-East

winds of the previous night. The maximum readings about this time were little above 273a in any part of the Kingdom, and below it over very large areas in England and Scotland. At Eskdalemuir on the 7th the thermometer rose no higher than 270a, and at some northern stations the highest value on the 8th was 271a. At Meltham (Yorkshire) the 9th, with a maximum of 272.5a and a minimum of 261.5a, was the coldest March day in the past 39 years.

During the earlier half of the month the maximum thermometer very rarely touched 283a even in the mildest parts of the Kingdom, and it was not until the 16th or 17th that that value was recorded over the country generally. On these dates a South to South-West wind, accompanied by a partially clear sky, penetrated to most districts and gave the highest temperature of the month. At numerous stations the thermometer rose to 286a or 287a, at Gordon Castle (Elgin) and various English stations to 288a, at Belfast, Glasnevin (Dublin) and Hodsock (Notts) to 288.5a, and at Foynes (Limerick) to 289a. With the succeeding West to North winds temperature again remained below 283a, except occasionally in the mildest districts, and frequently barely exceeded 277a.

For the month as a whole temperature was about 2a below the normal in Scotland East, and over the whole of England except the South West. In Scotland North and Ireland the deficit was no more than 1a. At Totland Bay (Isle of Wight) the mean temperature was the lowest for March in a record of 31 years, and the observer at Isleworth noted "Coldest and worst March since 1888. Garden and agricultural work greatly delayed; season quite three weeks late." Also the Bolton observer "The weather conditions have been so abnormal generally as to cause the season to be more backward than any since our observations began in 1887."

**Sea Surface Temperature.**—The temperature of the sea water round the coast was about the same as that of the preceding month, and was a little below that of the air except locally off the coast of Sussex. Coastal fog was not generally prevalent, but some part of the west coast was affected almost every day, and until after the 11th the fog area was considerable. Along the south and east coasts there was little or no fog except between the 8th and 17th. At Belper the mean temperature of the water of the Derwent was 278.2a and that of the air 275.7a.

**Precipitation.**—In Ireland North and the Scottish districts the total was less than the normal; in Scotland West the percentage was only 69. In England and also in Ireland South there was an excess. In no district, however, was the excess very large, while in England North-West and North-East it was very slight. The highest district percentages were 138 in England East and 144 in the English Channel. At some individual stations in Scotland the percentage was below 60, and at some in England more than 150. At Norwich it was 192 and at Hereford 185. Stations measuring rainfall twice in 24 hours showed that the rate of fall during the day and night was almost identical. At Richmond (Kew Observatory) there was heavy rain on the 11th. The level of the underground water above mean sea level was 276 cm. on the 1st, and fell to 261 cm. on the 8th. It rose to 286 cm. on the 29th, and dropped slightly at the end of the month.

**Air Pressure.**—The mean distribution of pressure, map 1, p. 27, differed little from the normal in Ireland and Scotland, showing a slight gradient for South-Westerly winds. Over England, where pressure was above the normal and very uniform, the mean isobars showed no definite gradient. The highest for the month, about 1040 mb., was reached between the 15th and 18th. This is the highest level of the barometer in the British Isles since November, 1915. The lowest values were recorded with the depression early in the month in the south and west, but occurred late in the period in the north and north-east. In Scotland North the lowest figure was 973 mb.

**Bright Sunshine** was about equal to the normal in England North-West and South-West and somewhat in excess in Scotland East. In all other districts there was a deficit, that in England South-East, East, and the English Channel being large, more than an hour per day.

At South Kensington the solar radiation recorded on a horizontal surface as measured by the Callendar recorder was greatest on the 24th, 1,195 joules per square centimetre, and least on the 2nd, 93 j/cm<sup>2</sup>. The mean value for the month, 524 j/cm<sup>2</sup>, differed but little from the corresponding values for the last four years, 551, 589, 559 and 498 respectively.

**Aurora** was observed at Seskin on the 10th, Aberdeen and Paisley on the 17th, Lerwick, Baltasound, Braemar and Paisley on the 19th, and at Glasgow and Donaghadee on the 20th. Solar and lunar halos were seen on various dates, and parhelia at Oxford on the 17th. At Reading on the 18th the zodiacal light was observed.

