

# MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

SUMMARY OF OBSERVATIONS COMPILED FROM RETURNS OF OFFICIAL STATIONS AND VOLUNTEER OBSERVERS

ISSUED BY THE AUTHORITY OF THE METEOROLOGICAL COMMITTEE.

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## ABNORMALLY DRY.

The pressure distribution over west and north-west Europe during the month was largely dominated by a series of important anticyclones. In consequence, strong winds and gales were rare, and the rainfall was small except in the Mediterranean area. Temperature was mostly high for the time of year in western Europe and Iceland, but severe frost prevailed at times over Sweden. Depressions followed paths well to the northward or southward of the British Isles.

A depression which arrived from the Atlantic on the closing day of January, became stationary over Northern England and filled up, and a short spell of quiet weather with local frost and fog over the British Isles followed. From the 5th to the 8th there was a spell of east wind over England, with cold dull weather, but no frost, though over Central Europe there was frost and occasional snow. The west of Ireland came under the influence of Atlantic depressions and there was a good deal of rain, Valencia Observatory having 16 mm. on the 3rd, 26mm. on the 4th, and 18mm. on the 7th. One of these systems caused a southerly gale in West Ireland on the 4th, and in the western part of the English Channel on the 5th before it filled up, and there was also a southerly gale on the latter date in Caithness and the Shetlands. Pressure remained low over Iceland, and on the morning of the 8th there was a shallow secondary trough over Ireland, with cold air behind it. This system dispersed, and a large new anticyclone developed rapidly over Ireland, while the Scandinavian anticyclone moved quickly away south-eastward owing to the appearance of a depression over the North Cape. Pressure exceeded 1,044mb. over most of Ireland and south-west Scotland on the morning of the 10th, and subsequently the anticyclone withdrew to a position off north-west Ireland and remained almost stationary till the 17th, decreasing slowly in intensity. A warm current from the Atlantic spread round the stationary anticyclone, and the weather became unseasonably mild over Western Europe, and especially over the British Isles, although the sky was mainly overcast. A depression which moved east-south-east from Iceland caused a total rainfall of 34 mm. of rain at Lerwick on the 14th and 15th, and smaller falls in other parts of Scotland.

In the rear of another depression which moved east-south-east from Iceland, an important change took place in the distribution of pressure. The highest pressure was transferred from south-west Ireland to Scotland by the 18th, and the system withdrew to east Central Europe by the 22nd. Over western Europe there was a south-east current, with fine weather and frosty nights but warm days. The daily range of temperature was unusually high, being as much as 33°F. at South Farnborough on the 22nd. On the two following days temperature reached 60°F. at a few stations in England and France. On the 25th a large new anticyclone developed rapidly off south-west Ireland under circumstances rather similar to the development of the 9th. On this occasion, however, there was a warm southerly current over western Europe, and the cold current in front of the new anticyclone displaced the warm current and caused rain over the British Isles and North France between the 24th and 26th, and local thunder in England on the night of the 24th. On the last day of the month a mild westerly current was again established over north-west Europe, with rain in north and west Scotland.

As to cloud and fog for the greater part of the month the weather was of a type frequently associated with winter anticyclones, the sky being overcast with a uniform horizontal cloudsheets at about 2,000 or 3,000 feet. There was a spell of fine weather in England from the 20th till the 24th, inclusive. In this period there was morning fog at a few stations, and there was a good deal of fog from the 2nd to the 4th, but for the most part the visibility was fair to good, especially near the coast.

The most noteworthy feature of the month was pronounced deficiency of rainfall such as had not been observed since the very dry Februaries of 1895 and 1891. Everywhere the rainfall was considerably below the average, and, as in 1895 and 1891, the deficiency mainly occurred in England and Wales. Less than 10 per cent of the average (1881-1915) was recorded in broad bands from north Cornwall to the south of Shropshire, from Preston to Durham, and in Essex and Suffolk. More than 50 per cent. was recorded only in the south of Ireland and west of a line from Galway northwards along the coast to Wick. The grouping of the dry and rather wetter areas exhibited the characteristic arrangement from south-west to north-east. Rainfall of more than 25mm. was confined to small mountain regions in England and Wales and the western half of Scotland, but it was general in Ireland with the exception of the eastern central basin. At Seathwaite the rainfall was the smallest noted in February since the observations began in 1845, January of this year having been the wettest since 1873.

A further noteworthy feature of the month's weather was the high mean temperature, which was, however, very generally below that of January. There were indeed many more frosts in February than there were in January, the low night temperatures having the effect of reducing the mean. At Benson and Croydon for instance, there were 15 and 13 days respectively on which the shade temperature fell below 273a, compared with only 5 and 2 such days in January. In the latter month at Nottingham there were 19 days on which the maximum temperature rose above 283a, compared with only 3 such days in February. Gales were rare during the month and there was also a notable absence of snow. It is noteworthy that from 2h on February 1st until 10h on the 3rd (56 hours) "dead calm" was registered continuously by the anemometer at Alnwick Castle, Northumberland; and at the Groyne Lighthouse, South Shields no wind above five miles per hour was registered during the same period.

In Scotland the month was very dry in practically all districts; wide areas had less than one quarter of the normal; and many stations (e.g. Gordon Castle and Dumfries) aggregates of less than half an inch. In the East generally the month was the driest February since 1891, and at Gordon Castle it was the driest since 1878. In the West, however, smaller totals occurred in 1917 and 1919. Towards the South-East the greater part of the months' small rainfall was accounted for on the 1st; on the 8th and around the 15th moderate to fairly heavy falls occurred towards the North-West; on the 24th conditions were unsettled, remaining so until the end of the month. The weather was rather stormy on the 4th and around the 15th; but little snow was experienced.

The following notes supplied by observers illustrate the general character of the month:—COPPOCK (Ipswich).—The total rainfall (4mm.) was the smallest ever recorded in any month at this station during the past twenty years. TOTLAND BAY (Isle of Wight).—The rainfall for February amounted to 5mm. on four days, which amount is less than in any preceding February at this station except 3mm. in February, 1895, also on four days. The absolute drought lasted for 21 days, from the 3rd to the 23rd inclusive, the nearest approach to this being the 18 days drought in February, 1895. On the 27th the barometer rose to 1045.0 mb. and was the highest point touched since December 12th, 1905. SHEEPSTOR (Dartmoor).—The total rainfall for the month (11mm.) was the lowest for any month at this station during the last fourteen years, the previous lowest being April, 1912, with 12mm. At 4h on the 27th the barometer reached 1047.1 mb., which is easily the record here. DUBLIN (Fitzwilliam Square).—The outstanding features at this station were a high atmospheric pressure which held almost without interruption from the evening of the fifth to the close of the month; a scanty rainfall on only seven days; a remarkable prevalence of cloud, particularly at night; a complete absence of snow and hail; very little frost; and a preponderance of anticyclonic winds, at one period from the South-East and at another from the West. On the 10th at 9h the barometer rose to 1044.7 mb. and to 1045.7 mb. at 21h on the 26th.

**Air Pressure.**—There was no instance of a primary depression passing directly across the British Isles, and as shown by the map on page 17 the mean monthly trend of the isopleths was of a normal south-westerly type over the northern area, but of an anticyclonic type in the south. The monthly means were largely above the normal, and at the telegraphic reporting stations the excess ranged from 13.9 mb. at Stornoway to 8.3 mb. at Jersey. On the 27th at Valencia Observatory the barometer rose to 1048.3 mb., the highest pressure on record at this station being 1053.2 mb. on January 28th, 1905. At Edinburgh the mean pressure for the month (1024.6 mb.) was the highest in any month since May, 1896, and has been exceeded in February during the last 65 years only in 1890 and 1891. On the 10th the pressure reached 1044.7 mb., a reading only once exceeded in February at this station during the last 80 years (1051.1 mb. in February, 1902) but equalled in 1911.

**Temperature.**—The mean monthly temperature was above the normal in all Districts, the excess ranging from 1.7a in Scotland North to 0.5a in England South West. At the individual station the highest reading recorded was 290a on the 24th at East Ham and Leamington Spa; and the lowest 263a on the 8th at Braemar.

**Precipitation.**—In all Districts the total rainfall for the month was below the normal, the deficiency varying from 70 mm. in England North West to 29mm. in England East. In London (Camden Square) the rainfall was the lowest for February in 64 years' record, excepting February, 1891 (.01 in.) and 1895 (.12in.) Only two other months April 1912 (.04 in.) and May 1896 (.14 in.) had a smaller total. At Blundellsands (Lancs.) the total (.22 in.) was the smallest in February since 1891. At Richmond (Kew Observatory) the total was only .19in., there having been only two drier Februaries here since 1866, the previous driest being .09 in. in both 1891 and 1895. The general rainfall for the month expressed as a percentage of the normal was:—England and Wales 15; Scotland 39; Ireland 51, and the British Isles as a whole 34.

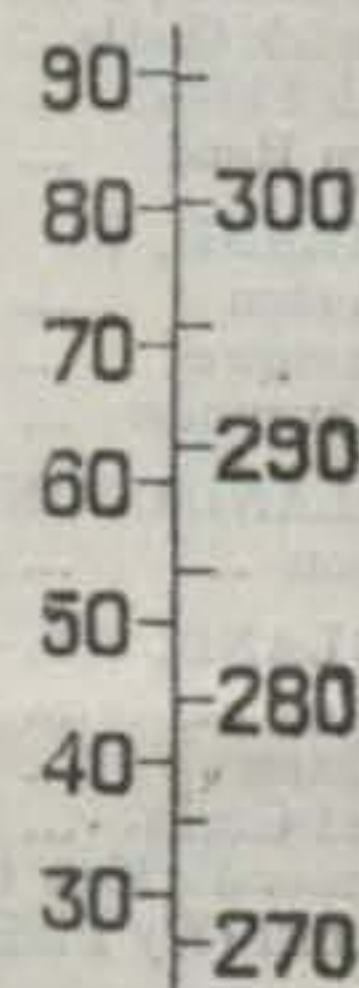
**Sunshine.**—The mean daily amount of sunshine in most Districts did not differ largely from the normal, the largest deficiency being 0.76 hour per day in Ireland South and the largest excess 0.20hr. in England East.

For the winter season (13 weeks from November 28th, 1920) the average temperature was well above the normal in all parts of the British Isles. Rainfall for the same period was decidedly less than the normal, except in Scotland East and West and in England North East. Sunshine was slightly deficient in most Districts.

**Optical Phenomena.**—A sun pillar was seen at Aberdeen on the 26th, and the Zodiacal Light at Oxford on the 2nd, 9th, 10th and 23rd; at Ross on Wye on the 25th and 26th; and at Tenbury also on the 26th.

**Aurora** was observed at Deerness, Fort William and Gordon Castle on the 5th and at Deerness on the 13th.

**Note.**—The article by Captain C. K. M. Douglas in the Meteorological Magazine for March has been utilized in the preparation of these notes.



Temperature Scales.