

## MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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## FEBRUARY, 1923: AN EXTREMELY WET MONTH.

**General.**—February was characterised by mild and very wet weather. During the first four days temperature was remarkably high for the time of year. Subsequently, the dominating influence was that of continued low pressure to the westward of the British Isles. Rainfall was exceptionally heavy, and in many places was the highest ever known to have occurred in this month. The ground was "muddy" for more than half the month at most places, and at London, Benson and Valencia it was reported to be "wet" or "muddy" on every day. Considerable falls of snow occurred in Scotland and in northern and central England in the latter half of the month, especially on the 21st. Thunderstorms were experienced in the London area on the 21st and in various places elsewhere on a few occasions. Strong gales, mainly southerly, were prevalent, especially in the north-east of Scotland; the most notable ones occurred about the 6th and 7th and again on the 26th and 27th.

The general character of the month is illustrated by the following remarks taken from observers' notes:—Alfriston (Sussex).—The wettest February for years. The mildest winter I remember either in Sussex or on Dartmoor. Belper (Derbyshire).—The third heaviest February rainfall in the 47 years, 1877-1923. Blundellsands (Lanes).—With the exception of 1904 there has been no wetter February in 47 years. Cheltenham. —The heaviest February rainfall since 1900 and the second heaviest since 1867. Hodsock Priory (Nottingham).—The wettest February in my record of 48 years. Ipswich. —The wettest February during the last 22 years. Sunshine less than two-thirds of the average; the actual duration less than that of the previous January for the first time during this period. Isleworth. —A mild February with the largest number of wet days since 1881 but including only one day of heavy rainfall. Meltham (Yorkshire).—The lowest mean pressure of any month for 43 years except December, 1914. Newquay. —There has been only one lower mean monthly pressure in 19 years, viz., in March, 1909. The third wettest February of this period. Sidmouth. —Very high winds and gales; heavy showers and long bright intervals. Skegness. —A remarkably temperate February and the wettest since 1916; the fall of 23mm. on the 18th was the record for a single day in February since 1897. Southport. —Mild generally, with very little frost, very wet, with high relative humidity and an unusual prevalence of south-easterly winds. Torquay. —It is doubtful if such a wet and mild February has been experienced during the past 30 years, but on the other hand temperature has been unusually high and many days were spring-like in character. Totland Bay. —The warmest February for 37 years and the wettest since 1900. Dublin City. —Rainfall more than three times the average. A "record" February for precipitation and number of raindays.

**Pressure and Winds.**—The mean pressure of the month was everywhere markedly deficient. The departure of the monthly mean pressure from the normal varied from  $-4.8$  mb. at Lerwick to  $-18.3$  mb. at Birr Castle. The isopleths of mean pressure trended from S. to N. except in southern England and Ireland, where the direction was from S.W. to N.E.

Pressure remained almost invariably low to the westward of the British Isles and the gales were, therefore, mainly southerly in direction. Two primary depressions crossed the British Isles during the month, the first on the 22nd and 23rd (Track K) and the second on the 26th—28th (Track N). Three secondaries were also experienced.

The strongest winds of the month were, in general, those of the 6th and 7th and 26th and 27th, the latter associated with the depression above referred to (Track N) and the former with deep depressions in the western Atlantic. The strongest gusts of the month were 95 m.p.h. at Valencia, 82 m.p.h. at Weaver Point and 81 m.p.h. at Pendennis Castle, Falmouth, all on the 26th. The gust at Valencia was the highest recorded since the installation of the pressure tube anemometer in 1917. Gales were especially frequent on the north-east coast of Scotland; Wick reported gale force on no less than 17 days. Lerwick had 10 days during which the mean wind speed exceeded 38 m.p.h. for at least one hour, and Pendennis had 8 such days.

**Temperature.**—The mean temperature of Districts 1 to 10 was  $42^{\circ}\text{F}$ ., and the mean temperature of each District was above the normal, the

excess ranging from  $3.8^{\circ}\text{F}$ . in England south-east (mean temperature  $44^{\circ}\text{F}$ .) to  $0.8^{\circ}\text{F}$ . in Scotland west (mean temperature  $40^{\circ}\text{F}$ .) The week 11th to 17th was comparatively cool, the temperature being about normal.

The extreme screen temperatures for the month were:—(England and Wales)  $61^{\circ}\text{F}$  at Hodsock Priory on the 1st,  $20^{\circ}\text{F}$  at Crauwel on the 22nd; (Scotland)  $56^{\circ}\text{F}$  at Gordon Castle and Liberton on the 1st,  $20^{\circ}\text{F}$  at Leadhills on the 20th and 21st; (Ireland)  $59^{\circ}\text{F}$  at Glasnevin (Dublin) on the 2nd;  $26^{\circ}\text{F}$  at Phoenix Park, Dublin on the 23rd. The lowest temperature recorded by a thermometer exposed over grass was at Rhayader,  $15^{\circ}\text{F}$ . on the 5th;  $17^{\circ}\text{F}$ . was recorded at Cranwell on the 22nd.

**Precipitation.**—The total precipitation was in excess of the average everywhere except in north-west Scotland where percentages of the normal ranging down to 65 per cent. were recorded. In a great part of England and Wales, the eastern half of Ireland and a part of eastern Scotland precipitation was more than twice the normal, whilst a large area extending from the north of Cornwall to Staffordshire and a small area in eastern Scotland had more than three times their normal fall. In many places, especially in the districts last mentioned, the precipitation of the month was the highest ever known to have occurred in February, this being the case in records covering 105 years at Ross-on-Wye, 80 years at Cirencester, 70 years at Bristol and 59 years at Wolstaston in Shropshire. At Dublin City the rainfall was more than three times the average. The month constitutes a record February both for precipitation and number of raindays. The conditions appear to have been similar to those of February, 1915, but February, 1923, was undoubtedly the wetter month of the two.

Daily rainfalls of 40mm. and over were recorded in a few instances, Fort William had 49mm. on the 1st and Petersfield 43mm. on the 7th. The fall of 23mm. at Skegness on the 18th is the highest daily amount recorded at this station in February since February 7th, 1897.

General snowfalls, in some instances taking the form of blizzards, occurred after the middle of the month in Scotland and in northern and central England, mainly between the 18th and the 24th. Snow lay in parts of Yorkshire and Derbyshire to a depth of from 8 to 12 inches, the ground in some places being covered for at least 6 days.

Thunder was heard in London on the 21st and local thunderstorms were experienced on various occasions during the month. Hailstorms of considerable severity occurred in England south-east on the afternoon of the 21st.

**Sunshine.**—The duration of sunshine was appreciably below the normal. The largest mean daily deficiency occurred in Scotland east ( $-1.20$  hr.). The Channel Isles and Scilly had 26 per cent. of the possible duration, but Scotland east had only 14 per cent. The week February 11th to 17th was practically sunless at a few northern stations but during the following week several daily records of between 8 and 9 hrs. were obtained. Torquay had 9 hrs. on the 19th. The map for the month shows several instances of additional duration of sunshine on the leeward side of ranges of hills, in this case on the north-easterly or easterly sides. The most conspicuous instances are those of the Inverness region and the neighbourhood of Torquay, but loops on the isohels may also be noted in the Severn Valley, Cambridge and Dublin districts.

**Fog** was not very prevalent during the month. There was general fog in London and the south-east counties throughout the 14th and on the morning of the 15th; this fog was of sufficient vertical extent to be experienced on the hilltop as well as the low-level regions.

**Miscellaneous Phenomena.**—Halo phenomena were extensively observed, notably at Oxford on the 9th, 11th, 21st and 25th. On the 11th the  $22^{\circ}$  halo with upper tangent arc was visible all day and on the 21st in addition to the same phenomena, two parhelia, the halo of  $46^{\circ}$  and the circumzenithal arc were seen. On the 2nd a lunar corona and partial halo were observed simultaneously at Croydon, and on the 22nd a solar halo and corona were similarly observed at Lympne. Sun pillars were seen at Tavistock on the 11th and at Oxford on the 25th. The zodiacal light was observed at Tenbury on the 3rd and 14th, at Raunds on the 8th, at Oxford on the 6th and 8th and at Wadhurst (near Tunbridge Wells) on the 4th, 5th, 8th, 11th and 14th.