

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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OCTOBER, 1922: ABNORMALLY DRY. TEMPERATURE RATHER LOW. MUCH SUNSHINE.

Throughout the greater part of the British Isles October was abnormally dry, and rainfall totals show in most cases a considerable deficiency. The mean temperature was low, especially during the latter half of the month. Snow was experienced over a wide area about the 28th and 29th, falls being recorded as far south as Falmouth and Jersey. Sunshine was generally much above the normal, the second week being exceptionally fine, almost continuous records of bright sunshine being obtained at many English stations on successive days.

At the beginning of the month a considerable belt of high pressure extended from Madeira across France to Scandinavia and the weather was mild with south-westerly winds, maximum temperatures in England being above the normal. On the 3rd, with the passage of a depression north-eastward, rainfall in Scotland was rather heavy. Aberdeen measured 14mm. and Castlebay 13mm. A second "Low" centered, north-west of Ireland on the 4th, gave 23mm. of rain at Plymouth and 17mm. at Falmouth. On the 5th this depression moved rapidly across the north of England. It reached the Netherlands next morning. A rise in pressure in the north then occurred and with north-easterly winds, temperature decreased, the highest in England on the 6th being 62°F. By the 7th an anticyclone was centred over the British Isles and conditions from the 7th to 9th were drier, little rain beyond east coast drizzle being reported. The high pressure system then moved eastwards and unsettled conditions spread over Scotland and the north-west, 22mm. of rain falling at Eskdalemuir on the 12th. Maximum temperature readings in England, with almost continuous sunshine, showed a steady rise. On the 14th Llandudno reached 70°F. and Colwyn Bay 69°F. In Scotland, Gordon Castle and Kelso recorded 70°F. on the 15th. Subsequently with the movement west of the "High," winds again became north-easterly, and a decrease in temperature followed. Conditions, however, remained dry, with cloudy skies in the east. On the 20th and again on the 26th, 28th and 29th the thermometer failed to rise above 45°F. throughout the day in London. On the morning of the 26th the frost was unusually severe for the time of year, 28°F. being recorded in the screen at Kew Observatory. This was the lowest reading recorded in October since 1905. In the north-west of the British Isles minimum temperatures fell below the freezing point on several nights. On the 25th Renfrew recorded 24°F. and Eskdalemuir 21°F. Snow and sleet occurred in the north on the 27th and extended south on the following day. London had a slight snow shower, and a heavy fall occurred in the south-west of England on the 29th, when a depression over France moving north-eastwards gave rise to gales in the Channel. The weather then improved, the 31st being fine with normal temperatures in England. By the evening of the 31st, however, a large depression off the west of Scotland was giving rise to general south-westerly winds of gale force, accompanied by almost continuous rain in the west and north.

The following notes by observers illustrate the abnormally dry character of the month over the greater part of the British Isles. This was less marked in the east of Scotland than in other districts, an observer at Cranford (Aberdeen) describing the month as "wet and cold." Arisaig (Inverness-shire).—An exceptionally fine, calm, sunny month. Rothesay (Buteshire).—The month of October has been one of the best months we have had for a considerable time. Ipswich (Suffolk).—The total rainfall for the month just ended is 0.82 in. which is the smallest in my records except 1920. Hodsock Priory (Nottingham).—A very dry and rather cold month. Totland Bay (Isle of Wight).—I have never before known more than 14 consecutive days without rain in October. This year the absolute drought lasted from October 6th to 26th. Tenbury (Worcester).—Very dry, cold, sunny month. Meltham (Yorkshire).—The smallest rainfall in October in my record of 42 years. Blundellsands (Lancashire).—The least rainfall in October ever recorded during 47 years. Torquay (Devonshire).—The principal climatic features of the month were the exceptional number of rainless days, the prevalence of an easterly wind, chilly days and nights, low percentage of humidity, and abundance of sunshine. Redruth (Cornwall).—Absolute drought, October 6th to 24th. Dublin (City).—The latter half of the month was severely cold, and on the 28th and 29th the higher range of the Dublin and Wicklow hills were snow-capped.

NOTE:—The article by Mr. S. F. Witcombe, in the *Meteorological Magazine* for November has been utilised in the preparation of this summary

Air Pressure.—Pressure was greatly in excess of the normal, especially in the north of the British Isles where the excess amounted to more than 10mb. Only in 1919, has the mean pressure of the month been exceeded in Scotland in October during the last sixty years. The general trend of the isobars was very abnormal, the usual south-westerly type being replaced by an easterly or south-easterly type. With the exception of a secondary depression which skirted the west of Ireland on the 12th, the only depression which crossed the British Isles was that which travelled in a south-easterly direction from the north of Ireland to the Netherlands on the 6th. At the telegraphic reporting stations the departure of the monthly means of pressure from the normal varied from +12.2mb. at Lerwick to +0.6mb. at Jersey. The highest reading recorded during the month was 1036mb. at Wick and Lerwick on the 19th, and the lowest 990mb. at Jersey on the 30th.

Temperature.—Throughout the greater part of the British Isles temperature was below the normal, especially in the southern districts. The deficiency was most marked during the latter part of the month. The minimum temperature at Braemar on the night of the 30th-31st was only 16°F. The departure of the monthly means from the normal ranged from -0.7°F. in Scotland north to -2.5°F. in England south-east and England south-west.

Precipitation.—The total rainfall of the month was much below the normal. The deficiency was most marked in the centre of England and Wales, where less than a quarter of the normal was recorded over a very large area. Less than a quarter of the normal also fell in places on the west coast of Ireland, and as little as 10 per cent. was recorded in the Cheshire plain; only 0.6mm. being recorded at Wallasey from the 6th to 20th, a period of 25 days. At Bidston Observatory (Liverpool) the total for the month was only 7mm. or less than 10 per cent. of the normal amount. In England, Wales and Ireland only small areas had rainfall above half the normal. These areas included the east of Kent, where slightly more than the normal was recorded locally, the extreme north-east of England and part of the north of Ireland. In Scotland the deficiency was less marked, and by far the greater part of the centre and east received more than half the normal; on parts of the east coast as much as 75 per cent. was recorded, the prevailing north-easterly winds causing frequent though only moderately heavy precipitation. Areas with a total rainfall of less than 25mm. were unusually widespread, including a large part of the centre of England, stretching from Worthing in the south to Lancaster and York in the north, and from the Welsh border in the west to Ipswich and the Wash in the east. Less than 25mm. were also recorded in the neighbourhood of Dublin and in parts of southern Ireland. Totals of more than 75mm. were much less widespread than usual, being as a rule local and confined to the more hilly districts of England and Wales, and to the west and south-west of Ireland. In Scotland falls of 75mm. or more were recorded generally in the west. Snow fell at several stations in the British Isles towards the close of the month. It was reported at Falmouth and Jersey on the 29th, a very unusual occurrence during October. In Scotland it fell locally in the eastern districts between the 26th and 30th, and lay to a depth of several inches in some upland areas. The general rainfall expressed as a percentage of the average was, England and Wales, 33; Scotland 59; Ireland 37; British Isles 42.

Sunshine.—Sunshine was much above the normal in all districts with the exception of the English Channel where there was a slight deficiency. Records were remarkably good from the 11th to 16th on each of which dates between eight and ten hours of bright sunshine were enjoyed in the south-east of England, and in several instances similarly high values were obtained in other parts of the country. The departure from the normal ranged from -0.07 hr. per day in the English Channel to +1.01 hr. per day in England north-west and +1.02 hr. per day in England east.

Optical Phenomena.—Solar and lunar halos were frequently observed at various stations during the month. At Oxford a parhelion and a paraselena were observed on the 3rd, and a sun-pillar on the 26th. The Zodiacal Light was seen at Ross-on-Wye on the 17th parhelia were observed at this station and at Lenton Fields on the 29th. A lunar rainbow was observed at Hereford on the morning of the 5th. Aurora was fairly frequently seen in Scotland, notably on the 25th; it was also seen at Dublin on the 4th.