

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, Dry and Sunny.

During the greater part of the month air pressure over the Atlantic was much above the normal, and the British Isles experienced a preponderance of winds from northerly points, winds from a south-westerly quarter being remarkably rare. There were no gales of a general character, the average speed of the wind was low and conditions were favourable for terrestrial radiation, so that ground frosts were very common and at times severe, and mist and heavy dew occurred very frequently. At Richmond (Kew Observatory) ground frosts were experienced on as many as 19 nights, the normal number in the Octobers of the previous 15 years being only 7. Except in Ireland, the mean temperature of the month was below the normal, a result largely due to the low night temperatures. Precipitation also was much below the normal, the deficiency in the West and South-West of England and in Ireland being notable, the month at numerous stations being the driest October on record. Sunshine, on the other hand, was unusually abundant, and in many instances it was the sunniest October on record. Commonly the coldest weather of the month occurred during the second week, the warmest days, as a rule, in the first week. The week ended on the 18th was especially inclement, and during its first days there were frequent showers of rain, hail, sleet and snow, with thunderstorms in places between the 13th and 15th. Hail fell frequently during the month, but there was not much snow, the latter falling most commonly round about the 12th and on the 28th.

In Scotland some rather warm days were experienced from the 5th to 8th, and low, or rather low, temperatures during the next ten days or so were followed by a brief return of mild conditions. The last week was everywhere cold, with easterly to north-easterly winds. Ground frosts were frequent, more especially in southern districts. In South Ayrshire it was the driest October for at least forty years, and in the Glasgow area a drier October has been experienced during the last sixty years only in 1880.

The following notes supplied by observers illustrate the general character of the month:—*Copdock, Ipswich*.—A cold, dry, bright month, with a marked absence of high winds. The mean temperature was 2.8a below the normal, and the mean minimum, 276.2a, was the lowest for any October at this station. *Hodsock, Notts*.—The deficiency of temperature was entirely at night, and the mean minimum both in the screen and on the grass was the lowest ever recorded here in October. Only twice before has the sunshine been exceeded in October, the last time being in 1893. *Ross, Hereford*.—A very fine month, the sunshine being more abundant than in the previous July and September. Rainfall, in spite of two rather heavy falls on the 23rd and 24th, was well below the normal. *Totland Bay, Isle of Wight*.—It was the most remarkable October I have experienced during my 33 years here. The chief feature was the relative humidity, which at 9 h. gave a mean of 76.4 per cent., which is drier than any preceding October, the nearest approach being 78.5 per cent. in 1907. It was also the sunniest October ever recorded at this station, and also the least rainy. On the 27th apple trees were in full bloom. *Southport, Lancs*.—The sunniest October at this station for 20 years. There was an exceptional prevalence of northerly to north-westerly winds and the mean air pressure was higher than in any previous October during 48 years. *Sheepstor, Devon*.—The finest October for many years, with many beautiful, clear skies. It was, however, very cold during the latter part of the month, Dartmoor being covered with snow on the 28th. The colours on Dartmoor this autumn have been quite the best of the last decade. *Newquay, Cornwall*.—The driest October in 27 years, the coldest since 1896, and the sunniest since 1908. There were no fogs and no gales. *Dublin, Fitzwilliam Square*.—A dry, cool month, with an unusually high air pressure and a great persistent prevalence of northerly winds. Of the total rainfall (60 mm.), 70 per cent. fell in 40 hr. on the 23rd and 24th. *Carrigoran, County Clare*.—It was the driest October on our record, with much more sunshine than is usual here.

Air Pressure.—The mean monthly air pressure was abnormally high, and the departures from the normal were very large, the excess at the telegraphic reporting stations ranging from 12.6 mb. at Stornoway to 5.8 mb. at Dover. Over Scotland the mean was above the highest previously recorded in October during the past sixty years. As shown by Map 1 on p. 111, the mean monthly trend of the isobars was very abnormal and was of a northerly type instead of the usual south-westerly, the gradient being slightly steeper than the normal.

Map 2 shows that primary depressions which passed directly across the British Isles were again, as in the three preceding months, remarkably rare. The month opened with a deep depression centred between Iceland and Scotland (track A), which as it moved eastwards developed a V-shaped secondary on its southern side (track A1). From the 3rd to 10th anticyclonic conditions prevailed, the weather during this period being fair to fine, but with much fog and mist. On the latter day a secondary developed over Scotland and rain became general. During the following days there was a persistent anticyclone which controlled the weather until the 22nd, the days during this period being sunny and warm and the nights cold. On the 23rd a depression (track C) reached the South-West of England and caused very heavy rain over the greater portion of the British Isles, the precipitation being especially heavy in North-East England. During the next few days pressure was high in the West and low in the East and South-East, so that winds from northerly points were again common, with a gale in Scotland on the 27th and snow and hail in places on the 28th. On the 29th a depression (track E) travelled eastwards to the Thames Estuary, bringing much rain in places. The last day of the month was fine in the West and dull and showery in the East.

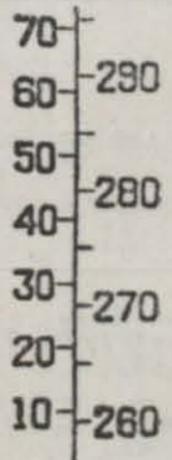
Temperature.—In Ireland South the mean monthly temperature was exactly normal, and in Ireland North it was 0.2a above the normal, but in all other districts there was a deficiency of warmth which ranged from 2.3a in England South-East to 0.4a in Scotland North and West. During the week ended on the 18th the deficiency at many stations was especially large and was as much as 4.9a at Cromer, 4.8a at Dungeness, 4.7a at Little Massingham, and 4.6a at Southampton. At the individual stations the highest reading recorded during the month was 296a at Gordon Castle on the 5th, and the lowest, 266a, at Braemar on the 7th and at Aldershot on the 18th.

Precipitation.—The precipitation figures for the month presented some curious contrasts and anomalies. Thus the only district with a total above the normal was England North-East, where the excess was 16 mm., the aggregate (91 mm.) being larger than in any other district. In Ireland South, on the other hand, there was a deficiency of 69 mm., the total being only 31 mm. At Roche's Point in this latter district the total was only 21 mm., the lowest recorded here in October for 50 years. In Scotland West, normally very wet, there was a shortage of 68 mm., the aggregate being only 51 mm. In the remaining districts the shortage ranged from 64 mm. in England South-East to 15 mm. in Scotland East and the Midlands. At Richmond (Kew Observatory) the aggregate was only 15 mm., the lowest total recorded here since 1866. In Scotland, in general, there was a large to abnormally large deficiency; considerable areas had only one third or less of the normal, Crieff and Paisley having hardly one-fifth; while at many places more than two-thirds of the month's aggregate was accounted for on the 22nd and 23rd. Similarly at many of the English and Welsh stations the month's aggregate was largely made up by heavy falls on the 23rd and 24th. Thus at Newport out of a total of 65 mm., 32 mm. was contributed on the former date and 29 mm. on the latter.

Sunshine.—The mean daily amount of sunshine in Scotland North was normal, but in all other districts there was an excess ranging from 0.05 hr. in Scotland East to 1.47 hr. in the Midlands. The sunniest district was the English Channel (5.07 hr. per day), and the least sunny Scotland North (2.50 hr.). It is noteworthy that in the Southern and Western Sections of the British Isles the mean daily amount of sunshine was above the normal during every week from the beginning of June to the end of October.

Optical Phenomena.—Lunar halos and lunar coronae were observed during the first part of the month and solar halos on various dates, paraselenae being seen at Aberdeen on the 13th and a parhelion at Eskdalemuir on the 15th. A sun-pillar was seen at Oxford on the 21st; and the zodiacal light at St. Louis Observatory (Jersey) on the 1st, 4th, and 27th, and also on the 1st at Bognor.

Aurora.—A brilliant display of aurora was widely seen during the night of the 1st-2nd, and minor displays on several other dates.



Temperature Scales.