

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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OCTOBER, 1923: WET AND WINDY.

General.—October was characterised mainly by unsettled boisterous weather with south-westerly winds, often of gale force, frequent squalls and heavy rainfall. The temperature was moderate. There were, however, considerable bright periods, with the result that some parts of the country experienced an excess of sunshine as well as an excess of rain. On the 3rd a depression which passed south-eastward to France caused gales in the Channel and heavy rain in the southern counties. From the 9th to 13th high winds prevailed and were particularly violent on the 9th, especially in eastern Scotland and the Shetlands. Quieter weather obtained near the middle of the month, with ground frost at many inland places. On the 18th the wind freshened and gales or high winds were experienced in the more exposed places until the 30th. Heavy rain fell repeatedly during this period.

The general character of the month is illustrated by the following remarks taken from observers' notes and returns:—Ardingly.—The heaviest October rainfall since records started. Copdock (Suffolk).—A very wet month with deficient sunshine; temperature not far from normal. Not so wet as October, 1903. A good deal of high wind. Cheltenham.—A wet and unsettled month, a contrast to last October. Hoylake (Cheshire).—Very unsettled weather with heavy squalls. Leyland (Lancs.).—A very wet month. Malvern.—A very wet month. Morwenstow (Cornwall).—The worst October I can remember. Skegness.—A dull month with remarkable freedom from east winds. Southport.—The mean daily range of temperature smaller than in any previous October during 52 years' record. Duration of westerly winds nearly three times the normal; easterly winds almost entirely absent. Very windy throughout. Mean pressure only once lower for October in the previous 52 years. Walton-on-Naze.—A squally month with westerly winds, rainfall four times that of October, 1922. Arrochar (Dumbartonshire).—A month of heavy rains. Only one 24 hours dry. Camusserachd Lodge (Perthshire).—Very wet with little sunshine. Plockton (Ross-shire).—Very stormy and sunless for the most part. Dublin.—Atmospheric pressure very low during the second half of month. Constant W. or S.W. winds, mostly fresh. Frequent but not heavy rainfall, except on early morning of 3rd and on 26th.

Pressure and Winds.—The mean pressure of the month was markedly below normal everywhere. The departure of monthly means of pressure at fixed hours from the normal varied from -1.6 mb. at Wick to -5.0 mb. at Scilly. The isobars of mean pressure trended roughly from W.S.W. to N.N.E. over the whole of our islands, and the pressure gradient was about twice as steep as that of the normal map. At Edinburgh such a low mean pressure for October (998.4 mb.) has occurred only once during the last 100 years (in 1903).

The main feature of the pressure distribution was the persistence of deep depressions between Scotland and Iceland and the frequent passage of small secondaries over the British Isles. Six primary depressions crossed some portion of the country and one comparatively long lived secondary is also indicated on the map as passing from Ireland to Holland. The lowest pressures of the month were experienced generally on the 23rd in connection with the depression (Track L); 963 mb. was recorded at Valencia on the 27th. The highest pressures were experienced generally on the 4th and 17th.

The strongest winds occurred mainly towards the end of the month, notably between the 25th and 27th, but gales occurred throughout the whole period. Pendennis Castle recorded 7 days of gale and Lerwick and Plymouth 5 days. The highest gust registered during the month was 80 m.p.h. at Lyme Regis on the 3rd; one of 78 m.p.h. occurred at Lerwick on the 9th, and there were others of 70 m.p.h. and over. Considerable damage was done, notably at Arlington Court (Devon) on the 3rd, at Severn Beach on the 11th and in the Folkestone region on the 12th. On the evening of the 24th a small tornado passed over Solihull, near Birmingham, causing three casualties and widespread destruction over a track 50 yards wide.

Temperature.—The mean temperature of Districts 1-10 was 49°F. With the exception of England N.E. and Scotland E. the mean temperature of each District was slightly above normal. The largest excess, +1.0°F., was experienced in England E. (mean temperature 51°F.), and the largest deficiency, -0.3°F., in England N.E. (mean temperature 48°F.). The first and third weeks were the coldest periods, and the 5th, 14th and 15th were the coldest nights, over the country generally. October 21st-27th was the warmest week, with temperature about the normal in every District. The 9th and 19th were the two warmest days generally. After the middle of the month there were one or two exceptionally warm nights, and in many parts of the country the maximum temperature for the week 14th-20th occurred on the night of the 18th-19th. The smallness of the mean daily range of temperature was a characteristic feature of the month, the days being rather below the normal and nights above. At Southport the range of 7.0°F. constituted a record for the 52 years of observations.

The extreme temperatures of the month were:—(England and Wales) 74°F. at Long Ashton on the 1st, 27°F. at Marlborough on the 15th; (Scotland) 64°F. at Wick and at Edinburgh on the 1st, 24°F. at Wolfelee on the 14th; (Ireland) 66°F. at Lisburn on the 7th, 28°F. at Kilkenny on the 15th. A number of ground frosts occurred, notably in Scotland, the largest number reported being 18 at Leuchars. The lowest temperatures recorded over grass were 19°F. at Rhayader and Wisley on the 5th

and 20°F. at Wisley on the 15th. There was a remarkable drop in grass minimum temperature between September 20th and October 5th. Thus at Raunds the temperatures were 60°F. and 27°F. respectively and at Wisley 59°F. and 19°F. respectively.

Precipitation.—Precipitation was in excess of normal in all Districts except England N.E. Areas with an excess of more than 50 per cent. occurred in western Great Britain, south-east England and the extreme north-west of Ireland: of these the largest were south-east England, and an area embracing nearly the whole of Wales with an extension into the Midland counties. A region of the western Scottish coast in the neighbourhood of Loch Linnhe had over twice the normal fall as also had the greater portion of Westmorland and parts of the London area. Over a coastal strip from South Aberdeenshire to the Wash precipitation was under normal and a small area about Spurn Head had less than 50 per cent. of the normal. Part of the Waterford coast also had less than the normal fall. The general precipitation of the British Isles expressed as a percentage of the normal was 134; the values for the several countries were:—England and Wales 123, Scotland 142, Ireland 125.

The largest total fall registered was 889 mm. at the Sty, Borrowdale (Cumberland), while amounts exceeding 600 mm. were obtained in the Western Highlands of Scotland and in the Snowdon region. On the other hand less than 50 mm. fell over a large part of the English eastern coastal area. The rainfall at Kew (135 mm.) was over twice the normal and, while it did not constitute a record, was the largest total for any month since December, 1915.

For the British Isles generally the rainfall of the previous five Octobers has been below the normal, but in the last 20 years there have been six Octobers with a bigger rainfall than that of the present year. In west and south Scotland the month was the fourth wet one in succession and at, e.g., Colmonell (South Ayrshire) and Rothesay, the July-October period of 1923 was the wettest on record. At Deerness the harvest period was the wettest on record, i.e., since 1841. The fall of 427 mm. from August to October inclusive was only approached in 1850 (399 mm. for the same period). October, 1845, was, however, wetter than October, 1923, the fall being 199 mm. as against 173 mm.

The week October 21st-27th was the wettest of the month and the week 7th-13th was also very wet. A number of daily falls exceeding 35 mm. were recorded at stations given in this Report, the largest being 47 mm. at Falmouth on the 11th, 38 mm. at St. Leonards on the 23rd and 37 mm. at St. Leonards on the 3rd, Newquay and Torquay on the 11th and Brighton and Guernsey on the 23rd.

There was very little snowfall anywhere. A few stations recorded one day of snow. About the 3rd fresh snow fell on mountains in the Onich neighbourhood (Inverness-shire), on the 13th there was snow on the hills at West Witton (Yorkshire).

There was a moderate amount of thunder during the month, some stations reporting 3 days and Biggin Hill (Kent) 4 days. A thunderstorm of considerable local severity occurred at various western and southern Scottish stations on the 27th. One of the Reculver Towers (Kent) was struck by lightning on the 22nd. Hail was reported at a number of stations, but the number of days did not exceed 4 anywhere.

Sunshine.—The duration of sunshine was in excess of the normal in England N.E., Scotland N. and E. and the whole of Ireland. Elsewhere there was a slight deficiency. The largest mean daily excess occurred in Scotland E. (+0.91 hr.) and the largest deficiency in Channel I. (-0.59 hr.). The duration of sunshine reached 36 per cent. of the possible in Scotland E. and was only 26 per cent. in England N.W. and the Midland Counties. At Aberdeen the month was the sunniest October on record; at Edinburgh it was the sunniest since 1904.

The last two weeks had more sunshine than the first two and practically all Districts had an excess. A number of daily records exceeding 10 hrs. were obtained in the first 4 days of the month and a number of between 9 hrs. and 10 hrs. about the middle of the month. The duration of 10.3 hrs. at Ross-on-Wye on the 4th was the largest amount registered in October since 1918, when 10.4 hrs. was obtained.

Fog.—With the exception of Edinburgh, with 12 days of fog, no station recorded more than 5 days of fog. Inland fog was prevalent for a few days about the middle of the month. One or two reports of sea fog were obtained.

Miscellaneous Phenomena.—Solar and lunar halos and coronæ were frequently observed. The solar halos seen at Oxford on the 22nd, 23rd and 24th were accompanied by parhelia. On the 24th a moon pillar was seen at Banff and a lunar cross at Nairn, this phenomenon being probably produced by a combination of a moon pillar and the portion of the mock-moon ring in the immediate neighbourhood of the moon. Lunar rainbows were observed at Dublin on the 24th and at Ross-on-Wye on the 24th and 27th. On the 12th at 17h. a waterspout was seen off Aberystwyth. Several cases of iridescence on clouds were noted at Biggin Hill (Kent). Aurora was seen in Shetland on the 12th, 14th and 31st, in Orkney on the 14th and 16th, and at Leuchars and Berwick-on-Tweed on the 16th. The Zodiacal Light was observed at Biggin Hill on the morning of the 13th, and the Counter-glow and portions of the Zodiacal Band were seen at Wadhurst (Sussex) on several occasions towards midnight.