

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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DECEMBER, 1924: WARM, GENERALLY WET AND STORMY.

General.—Unsettled, mild conditions, with frequent strong winds and gales during the second half characterised the weather of the month.

At the beginning of the month unsettled conditions associated with secondaries to a depression off the west coast of Iceland prevailed over the British Isles. Heavy rain occurred locally and mist, fog and low cloud were prevalent. On the 5th a deep and vigorous low pressure system centred off S.W. Iceland moved northwards. Secondaries to this system travelled north-eastwards across the British Isles, causing strong southerly or south-westerly winds reaching gale force in the Channel and at coastal stations, and accompanied by heavy rainfall in places. While unsettled conditions were being experienced on the north-west coasts and gales were occurring at the Faroes and the Hebrides, a ridge of high pressure moved across England on the 7th, giving fine weather. On the 10th a large continental anticyclone extended westwards to the British Isles, which lay under a pall of mist inland with thick fog in E. and S.E. England. During the next few days, shallow secondaries skirted the north and west coasts of the British Isles, and conditions were dull and mild with local rain or drizzle. The weather improved temporarily on the 14th and again on the 16th. During the next few days the weather was drier in England (except the west), but on the 22nd, secondaries to a deep depression off the S.W. of Iceland gave rise to very unsettled weather over the British Isles, gales being reported from exposed places. Associated with secondary depressions which crossed the British Isles, rain fell on the 27th over a wide area, and hail and sleet occurred locally in the north and north-west. The gales were particularly severe in the English Channel, where the force at times reached about 60 m.p.h. A temporary improvement in the weather was followed during the last few days of the month by a fresh series of secondaries, very stormy weather being again experienced over the British Isles.

The general character of the month is illustrated by the following remarks taken from the observers' notes:—Copdock,—"Another wet month, but the sunniest December in my records except 1904 and 1917. The land is completely water-logged all round. Hodsock,—"A very warm month especially at nights. Mean temperature not quite so high as in 1900, but we have never had a December before without at least two nights with the temperature in the screen below 32°. Meltham,—"Equally warm with December 1900, and with that exception the warmest in my record of 47 years. Last nine days very stormy and wet like December, 1921. No snow this quarter. Newport (I. of Wight),—"A wet and wild month, becoming stormy towards its close. Southport,—"The most southerly December since the anemograph was erected in 1898 and the warmest with one exception (1898) during 54 years observations. Wet but sunny. Not a single ground frost. Torquay,—"Generally unsettled, exceptionally wet, with frequent and heavy gales. Sunshine normal and an absence of frosts. Island Eriska (Argyll),—"Last week of month very stormy—rain, sleet and snow with thunder and lightning. Heavy snow on surrounding hills. Lerwick,—"the chief characteristics of the month as compared with December 1923, have been lesser sunshine, greater frequency of gales and a very high temperature. Portree (Skye),—"Exceptionally wet and stormy month with thunder on 7 days. Robaston Manse (Hawick),—"The greater part of the month was remarkably mild. Early primroses in bloom.

Pressure and Winds.—The mean pressure was below normal generally. The deviation of monthly means of pressure at fixed hours from the normal varied from -6.2 mb. at Stornoway to +3.1mb. at Yarmouth. The isobars ran from south-west to north-east, the gradient for south-westerly winds being decidedly steep compared with the normal. The number of depressions and their attendant secondaries was very large, with the result that a number of them had to be omitted from the monthly chart showing the movement of depressions. The highest recorded pressure was 1035mb. at Shobernness, Kew, Croydon, Biggin Hill and Dungeness on the 20th, and the lowest was 960mb. at Lerwick on the 27th.

High wind and gales were frequent throughout the month, especially in the north and north-west of the British Isles. The last week of the month was particularly stormy. Strong southerly winds over Southern England were associated with the passage of the depression (Track A). In Scotland violent gales were widely experienced on the 15th, 22nd, 23rd, 26th, 27th, 29th, and 31st. A wind of 90 m.p.h. in a gust occurred at Lerwick on the 25th during the passage of the depression Track H. South-westerly winds of about 60 m.p.h. occurred in the English Channel on the 27th. Gusts of 79 m.p.h. were recorded at Edinburgh on the 27th and on the 29th (Track J). A heavy squall occurred at Shobernness on the 31st (Track K). It lasted for about ten minutes and the maximum wind speed attained was 73 m.p.h. A gust of 74 m.p.h. at Lerwick was associated with the passage of the depression Track G.

Temperature.—The mean temperature of Districts 1-10 was 44.9°F., that of each district being above normal, the largest excess, 5.2°F., being experienced in Scotland N. and E. (mean temperature 44°F. and 43°F. respectively) and in England N.W. (mean temperature

46°F.); and the smallest excess 1.3°F. in the Channel Isles (mean temperature 47.6°F.). During the 1st, 3rd and 4th weeks the mean temperature was above normal in all districts; during the second week the mean temperature was below normal in three districts. During the fog on the 10th and 11th maximum temperatures below 35°F. were registered at a few stations, at Wisley and Wallington the maximum reading on the 10th was 32°F. In Scotland the month was the mildest December experienced for at least 60 years, at Edinburgh the only milder Decembers since 1800 appear to have been those of 1843 and 1857.

The extreme screen temperatures for the month were:—(England and Wales) 59°F. at Colwyn Bay on the 12th and 23°F. at Addington Hills on the 11th; (Scotland), 60°F. at Colmonell on the 23rd and 23°F. at Balmoral on the 15th; (Ireland), 58°F. at Newcastle (Wicklow) on the 2nd, at Glasnevin on the 17th, Dublin City on the 23rd, and 30°F. at Markree Castle on the 25th and 31st, and at Newtownforbes on the 31st.

Ground Frosts were reported on several occasions. The grass minimum temperature at South Farnborough on the 10th was as low as 15°F.

Precipitation.—Precipitation was above normal in all districts except in England N.E. and the Channel Isles. Areas where the rainfall was less than normal comprised: in England, the east coast, a portion of the northern midlands, a small area on the north-east coast, and parts of Devon and Somerset; in Scotland, the northern and eastern coasts. In the low-lying districts of Moray and Banff the rainfall was less than half the normal. At Gordon Castle the small total of 24mm. was hardly more than one-third of the normal and the smallest rainfall recorded for December since 1905. In the Upper Thames Valley, in parts of Sussex and Kent, in the Lake District and in Southern Wales, in the north-west, central regions and south of Scotland, and in central Ireland precipitation was greater than 150 per cent. of the normal. In no district, however, did precipitation exceed 200 per cent. of the normal. During the first three weeks of the month precipitation was mainly below normal but was above normal in all districts during the fourth week.

Associated with the depression which approached Scotland from the west on the night of the 12th-13th, heavy rain fell along the west coasts of Ireland and Scotland; 119mm. were recorded Kinlochquoich, 79mm. at Ardgour, 50mm. at Achnashellach, 44mm. at Onich in Scotland W., 41mm. at Blacksod and 39mm. at Mallarany on the west coast of Ireland. Heavy rain again occurred in Scotland on the 26th, Greenock reporting 56mm., Eskdalemuir 54mm. and Crieff 38mm. During the last few days of the month there was extensive flooding in various parts of the country.

With the exception of some snow and sleet which fell at Oundle and Wisley on the 13th, very little snow was reported until the end of the month, when showers of snow and sleet fell in many parts of Scotland and at a few places in England and Ireland. "Snow lying" to a depth of 2 or 3 inches was reported from a few places in northern England and in Scotland.

Thunderstorms occurred sporadically in the British Isles on the 5th, 21st, 22nd, 23rd, 24th, 27th, 30th and 31st. In Scotland they occurred on every day from, the 27th onwards, chiefly towards the north-west.

Sunshine.—Although the month was characterised by very unsettled conditions and by the passage of frequent depressions, a few very sunny days occurred so that the duration of sunshine was above normal in all districts except in England N.E. and in Scotland W. The largest mean daily excess (0.62 hr.) occurred in the Channel Isles and the largest deficiency (0.09 hr.) in Scotland W. The Channel Isles had 29 per cent. of possible duration, while Scotland N. and W. had only 12 per cent. The duration of sunshine was below normal during the week 3rd to 10th but above normal in the remaining weeks of the month. Records of 6.7 hours were obtained in a number of places on the 5th, 6th, 14th and 29th.

Fog.—A notable feature of the month was the prevalence of fog and mist. Intense gloom due to high fog prevailed in and around London on the afternoon of the 22nd. With the extension westwards of the continental cyclone on the 10th, the foggy conditions prevalent on the continent spread to England, and on the 10th and 11th the fog was especially dense. In many places traffic was considerably interrupted, and in some areas in and around London it was almost entirely suspended. At Hampstead the fog persisted for 62 hours.

Miscellaneous Phenomena.—Halos were observed on several occasions. A parhelion was observed at Ross-on-Wye on the 1st. Auroræ were observed at Gordon Castle on the 20th, at Lerwick on the 21st and at Sumburgh Head on the 23rd. The Zodiacal Light was observed on seven occasions at Oxford and at Wadhurst (Sussex) on the 19th and 22nd. The Zodiacal Light and Band were observed at Wadhurst on the 19th, 22nd and 31st and at Oxford on the 30th. Ulloa's Ring was observed at Seskin on the 9th.