

MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE

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

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DECEMBER, 1942.—Mainly unsettled, stormy and mild.

Speaking generally the month was mild and very unsettled with frequent gales in the west and north-west. Rainfall exceeded the average in the west and was deficient on the whole in the east.

On the 1st a depression east of the Shetlands moved away east and in its rear cold northerly air spread southward over the British Isles; there was some precipitation in most places and snow showers were widespread in Scotland. Subsequently a ridge of high pressure moved slowly east over the country; a spell of cold weather occurred with some scattered precipitation and local fog, mainly inland. On the 4th and 5th a depression near Iceland moved east-south-east and was accompanied by rain and local gales.

Subsequently very mild and unsettled weather prevailed with frequent rain and gales until the 24th. Throughout this period pressure was low on the North Atlantic and secondary disturbances moved over the British Isles. From the 13th-17th, the Atlantic depressions were unusually deep: gales occurred in the west and north of the British Isles, a strong gale being recorded at Stornoway and gusts of 95 m.p.h. and 93 m.p.h. at Valentia on the 14th. The pressure near the centre of the Atlantic depression on the 16th was roughly 940 mb. We read in the "Press" that in mid-December there were unusually high tidal waves, for example at the Chesil bank, Portland, at Aberystwyth, on the west coast of Ireland and in the Solway Firth, causing considerable damage, extensive flooding and some loss of life. Another exceptionally deep depression (pressure at the centre roughly 932 mb.) was situated over south Greenland on the 19th and during the following days a series of associated secondary depressions moved along our west and north-west seaboard causing further southerly gales on the west coasts and widespread rain.

From the 24th-26th a ridge of high pressure moved eastward over the British Isles; mainly dry weather, with considerable fog prevailed in England but rain occurred at times in the west and north. On the 27th a deep depression moved rapidly north-east from mid-Atlantic to the Faeroes and subsequently moved east and then south-east; some precipitation was reported in the west and north on the 27th and general precipitation occurred on the 28th. In the rear of this depression high pressure became established westward of the British Isles and on the 30th a disturbance moved south-east from the north of Iceland. Mainly northerly winds, strong to a gale locally and widespread but not heavy snow prevailed from the 29th-31st.

Pressure and Wind.—Mean pressure was slightly below the average in Scotland and somewhat above the average in England and Wales. The deviation at 7 h. ranged from -1.7 mb. at Tiree to +2.4 mb. at Lympne; the pressure gradient from north-west to south-east was thus increased and southerly and south-westerly winds predominated. In Scotland there was a seven days' excess of winds between south-east and south-west. The month was windier than usual and gales were frequent and severe at times in the north and west causing much damage. Gales were reported on 16 days at Stornoway, 10 at Lerwick, Duntuilim and Holyhead and 9 at Banff, Edinburgh and St. Ann's Head. Among the highest speeds registered in gusts were 82 m.p.h. at Tiree on the 7th, 84 m.p.h. at Stornoway on the 13th, 95 m.p.h. and 93 m.p.h. at Valentia on the 14th, 86 m.p.h. at St. Ann's Head on the 20th and 80 m.p.h. at Kirkwall on the 28th and at Lerwick on the 29th.

Temperature.—Mean temperature substantially exceeded the average, the excess over the country generally being rather more than 3°F. The period 6th-22nd was exceedingly mild, both day and night temperatures being high. During this spell 55°F. was reached or somewhat exceeded on many occasions. On the other hand the

first four days and the 29th and 30th were cold and locally in eastern districts of England the period 25th-27th was also cold. Severe screen frost was widely registered in Great Britain from the 2nd-4th, among the lowest readings being 12°F. at West Linton, 13°F. at Eskdalemuir and 16°F. at Wolfelee and Thetford on the 3rd and 14°F. at Peebles and 16°F. at Houghall on the 4th.

The extremes for the month were:—(England and Wales) 59°F. at Aber on the 9th, Colwyn Bay on the 12th and Usk on the 13th, 16°F. at Thetford on the 3rd and Houghall on the 4th; (Scotland) 59°F. at Dundee on the 9th, 12°F. at West Linton on the 3rd; (Northern Ireland) 57°F. at Castlerock on the 7th and Armagh on the 24th, 26°F. at Garvagh on the 3rd.

Precipitation.—The general precipitation expressed as a percentage of the average for the period 1881-1915 was 107 over England and Wales, 115 over Scotland and 121 over Northern Ireland. In Scotland rainfall exceeded the average on the whole in the western, northern and central districts but was deficient in the east. Locally in the south-west and the western Highlands 150 per cent. of the average or rather more was registered; on the other hand at a few places in the south-east the totals were only about half the average. In England and Wales the distribution was variable, but broadly speaking less than the average occurred over a large area covering north-east England and the north and east Midlands as well as locally in Kent and east Sussex, on the Norfolk coast, in west Cornwall and a narrow strip extending from north Staffordshire to north Montgomery. More than the average occurred generally elsewhere and more than 150 per cent. locally in Cumberland, Glamorgan, Wiltshire and at Holyhead. Less than 50 per cent. was registered in a small area in the West Riding of Yorkshire.

Daily falls exceeding 2 inches were registered locally in the west and north on the 4th, 6th, 7th, 10th and 16th, particularly on the 10th. Among the largest daily falls were 3.85 in. at Ystalyfera (Glamorgan), 3.54 in. at Princetown and 3.41 in. at Brechfa (Carmarthen) all on the 10th.

Thunderstorms were recorded locally at times, for example on the 8th, 13th, 20th and 29th-30th. Those in East Anglia on the 29th-30th were accompanied by snow.

Snow or sleet was widespread in the British Isles between the 28th and 31st. It also occurred locally in Northern Ireland on the 1st and 2nd and at a few stations in England on the 3rd. In Scotland snow fell widely in the first six and last five days of the month. The depth was nowhere very great but 4 inches was reported from the Loch Broom area of Scotland on the 2nd.

Sunshine.—Over the country as a whole sunshine was below the average, the percentage of the average being 91 over both England and Wales and Scotland and 70 over Northern Ireland. The distribution was variable but broadly speaking an excess occurred in south-east and east England and at some places in south Scotland and a deficiency in Ireland, the western districts of England and in north Scotland. In Great Britain the percentages of the average for the districts ranged from 75 in England, N.W. to 115 in England, S.E.

Fog.—Fog developed at times chiefly from the 2nd-4th, 12th, 18th-19th and 25th-27th. It occurred most frequently in England and the Clyde area and was persistent locally and thick at times.

Miscellaneous Phenomena.—The aurora was observed in Scotland on 10 nights; the display on the 9th was seen as far south as Edinburgh and Carlisle. Solar halos were noted at Oxford on 14 days. A line squall was reported at Colgate, near Horsham on the morning of the 5th.