

# Monthly Weather Report

## OF THE METEOROLOGICAL OFFICE

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### December 1957—*Changeable, rather mild.*

The anticyclonic weather which characterised the latter part of November was maintained over much of the country during the first five days of December, but depressions affected all districts from 6th to 10th. A dull period, with easterly winds, followed, but this was gradually replaced between 15th and 17th by a south-westerly regime which dominated the remainder of the month.

At the beginning of the month an anticyclone centred near or over the southern North Sea, gave some bright quiet days over England and Wales with frost and fog during the early mornings. Air temperature fell to 19°F. at Birmingham on the 2nd, and on the 4th and 5th fog persisted throughout the day over much of the Midlands and other urban areas and became especially dense around London. In the foggy areas temperatures remained around freezing all day.

The upper high, which was centred over the North Sea at the beginning of the month, retreated steadily to the Bay of Biscay, and the surface westerly regime, which was established over Scotland during the 3rd, extended to the whole of the British Isles by the 6th. On the 7th and 8th deepening depressions moved eastward across Scotland, giving gales in all parts of the country, and gusts of more than 60 kt. as far south as Cornwall. Rain was widespread and heavy in places; on the 7th more than 2 in. was recorded at Shawbury. After the passage of these depressions, northerly winds brought a sharp drop in temperature, scattered snow showers falling over Scotland and northern England on the 9th. The following day, fronts, associated with an intense depression on the Atlantic, gave widespread rain which turned to snow in many northern districts: several roads in Scotland were blocked. Gales were widespread and severe in places; during 13 hr. of gale, Plymouth at one time recorded a mean hourly wind speed of 55 kt.

The intense depression on the Atlantic had developed a circulation in depth by the 9th, and during the period up to the 13th the upper vortex moved steadily south-eastwards to the west of Ireland and into the Bay of Biscay, a major upper ridge meanwhile developing in mid-Atlantic. At the surface the centre of lowest pressure was transferred to the Bay of Biscay by the 12th, the whole of the British Isles meanwhile remaining in the cyclonic circulation. From 11th–13th winds over the country backed steadily from south-east to east and north-east, weather being mostly dull with occasional rain. Subsequently, the depression was transferred eastward and a ridge of high pressure moved rather slowly south-eastwards across the British Isles. This gave three colder and mainly dry days, from 15th–17th, with early morning frosts and fog patches, though there was some snow in the north-east of England and the Midlands on the 15th. By the 16th patches of fog were persisting all day in many parts of England and Wales and temperature fell lower that night at many places in southern England than at any other time during the month. Milder air from the Atlantic reached western Scotland on the 15th and slowly extended southward behind the ridge reaching the south coast of England by the 18th. Weather became cloudy and mild, with frequent slight rain and moderate south-westerly winds, until the 22nd. The following day a surface low formed off south-west England, just ahead of an upper air trough, and developed a circulation in depth; subsequently it moved slowly south-east. There was rain and local thunderstorms in the south-west but the area of influence of the depression was limited and in the north weather was mainly dry with light variable or north-easterly winds and patches of mist or fog; Glasgow was fog-bound for much of the 23rd and 24th. Christmas day was bright and dry in many places, but cloudy rainy weather spread to north-western districts during the afternoon with wind reaching gale force locally. Mild changeable weather was maintained for most of the remainder of the month, but colder air swept across the northern part of the country on the 29th and minor waves on a cold front gave heavy rain and snow in the north of England on the 31st.

**Pressure and wind.** Mean pressure at 9 h. was mainly below the average, the difference ranging from +0.1 mb. at Spurn Head and Bath to -3.1 mb. at Lerwick. Winds were light and variable or south-easterly until the 5th, freshening and becoming mainly westerly until the 8th, were north-westerly on the 9th and mainly south-easterly on the 10th, gradually backing to north-east by the 14th. During the second half of the month winds were predominantly from a south-westerly direction. Gales occurred in exposed places on 22 days in Scotland and on 11 days in England and Wales; gusts reached 71 kt. at Stornoway on the 19th and 76 kt. at Plymouth on the 10th.

**Temperature.** Mean temperature was near the 1921–50 average in England and Wales and also in Scotland but exceeded the average by 0.5°F. in Northern Ireland. The warmest days of the month were the 7th and 20th when temperature at many places rose to the upper fifties. Low ground temperatures included 1°F. at Glenlivet on the 10th and 3°F. at Dalwhinnie on the 14th.

Extreme temperatures included:—(England and Wales) 60°F. at Weston-super-Mare on the 20th, 12°F. at Moor House on the 15th; (Scotland) 58°F. at Peebles on the 8th, 10°F. at Kincaig on the 14th; (Northern Ireland) 57°F. at Kilkeel on the 7th and 20°F. at Ballykelly on the 15th.

**Precipitation.** The general precipitation expressed as a percentage of the 1881–1915\* average was 83 over England and Wales, 114 over Scotland and 132 over Northern Ireland. Many places in England recorded no measurable rain from mid-November to about December 5. Rainfall was heavy in the north and west of the country on the 6th and 7th and there was a period of general rainfall on 10th–13th, much of southern England experiencing the heaviest rainfall of the month on the 12th. The period 18th–22nd was particularly wet in Scotland and falls exceeding 4 in. were recorded at some places on the 19th. Rainfall was mainly slight in England from the 24th but there were heavy falls in the north of England and Northern Ireland on the 31st.

Among the heavier falls in 24 hr. or less were:

7th 2.41 in. at Oughtershaw in Yorkshire (W.R.) and 2.16 in. at Nenthead in Cumberland.

19th 4.03 in. at Ardgour House in Argyllshire.

21st 3.25 in. at Loch Hourne in Inverness-shire.

31st 2.10 in. at Newcastle, Co. Down and 2.06 in. at Ilkley in Yorkshire (W.R.).

Thunder was heard at several places in Devon on the 11th, and locally elsewhere on the 9th, 20th, 21st, 23rd and 29th.

Moderate snowfalls, which blocked some roads, occurred in Scotland between the 6th and 14th, and snow lay 3–6 in. deep in a number of districts on 8th–11th. Snow and sleet fell on 10th–15th, 17th, 25th, 30th and 31st in England and Wales. On the 15th snow fell as far south as the Kent coast and ground was snow covered at many places in north-east England and the Midlands. Much of the precipitation in Yorkshire on the 31st was in the form of snow.

**Sunshine.** The general sunshine expressed as a percentage of the 1921–50 average was 124 over England and Wales, 139 over Scotland and 125 over Northern Ireland. At Birmingham it was the sunniest December since 1929.

**Fog.** Early morning fog occurred somewhere or other on most days and some places in the Midlands reported up to 12 days with fog. It was most persistent during the first and third weeks and in the northern part of the country around the 23rd.

**Miscellaneous Phenomena.** The aurora was observed on 6 nights in Scotland.

\* N.B. From January 1958 precipitation will be expressed as a percentage of 1916–50 averages.