

Monthly Weather Report

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December 1959—*Mild, wet and stormy*

An almost unbroken sequence of cyclonic disturbances moved over or near the British Isles during December, as in the last three weeks of November. Thus by the end of December our weather had been so conditioned for more than seven weeks. Much colder weather existed not far away on the Continent during much of the first half of December but did not succeed in becoming established over this country.

Pressure was almost uniform over the British Isles on the 1st with fog over much of England, but this was dispersed early next morning as the trough of a deep depression near Iceland moved steadily eastward bringing rain to most districts. Meanwhile an upper cold trough extended from Iceland south-eastwards across the British Isles to the Mediterranean and a blocking high to the north of Russia intensified as it moved south-west. Although the main depression moved westward and decreased in intensity on the 3rd and 4th a secondary formed over southern England on the 3rd and weather continued unsettled with rain or showers in most districts for the next day or two with many stations in east and south-east England reporting more than 1 in. of rain in 24 hr. on the 3rd, 4th and 5th. Fog, however, returned to the Forth-Clyde Valley late on the 3rd where it persisted for about 36 hours.

A depression deepened rapidly in mid-Atlantic on the 5th and by noon the following day it was centred to the west of the Bay of Biscay in association with an intense upper low at 500 mb. The 6th in many areas was the wettest day of a very wet month, with widespread and locally heavy rain particularly in southern Britain where there were falls of 1 in. or more in 24 hr. at a considerable number of places and of 2 in. or more at Princetown and Tredegar. Widespread rain and gales continued in many districts during the next two days as the depression moved northwards over the Irish Sea but on the 9th the gales subsided as the depression moved north-westward and filled. At the same time another depression in mid-Atlantic deepened rapidly as it approached the Bay of Biscay where it remained quasi-stationary for about three days. Winds over the British Isles backed from south-east to east and there was a marked fall in temperature with some sleet or snow on high ground in the north.

By the 12th, the Biscay depression had filled and a ridge of high pressure extended north-eastward across the country from the Azores to Scandinavia. That evening fog formed extensively over central and southern England. The fog was short-lived however as on the 13th an intense depression developed rapidly south of Iceland and deepened still further as it moved north-east. Weather became milder with the increasing south-westerly winds, afternoon temperatures exceeding 50°F. over much of the country. Rain was widespread and wind reached gale force over a wide area; in north-west Scotland gales were severe with gusts of 70–80 kt. The depression moved north-east towards Bear Island, and wind fell light over much of the country on the 15th allowing fog to re-form in many districts.

An active depression deepened as it approached north-west Scotland on the 17th bringing a return of widespread rain and gales. Three more major depressions approached from the Atlantic subsequently becoming successively situated off western Scotland on the 23rd, 26th and 29th. The first two slowed down and filled in the region of the British Isles or the North Sea while the third moved north-east towards Bear Island as it decreased in intensity. Each brought widespread rain or showers to most districts with strong to gale force winds; over 2 in. of rain fell in parts of Cumberland and Yorkshire on the 26th while showers were heavy and squally at times with local hail and thunderstorms.

Pressure and Wind. Mean pressure was everywhere considerably below the average, the deficit at 9 h. ranging from 18.1 mb. at Aldergrove to 12.3 mb. at Lerwick. It was a stormy month, especially during the second half, with a number of unusually deep depressions giving frequent and widespread gales. Wind was mainly westerly until the 5th becoming east or south-east until the 11th after which south-westerly winds predominated for the remainder of the month. In Scotland gales occurred widely on 6th–8th, 13th, 14th, 17th–19th, 29th and 30th, wind reaching gale force on all but 9 days. In England and Wales wind reached gale force on 6th–11th, 15th–21st, 28th, 29th and 31st and gales were widespread on the 6th, 7th, 20th and 25th; they were particularly frequent in the English Channel occurring on 19, 15 and 17 days at Scilly, Portland Bill and Alderney respectively. Gusts were recorded of 83 kt. at Stornoway on the 14th and 85 kt. at Dounreay on the 30th.

Temperature. Mean temperature exceeded the 1921–50 average by 2.5°F. in England and Wales, 0.9°F. in Scotland and 0.4°F. in Northern Ireland; it was more than 3°F. above the average in south-east England. The warmest days in many places were 16th–20th and the 31st; the coldest were during the first week especially on the 2nd when air temperature fell below 25°F. locally in southern England. During the first week ground frost was fairly widespread, temperature on the grass falling to 15°F. at Hurn on the 2nd and to 10°F. at Glenlivet on the 4th.

Extreme temperatures included:—(England and Wales) 59°F. at Shaftesbury on the 20th, 22°F. at Alwen on the 2nd; (Scotland) 57°F. at Achnashellach on the 13th, 19°F. at several places on the 4th and 22nd; (Northern Ireland) 54°F. at Ballykelly on the 31st and at Loughgall on the 29th, 25°F. at Loughgall on the 5th.

Precipitation. The general precipitation expressed as a percentage of the 1916–50 average was 181 over England and Wales, where it was the wettest December since 1934, 141 over Scotland and 132 over Northern Ireland. Rainfall exceeded the average everywhere except in the Loch Ness area, the Buchan district of Aberdeenshire and the lower Foyle Valley in Northern Ireland. More than twice the average occurred over much of southern England, the central Pennines and the Firth of Tay. At Leuchars it was the wettest December since records began in 1921 and at Ross-on-Wye it was the second wettest December in a hundred years of records (the wettest being December 1929).

Thunder was heard in Scotland on 7 days and in England and Wales on the 3rd–5th, 7th, 8th, 15th, 17th and 20th–28th (16 days); it was widespread on the 26th.

Snow and sleet occurred on 21 days in Scotland and 11 days (4th, 5th, 9th, 10th, 17th–21st, 23rd and 25th) in England and Wales. Slight snow fell at St. Mawgan and at Alderney in the Channel Islands on the 23rd.

Sunshine. The general sunshine expressed as a percentage of the 1921–50 average was 75 in England and Wales, 67 in Scotland and 100 in Northern Ireland. In south-east England the percentage of average ranged from 30 at South Farnborough to 146 at Bunhill Row (London).

Fog. Fog occurred on 17 days in Scotland and on the 1st–3rd, 5th–7th, 9th, 11th–17th, 19th–25th, 29th and 31st (23 days) in England and Wales; it persisted throughout the day in many places on the 1st and 15th.

Miscellaneous Phenomena. In Scotland the aurora was observed on 18 nights; it was seen as far south as Shawbury early on the 5th.