

Monthly Weather Report

OF THE METEOROLOGICAL OFFICE

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

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December 1955—Changeable; mild in the south, rather cold in the north.

The main feature of the month was the large variations of temperature due to the frequent incursion of polar or arctic air over the British Isles from the north. This cold air affected much of the country during the 7th, 10th–12th, 17th–21st and 30th–31st, but otherwise the weather was generally mild and changeable.

During the first week, with a broad west-south-westerly baroclinic zone over the eastern Atlantic, weather over the British Isles was of a mild westerly type, though frost occurred in places at night. There were occasional rain and showers, and these were heavy at times in the north and west, with thunder in north Scotland and the Hebrides on the 2nd and 3rd. On the 7th, a surface anticyclone in the region of Greenland intensified and cold arctic air swept temporarily southward over the country. Although the surface pressure pattern had become somewhat meridional there was very little distortion in the strong almost westerly baroclinic zone, and the following day mild air spread back over the country from the west preceded by substantial falls of both rain and snow, though the latter was quick to clear except in north Scotland. Arctic air again broke through to the British Isles on the 10th, with hail and sleet reaching central districts, and the next day a ridge of high pressure developed south-eastwards from Greenland establishing a south-easterly air-stream over England; considerable rain and sleet fell in the south and south-west of the country from fronts which were held quasi-stationary in this air-stream. Maritime air flowing round a deep slow-moving depression in mid-Atlantic brought mild, cloudy weather back to most of the country on the 13th, and these mild conditions were maintained for much of the third week. The warm air was preceded by fog and rather prolonged rain and snow, and there was widespread, sometimes heavy, rain also on the 14th and 15th. It was not until the main centre on the eastern Atlantic began to fill that the near-freezing temperatures, which had persisted in the Shetlands since the 10th, spread slowly southwards during the 16th and 17th to all districts except the south-west peninsular. Early on the 19th keen or hard frost was widespread; Elmdon, for example, recorded a screen temperature of 16°F. with 5°F. on the grass. For several nights very low temperatures were reported from parts of Scotland including an air temperature of 8°F. with 2°F. on the ground at Dyce on the 22nd. A depression crossed southern England on the 20th giving widespread rain or sleet in the south and snow further north; prolonged and heavy falls of snow occurred east of the Pennines and in many parts of Yorkshire it lay to a depth of more than 12 in. A thermal ridge with well marked surface troughs moved in from the Atlantic and quickly across the country on the 22nd and weather reverted to a mild westerly type which, once established, persisted till after Christmas. Christmas Day was generally fine in the east, but rain spread to western districts during the afternoon, and for the next two or three days troughs associated with a complex depression near Iceland gave widespread and locally heavy rain with gales in the north and a gradually rising temperature. Temperature reached 59°F. at many places in East Anglia and Yorkshire on the 29th, but that night there was heavy rain over southern England and south Wales as a secondary depression moved along the Channel and put an end to the mild spell. The following day a large upper cold trough crossed the country and weather became progressively colder again as squally north-westerly winds with occasional rain became established over the British Isles.

Pressure and Wind.—Mean pressure everywhere was below the 1921–50 average, the 9h. deviation ranging from 5.0 mb. at Croydon to 7.9 mb. at Aldergrove. Winds were mainly between west and south-west except for a period of easterlies from 11th to 13th, and light variable or north-north-westerly winds from 17th to 21st and 30th to 31st. There was much rough weather in Scotland, the last week being the stormiest and gales occurred most days. In England

and Wales wind reached gale force on the 10th, 12th–14th, 23rd, 28th and 29th. The gale on the 28th was widespread, and there were gusts that day of 76 kt. at Millport and 75 kt. at Fleetwood. Strong gales occurred at Stornoway on the 26th and the Lizard on the 29th when mean hourly wind speeds rose to 47 kt. and 45 kt. respectively.

Temperature.—Mean temperature differed from the 1921–50 average by +2.3°F. in England and Wales, –0.8°F. in Scotland, and +1.0°F. in Northern Ireland. The northern half of Scotland was unusually cold; means for Lerwick and Wick for example were 4°F. and 3°F. respectively below the average. In contrast some parts of southern England were unusually mild; mean temperature at Gulval was nearly 5°F., and at Southampton 4°F., above the average. There were some exceedingly cold days; on the 19th temperature only rose to 16°F. at Glenmore Lodge in Scotland and at many places in England and Wales temperature remained below freezing all day.

Extreme temperatures included:—(England and Wales) 60°F. at Colwyn Bay and Aber on the 27th, 9°F. at Cawood on the 22nd; (Scotland) 59°F. at Kinlochewe on the 5th, –4°F. at Glenlivet on the 12th, the lowest December screen minimum since 1937; (Northern Ireland) 57°F. at Garvagh on the 6th, 18°F. at Aldergrove on the 19th.

Precipitation.—The general precipitation expressed as a percentage of the 1881–1915 average was 109 over England and Wales, 146 over Scotland and 117 over Northern Ireland. More than 150 per cent. fell locally in the Isle of Wight, Dorset, Somerset and Monmouth, over the northern Pennines, over much of eastern Scotland from the Firth of Forth to Caithness and locally on the Yorkshire coast; more than twice the average fell in parts of Nairnshire, Morayshire and Angus. Less than the average occurred over much of eastern England from the Wash southwards to the Sussex coast and in a corridor from the east Midlands to mid-Wales and in the eastern part of Northern Ireland. Gordon Castle recorded its highest December fall since 1876, and over Scotland generally it was the wettest December since 1929.

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

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| 9th | 3.15 in. at Rothesay (Dhuloch Water Works), Bute. |
| 13th | 3.26 in. at Foffany Reservoir, County Down. |
| 14th | 2.53 in. at Patterdale, Westmorland. |
| 27th | 2.78 in. at Borrowdale, Cumberland, 2.66 in. at Glen Fyne Lodge, Argyllshire, 3.69 in. at Glenquoich, Inverness-shire. |

Widespread falls of snow and sleet occurred in Scotland on the 7th–12th, 17th–22nd and 29th–31st; and in north-east England on 17th–22nd. There were considerable falls in Yorkshire on the 19th and 20th where it lay to a depth of more than 12 in.

Thunderstorms occurred on 10 days in Scotland and on the 2nd, 3rd, 11th and 28th in England and Wales.

Sunshine.—The general sunshine expressed as a percentage of the 1921–50 average was 105 over England and Wales, 120 over Scotland and 83 over Northern Ireland. In Scotland, except for several stations in the Moray Firth and a few others elsewhere, sunshine records were appreciably above the average despite the large excess of rainfall. At Arbroath it was the sunniest December since 1923, and Oban recorded 189 per cent. of its average December sunshine. North-east England was unusually sunny, but it was dull in the south-west; York and Bath had 168 and 49 per cent. of their respective average sunshine for the month.

Fog.—In Scotland fog was frequent and widespread about the middle of the month. In England and Wales it occurred fairly extensively during the early morning and persisted locally during the afternoon on the 2nd, 5th, 17th, 19th and 22nd.

Miscellaneous Phenomena.—The aurora was observed in Scotland on 9 nights.