

## MONTHLY WEATHER REPORT OF THE METEOROLOGICAL OFFICE.

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

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**DECEMBER, 1927: Cold and dull; unusual prevalence of easterly winds; severe snowstorms 24th—27th; abnormally dry in Scotland.**

**General.**—The outstanding features of the weather of December, 1927, were the cold wintry weather with strong easterly winds and gales during the second half of the month, except for an interval of mild weather from the 21st to 24th, the pronounced decrease in the normal frequency of westerly winds, the relatively small totals of precipitation in most districts and the general lack of sunshine.

During the first ten days pressure was high over Scandinavia and low on the Atlantic to the westwards of the British Isles and the weather was generally dry in the eastern districts. On the 5th, the Atlantic depression temporarily spread eastwards and in most districts mild conditions were experienced, accompanied in the west and north by southerly gales and much rain. The highest temperatures of the month occurred generally on the 6th and in most places maximum temperatures of 50°F. and above were recorded. As the Scandinavian anticyclone extended westwards, winds became easterly and temperature gradually fell. About December 12th a large anticyclone covered Iceland and Scandinavia and in consequence, air of polar origin spread over the whole of Europe except Spain, reaching the British Isles from the east. On December 14th a depression moved east-south-east across the south-western districts causing snow to fall over northern districts and rain or sleet over southern districts. The very cold air reached eastern England on the 16th and soon spread over the whole country. A notable feature of the weather during the next few days was the low day temperatures recorded, temperatures remaining below freezing point for five consecutive days at many places over large areas. During this period snow fell occasionally but amounts were mostly slight except over a comparatively narrow strip on the east coast, where observers reported a few inches of snow extending right down to sea level.

Associated with the passage of a deep depression across the British Isles, mild, stormy and unsettled weather set in in the south-west on the 20th, the mild conditions extending to northern and eastern districts on the 21st. Rain fell during the night of the 20th–21st and on the morning of the 21st glazed frost occurred in London and many other parts of England causing serious inconvenience and numerous street accidents. In the rear of this depression cold north-easterly winds spread across our northern districts with renewed frost and snow on high ground. On the 25th snow fell in the Midlands, while heavy rain occurred in the south of England. Towards evening cold air spread southwards and the precipitation took the form of snow which fell heavily throughout the night over nearly the whole of southern England and throughout the 26th and 27th in the south-eastern counties. Owing to the strong north-easterly winds, which reached gale force locally in exposed places, there was severe drifting, and serious interruption of rail and road communication. Subsequently mild weather spread over the south-western districts on the night of December 30th, but only became general on the night of January 1st, screen minimum temperatures well below freezing point being recorded widely, except in the south-west, on the morning of the 31st.

**Pressure and Winds.**—Monthly means of pressure were above the normal in Scotland, the northern half of England and Wales and Ireland, and below the normal in the southern half of Ireland and the south-east and south-west of England and Wales. The general trend of the isobars differed considerably from the normal, there being an almost complete absence of westerly winds. Many observers remarked on the unusual prevalence of easterly winds during the month; at Southport the Observer states that during the month winds from easterly points were more prevalent than in any month during 56 years' observations. Strong winds and gales occurred about the 5th, in south-western districts from the 10th to the 12th and about the 18th, and widely from the 25th to the 29th. The highest recorded wind velocity in a gust was 69 miles per hour at Pendennis on the evening of the 11th.

**Temperature.**—The mean temperature was below the normal in all Districts, the largest deficit 4.4°F. occurring in England N.W. (mean temperature 36.4°F.) and the smallest deficit 1.8°F. in Ireland N. (mean temperature 39.6°F.). A prominent feature of the weather of the month was the cold spell which commenced about the 12th and continued until the end of the month broken only by an interval of mild weather from the 21st to the 24th. The period 16th to the 20th was very cold generally and over a large area day temperatures during these five days did not rise above freezing point (e.g., 23°F. at Nairn on the 18th and at Cranwell and Leafield on the 19th), while screen minimum temperatures below 20°F. were widely experienced (0°F. at Logie Coldstone on the 17th and 18th and at Braemar on the 18th and 7°F. at Bungay on the 19th).

Ground frost occurred in all Districts, and in most Districts on more than half the days in the month. Severe ground frost occurred during the period 16th–20th; at Balmoral the temperature as recorded by the terrestrial radiation thermometer on the morning of the 17th was -4°F.

The extreme temperatures for the month were:—(England and Wales) 56°F. at Canterbury, Reading University and Rhyl on the 6th and at Killerton and Paignton on the 21st and at Teignmouth on the 22nd, 7°F. at Bungay on the 19th; (Scotland) 53°F. at Achnashellach on the 6th, 0°F. at Logie Coldstone on the 17th and 18th and at Braemar on the 18th; (Ireland) 56°F. at Markree Castle on the 6th, 19°F. at Armagh on the 8th.

**Precipitation.**—The general precipitation of the British Isles expressed as a percentage of the normal was 78; the values for the constituent countries were:—England and Wales 95; Scotland 44; Ireland 75. December is thus one of three months of 1927 in which the general precipitation over the British Isles was below the normal, the other two months being May and October. Over Scotland generally it was the driest December since before 1870, with one exception, December 1890.

Over England and Wales aggregates of precipitation exceeded the normal east of a line extending from Spurn Head to Sidmouth, and in some north-eastern districts; elsewhere they were below the normal, the deficiency relative to the normal being most pronounced in Lancaster and the Lake District.

In Scotland the month's precipitation equalled or exceeded the normal in East Lothian and part of Forfarshire, but elsewhere there was a deficiency moderate in eastern districts but becoming more marked towards the west, where the month was everywhere notably dry. Over considerable areas in the north-west aggregates were less than half-an-inch, with only 5 per cent. of the normal at Fort William and only 3 per cent. at Glenquoich. At both these places, as at many others, the month was much the driest December on record. At Achnashellach there was only one rain-day in the month, the month's total representing only 4½ per cent. of the normal.

In Ireland monthly aggregates were above the normal over coastal districts in the south-east of Ireland and in parts of Tipperary and Kilkenny; elsewhere they were below the normal, the most pronounced deficiency occurring in the north-western districts.

Snow fell widely between the 14th and 20th but in general amounts were slight; owing to the very cold weather which prevailed the snow lay on the ground for several days. Further heavy falls of snow with strong north-easterly winds or gales occurred from the 24th onwards and in many parts of the country extensive blocking of roads was caused by deep snow drifts. Snow fell heavily during the night of the 25th–26th over nearly the whole of southern England and on the 26th and 27th in the south-eastern counties. The mean depth of the snow exceeded a foot on the higher ground over a large area but near sea level there was considerably less and at some places on the east and south-east coasts there was no snow lying. The snow was of the soft clinging type and broke down numerous overhead wires and branches wherever there was shelter from the winds. Strong north-easterly winds reaching gale force locally in exposed places accompanied the snowfall and continued till the 29th, causing severe drifting with serious interruption of rail and road communication. Drifts as deep as twenty feet were reported from Salisbury Plain while some villages were isolated for days and many of the main roads were blocked till the New Year. Further snow occurred in some districts on the 31st, notably in Wales, the Midlands and London.

**Sunshine.**—December, 1927, was on the whole dull, the number of sunless days being normally large, as many as 20 or more being experienced at several stations. Sunshine records of 6 hr. or 7 hr. were obtained at several stations in Eastern and Southern England and in Ireland about the 6th and widely between the 26th and 29th.

**Fog.**—There were frequent occurrences of fog during the month notably in English districts during the first few days of the month, on the 7th and 8th, about the middle of the month and about the 21st.

**Miscellaneous Phenomena.**—Halo phenomena were observed on various days at several places. Aurora was observed in Scotland at one or more points on as many as thirteen nights; in Shetland on each night from the 13th to 19th and on the 22nd, 24th, 25th, 27th, 28th and 29th. The Aurora on the 28th was observed as far south as Oxford. Aurora was observed in London on the night of the 20th to 21st.