

MONTHLY WEATHER REPORT

DECEMBER 1977

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Mostly mild; very windy at times.

An anticyclone centred over Scotland drifted to the North Sea at the beginning of the month and Atlantic fronts then moved slowly into western districts. A depression moved up the English Channel on the 6th, followed by further low-pressure centres from the south-west, their associated troughs moving northwards over Britain. Fronts moved north-eastwards across all parts on the 10th and on the 11th, when an intense depression moved from the Irish Sea area to Scotland. An anticyclone to the south extended a ridge over southern Britain on the 13th and weak fronts then crossed northern districts. This anticyclone drifted east on the 16th and another high centre moved east across Scotland on the 17th. Frontal systems with alternating ridges then moved north-east across the British Isles, with a deepening depression crossing northern areas overnight on the 23rd/24th. A north-westerly airflow became established on the 27th and weak fronts then moved south-east at times until the 31st, when the airstream became westerly.

Weather

After a cold start, the weather became generally mild, except for a few days towards the end of the month. Outbreaks of rain or showers, sometimes wintry, mostly occurred until about the 12th and from the 27th onwards, although rainfall amounts were often small in Scotland. Snowfall was mostly confined to high ground in the north and west. Much of the month was windy, with gales during the first half and in the last week. Fog persisted in places during the third week.

Wind

East to south-east winds reached gale force at times in exposed places in the north and west until about the 12th. The middle part of the month was quieter, with directions mostly between south-east and south-west. Winds strengthened on some northern coasts on the 21st, and on the night of the 23rd/24th severe south-westerly gales swept across England and Wales, damaging property and bringing down trees. A coaster sank in heavy seas off the Cornish coast and only 2 of the 9 people aboard survived. Most stations in England and Wales recorded their highest gust for the month at this time, the wind gusting to 92 kt at Great Dun Fell (857 m) in Cumbria. Winds later veered to north-west and there were further severe gales in places. Maximum gusts in northern districts mostly occurred on the 29th or on the 30th, when the high-level station at Snaefell (Isle of Man) recorded a gust of 104 kt.

Temperature

Monthly mean temperatures were above average in all areas, mostly by 1 to 2 °C, but by a little over 2 °C in a few places in East Anglia and southern England and by about 0.5 to 1.0 °C in the Channel Islands, the Isle of Man, the Hebrides, parts of northern Scotland and along some western coasts of Great Britain. The month started cold, the temperature falling to -11.6 °C at Lagganlia in the Scottish Highlands on the

night of 30 November/1 December, and many places recorded their lowest minima during the first few days. The weather then became milder and remained so generally until the 27th. Except in northern Scotland, the mildest day of the month was the 23rd, when the temperature rose to about 16 °C at several places in southern England, while at Kew (Greater London) the maximum of 15.4 °C (north-wall screen) was the highest comparable December reading since records began there in 1871. Colder weather reached most districts on the 27th, but it became milder again at the end of the month.

Rainfall (including melted snow)

Monthly rainfall totals were above or near average in Shetland, over central, eastern and southern England (except along north-facing coasts of the south-western peninsula), and in parts of Wales, northern England and the Border counties. Monthly totals were mostly below normal elsewhere. Most of Scotland had a very dry month, with totals below 50 per cent of average over much of the north. In the Western Isles only 29 mm fell at Stornoway, making this the driest December there since records began in 1876. After a fairly dry start, outbreaks of rain and scattered thunderstorms mostly occurred between the 6th and the 12th, the rain causing floods in parts of Devon and Dorset. The weather then became drier until the 21st, apart from a period of rain over southern areas on the 17th/18th. Heavy rain fell in Scotland and northern England on the 22nd and 23rd, Honister Pass (Cumbria) recording 124 mm in the 24 hours from 18 GMT on the 22nd. The rest of the month was changeable, with isolated thunderstorms in southern and central areas on the 27th and 28th.

Snow

Snowfall was infrequent, and many places in southern England, except in the south-west, had no snow at all. A little sleet fell at the beginning of the month, however, and snow was reported from the Channel Islands on the 1st. Showers of sleet and snow occurred, mainly in northern areas, between the 6th and the 8th, depths of 12 to 20 cm being

measured in undrifted snow in the Grampians. Snow falling on Thornton Moor (West Yorkshire) on the 7th gave rise to 60 cm drifts, which disappeared quickly after rain. There were further wintry showers from the 27th onwards and drifts up to about 90 cm were reported on Snowdon. Except on the tops of the highest Scottish mountains, snow cover on upland slopes mostly receded or thawed between about the 10th and the 26th.

Sunshine

Sunshine totals were above average around the Thames Estuary, over most of eastern England between Cromer (Norfolk) and Scarborough (North Yorkshire), in the east and north Midlands, and also in south-west, central and north-west Scotland and in places in the Northern and Western Isles. Totals exceeded 150 per cent of average at Stornoway in the Isle of Lewis and also in the Glasgow area. Sunshine was below average almost everywhere else, with values near or below 50 per cent of the normal in the Isle of Man and in parts of south-west England and Northern Ireland: Castle Archdale Forest in Co. Fermanagh with only 12.2 hours (29 per cent of average) had its dullest December since records began there in 1942.

Fog

Patches of overnight fog lingered on the 1st before clearing in the afternoon, when the persistent fog in the Glasgow area also finally lifted. Hill fog formed extensively around the end of the first week and again between the 13th and the 22nd, when fog was generally most frequent. The fog was dense and slow to clear at times, particularly on the 19th, when London/Heathrow Airport was badly affected, and on the 20th, when it caused a number of road accidents near Huddersfield. Occurrences of fog were less frequent during the last week.

Miscellaneous Phenomena

The aurora was observed in Scotland on two nights.

Table 1 District values

District	air temperature °C					mean 30-cm earth temp °C	rain-days	rainfall	sun-shine
	Highest Max.*	Lowest Min.*	max.	min.	mean				
	difference from average								
0 Scotland N	13.0	-5.5	+1.0	+1.0	+1.0	-0.2	-5	48	108
1 Scotland E	12.5	-9.0	+1.2	+1.5	+1.3	+0.9	-3	71	96
2 England E & NE	15.5	-3.2	+1.3	+2.1	+1.7	+0.9	-1	113	95
3 East Anglia	15.9	-3.3	+1.4	+2.3	+1.9	+1.3	0	107	104
4 Midland Counties	15.4	-3.8	+1.3	+1.9	+1.6	+0.6	+1	113	98
5 England SE & Central S	16.0	-2.5	+1.4	+2.1	+1.7	+1.1	+1	122	86
6 Scotland W	12.6	-5.7	+0.8	+1.6	+1.2	+0.2	-3	67	105
7 England NW & Wales N	15.5	-3.7	+0.6	+1.6	+1.1	+0.2	0	87	83
8 England SW & Wales S	15.6	-3.8	+0.9	+1.5	+1.3	+0.1	0	102	67
N Ireland	12.8	-8.5	+1.0	+1.4	+1.2	+0.3	+1	85	54
Scotland	13.0	-9.0	+1.0	+1.4	+1.2	+0.3	-4	62	103
England & Wales	16.0	-3.8	+1.1	+1.9	+1.5	+0.7	0	107	89

*Highest maximum and lowest minimum of District Value Stations.