

MONTHLY WEATHER REPORT

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Exceptionally cold with very severe frost and heavy snowfall.

During the opening three days of the month a weak warm front crossed the United Kingdom from the west, but between the 4th and the 8th waving cold fronts gradually brought very cold arctic air southwards to all districts. On the morning of the 8th a small but deepening depression passed quickly eastwards over the extreme south of England.

For the next two and a half weeks pressure was often relatively high over the British Isles. There were small polar lows near northern Scotland at times and occasional depressions moved eastwards, mostly over the English Channel and the north of France. Late on the 13th, however, a vigorous low advanced across the south of England and Wales while on the 20th a front moved into the United Kingdom before returning westwards next day. From the 26th pressure was low to the west while fronts edged northwards over all districts, reaching the north of Scotland on the 30th.

Weather

December 1981 will be long remembered for the exceptionally cold and snowy spell which lasted from about the end of the first week until the last few days of the month. Quiet, at times sunny, weather with widespread very severe frost and sometimes freezing fog was interrupted occasionally by high winds and heavy snowfall or, mainly in the south-west, considerable rainfall. Thunder occurred on a few occasions, mainly around mid-month near northern and south-western coasts, while hail, about 4 cm in diameter, was reported at Crewkerne (Somerset) on the 14th.

Wind

This was mostly a quiet month with light winds although gales or severe gales occurred in exposed places on some occasions. On the 13th winds reached storm force with gusts exceeding 70 kn in parts of the south-west and along the south coast of Britain causing considerable damage; power failures were widespread in inland areas because of heavy snow with parts of Somerset remaining without electricity for five days; abnormally high tides caused severe flooding in coastal areas, particularly in the west of Avon and Somerset where thousands of livestock were drowned; at sea one crew member was lost from a sinking cargo ship off Portland Bill (Dorset) while a fisherman was swept to his death when a trawler capsized at Newhaven (East Sussex). On the 19th and 20th storm force winds also occurred in parts of the west and north; on the 19th a crippled freighter and the Penlee lifeboat and both crews were lost off the south coast of Cornwall — sixteen lives in all.

For the first week or so wind directions were mostly between west and north-westerly. During the remainder of the month they were mainly from an easterly point until southerlies spread northwards towards the end of the month.

Temperature

Generally, this was the coldest December since 1874 or 1878 in the north and since 1890 in the south, mean temperatures being 5 °C or more below average at some places in Scotland and central England. But in the Channel Islands, Cornwall and parts of Devon, where mean temperatures were less than 2 °C below normal, December 1976 was colder while that of 1950 was also colder than this at most places in the extreme south and west of the United Kingdom.

After a brief mild spell early in the month, the temperature reaching 15.0 °C at Dyce, Aberdeen early on the 3rd, all districts became very cold from the north by the 8th. Although the extreme south and west had near-normal temperatures at times it was the 28th before milder weather extended northwards to all parts. Frost was very severe and continuous at times, especially around mid-month over inland central and northern areas. Temperatures of below -20 °C occurred in some low-lying parts of the western Midlands and North Wales during the night of the 12/13th; at Shawbury (Shropshire), following a minimum of -22.6 °C and a maximum of -12.1 °C on the 12th, it fell to -25.2 °C, a record low for England and Wales in any month, but one which was to stand for one month only.

Rainfall

Monthly rainfall totals, including the equivalent of snowfall, were above average over the Channel Islands, much of the southern half of England and in scattered areas elsewhere, mainly in the north-east of Britain. More than twice the average fell at some places in south-west England and in Hereford and Worcester. Over remaining areas rainfall was generally below normal with less than half the average being recorded in much of north and west Scotland, parts of north-west England and isolated places elsewhere. Exeter Airport (Devon), with 194.8 mm, had its wettest December and Prestwick (Strathclyde Region), with 23.1 mm, its driest since records began in 1945 and 1943 respectively.

Much of the precipitation fell as snow except over the Channel Islands and south-west England and during the first week and last few days of the month. Rainfall was particularly heavy in Devon and Cornwall, many places recording more than 50 mm, with widespread flooding, during the night of the 19/20th. Rain and melting snow also caused flooding at the end of the month over south-western and central districts of Britain.

Snow

This was the snowiest December generally since 1878 although 1950, in the extreme south and west, and 1976, in parts of the north, were snowier. Snowfall

was quite heavy with drifting at times, causing considerable disruption to road, rail and air transport, particularly on the 8th and 11th in the south, the 13th and 14th over central areas, having turned to rain in the south, and on the 20th and 21st over eastern England and high ground in the north of Britain. Accumulations of snow exceeded 20 cm, particularly in many central and hilly northern areas, and included 26 cm at Heathrow Airport, London on the 11th, 31 cm at Shrewsbury on the 14th, 91 cm in the Pennines above Hawes (North Yorkshire) on the 14th, 25 cm at Poolewe (Highland Region) on the 18th and 33 cm at Lincoln on the 22nd. As a consequence hospitals were kept busy with hundreds of broken limbs, many sporting fixtures were cancelled or postponed while severe losses to wildlife were reported to include rare species such as the Dartford Warbler. But in the extreme south and south-west there was little snow and a general thaw spread northwards late in the month.

Sunshine

Sunshine totals were mostly above the average for the month over Scotland, except the extreme east, over eastern parts of Northern Ireland, the Isle of Man, the northern half of England and at some places in the south of England. More than 150 per cent of average was recorded in parts of north-west England, south Yorkshire and Humberside. Elsewhere totals were generally below normal, less than 75 per cent of average being recorded in some areas. Except in the extreme south-west much of the months sunshine occurred before the 20th.

Fog

Overnight fog, often freezing, formed rather frequently, except in the south-west and far north. On several occasions it was widespread, being dense and persistent, especially around mid-month in the Glasgow area and the eastern half of England; on the 10th many flights were delayed or cancelled at Heathrow Airport, London. Extensive hill fog occurred at times, mostly in association with precipitation. Fog patches were also reported over western coasts early in the month.

Miscellaneous Phenomena

None reported.

Table 1 District values

District	air temperature °C					mean 30-cm soil temp °C	rain-days	rainfall	sunshine
	Highest Max*	Lowest Min*	max.	min.	mean				
	difference from average					% of average			
0 Scotland N	11.6	-10.7	-2.9	-3.3	-3.1	-2.1	-4	44	101
1 Scotland E	14.3	-18.0	-3.6	-4.4	-4.0	-1.5	-3	78	89
2 England E & NE	13.8	-18.6	-3.7	-4.6	-4.1	-1.9	0	87	122
3 East Anglia	11.4	-17.0	-3.6	-3.9	-3.8	-1.3	+1	91	87
4 Midland Counties	11.2	-25.2	-4.1	-4.7	-4.4	-1.3	-1	114	107
5 England SE & Central S	11.0	-14.0	-2.9	-3.1	-3.1	-1.4	+1	122	93
6 Scotland W	11.5	-16.9	-3.8	-4.9	-4.4	-2.1	-7	42	107
7 England NW & Wales N	11.9	-17.2	-3.8	-4.2	-4.0	-1.5	-2	68	113
8 England SW & Wales S	12.2	-16.5	-2.5	-3.0	-2.7	-1.2	0	138	87
N Ireland	11.0	-11.5	-3.0	-2.9	-2.8	-1.2	-2	80	68
Scotland	14.3	-18.0	-3.4	-4.2	-3.8	-1.9	-5	55	99
England & Wales	13.8	-25.2	-3.4	-3.9	-3.7	-1.4	0	103	101

*Highest maximum and lowest minimum of District Value Stations