

Monthly Weather Report

OF THE METEOROLOGICAL OFFICE

Summary of observations compiled from returns of official stations and voluntary observers.

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December 1970 — *Drier than average; a white Christmas in the south*

Relatively low pressure in all areas during the first week was followed by an intense anticyclone which crossed the British Isles from the 7th to 10th. On the 8th a mean-sea-level pressure of 1047 mb was reported at Mullingar (Republic of Ireland) and on the next day Aldergrove (Co. Antrim) recorded its highest December mean-sea-level pressure (1046.3 mb) since records began in 1926. High pressure continued to predominate for the remainder of the month but weak troughs of low pressure occasionally affected the north and west up to the 19th and southern districts during the last 10 days or so.

Weather — A changeable first week was followed by settled, mainly dry weather until about the 15th. The second half of the month began mild but after the 21st it became cold with snow showers or periods of snow. The heaviest snowfalls were in England and Wales; traffic in the south was disrupted and Boxing Day sporting activities were curtailed.

Wind — Gales were less frequent than average. On the 4th and 5th gusts exceeded 50 kt in parts of north and west Scotland and on the 16th and 17th gales were reported in Scotland and northern England. A gust of 63 kt was recorded at Lerwick (Shetland) on the 17th. During the last 5 days easterly winds were occasionally strong on the east coast of England and, on the 30th, a gust of 70 kt was reported at Whitby Coastguard (North Riding of Yorkshire).

Temperature — Monthly mean temperature was near average in most areas but in southern England mean temperature was about 1 degC below average in some places. On the morning of the 8th severe frost occurred in Scotland and the next 8 days were cold everywhere. A very cold spell commenced on the 21st and thereafter frost was reported nightly. Some very low air temperatures occurred in the snowy areas and frost occasionally persisted throughout the day. The 27th was particularly cold and day-time maximum temperatures of -3.6°C and -2.5°C were recorded at North Hessary Tor (Devon), height 510 metres, and Upavon (Wiltshire), 176 metres, respectively. Among the lowest minima during the month were the following: -9.4°C at Cairngorm (Inverness-shire) on the 21st and 22nd, -9.0°C at Cenarth Mill (Radnorshire) on the 31st; -8.3°C at Caldecott (Leicestershire) and Wallingford (Berkshire) on the 28th; -4.5°C at Lough Navar Forest (Co. Fermanagh) on the 27th, 28th and 29th.

There were two mild spells: the first week, especially in the south and west, and a few days around the 18th, particularly in the west and north. The highest maxima recorded included: 14.4°C at Southgate (Greater London) on the 4th and at Ceinws (Montgomeryshire) on the 19th; 14.1°C at Kilkeel (Co. Down) on the 20th; 13.9°C at Elgin (Moray) on the 18th and at Dinnet (Aberdeenshire) on the 19th.

Rainfall — Although slight rainfall excesses were recorded in small areas in south-east Scotland and north-east and south-east England, rainfall (including melted snow) was below average and substantially so over large regions of the country. Less than half the average occurred in most of Northern Ireland, in much of Wales, over the greater part of England west of a line from Carlisle to Portsmouth and in parts of south-west and north-east Scotland. In Co. Down rainfall did not reach a quarter of the average and Reagh Island had only 14 mm of rain during the whole month. It was the driest December at Craibstone (Aberdeenshire) since records began in 1925, at Glamis Castle (Angus) since 1926 and at Ross-on-Wye (Herefordshire) since 1933.

Despite heavy rain during the first week in northern and western districts, falls were not especially large. From the 7th to 14th most places were dry and subsequent amounts of rain (or melted snow) during the month were small. Thunder occurred at times during the first

week, mostly in the north and west and again in the west on the 12th. On the 6th hailstones about 22 mm in diameter fell at Hawkridge (Somerset).

Snow — Although slight snow occurred during the first 7 days on high ground in Scotland, the main snowfall was during the last 8 days and affected especially southern England. Snow showers fell in England and Wales on the 24th and many areas, except south-west England, had a covering of snow on Christmas morning. On the 26th more persistent snow accompanied a shallow depression westwards across southern England and on the 27th about 8 cm of snow were lying on high ground as far north as Huddersfield and about 15 cm occurred in much of Kent and east Sussex, even on low ground. On the next day wintry weather extended to much of the remainder of the country. Following further heavy snow in the south on the 29th, strong winds led to deep drifts on the higher ground and roads were blocked for a time; snowdrifts 2 metres deep were reported on Dartmoor on the 30th.

Sunshine — The month was sunnier than average in most parts of the country and the average was substantially exceeded in some areas. Together with December 1965, this was the sunniest December at Dumfries since records began in 1909. Glasgow (Springburn) recorded 240 per cent of average sunshine which, apart from December 1967, represents the highest December sunshine there since records commenced in 1915. Farther south Llety-evan-hen (Cardiganshire) had 75.7 hours sunshine which is its highest December total since 1948. Exceptions to the sunny month occurred in parts of north Scotland, eastern England and the West Country.

Fog — Overnight fog, freezing in places, occurred during the second week, mainly in the Midlands and southern England where, occasionally, it persisted all day in some areas. Air traffic was disrupted at times, especially in the south from the 13th to 15th. Hill fog was extensive on the 17th and 18th.

Miscellaneous Phenomena. — On the 6th whirlwinds were seen in Gosport (Hampshire) and near Littlestone (Kent). The aurora was seen by observers in Scotland on 11 nights.

TABLE I—DISTRICT VALUES, December 1970

DISTRICTS	AIR TEMPERATURE $^{\circ}\text{C}$					EARTH TEMP. $^{\circ}\text{C}$		RAIN DAYS	RAIN-FALL	SUNSHINE
	*Highest Max.	*Lowest Min.	Max.	Min.	Mean	Mean 30 cm.	Mean 122 cm.			
	Difference from Average					% of Average				
0 SCOTLAND, N.	11.7	-4.5	-0.1	-0.4	-0.2	+0.2	+0.8	-1	74	103
1 SCOTLAND, E.	12.8	-2.8	-0.3	+0.3	0.0	+0.8	+0.2	-2	80	111
2 ENGLAND, N.E.	12.0	-5.6	-0.1	0.0	-0.1	+0.9	+1.0	+1	95	129
3 ENGLAND, E.	12.3	-5.0	-0.5	-0.4	-0.4	+0.7	+0.4	0	85	89
4 MIDLANDS	13.2	-4.1	-0.7	-0.3	-0.5	+0.6	+0.6	-3	49	119
5 ENGLAND, S.E.	12.8	-5.6	-0.9	-0.7	-0.8	+0.2	+0.5	-3	59	99
6 SCOTLAND, W.	14.3	-7.5	-0.1	+0.2	0.0	+0.4	0.0	-2	69	132
7 ENGLAND, N.W. and N.Wales	12.2	-3.9	-0.4	0.0	-0.2	+1.0	+0.8	-3	41	161
8 ENGLAND, S.W. and S.Wales	13.9	-5.0	-1.1	-0.8	-1.0	+0.2	+0.5	-4	43	116
N.IRELAND	13.2	-4.0	0.0	-0.3	-0.1	---	---	-6	36	130
SCOTLAND	14.3	-7.5	-0.2	0.0	-0.1	---	---	-2	74	115
ENG. and WALES	13.9	-5.6	-0.6	-0.4	-0.5	---	---	-2	62	119

*Highest Max. and Lowest Min. of the District Value Stations.