

MONTHLY WEATHER REPORT

COMPILED FROM RETURNS OF OFFICIAL AND VOLUNTARY OBSERVERS

MET. O. 993

U.D.C. 551 506 1 (41-4)

DECEMBER 1990

VOLUME 107

NUMBER 12

Changeable; near average temperatures, but cold during the second week

An anticyclone centred south of Ireland on the 1st drifted away westwards during the 3rd, as a cold front crossed all parts of the United Kingdom to clear the south coast early on the 4th. High pressure then became re-established over most of the British Isles, before declining and moving over the Continent during the 6th. A depression formed on the trailing cold front, bringing polar air down across northern and western areas of Great Britain. The deepening depression, together with its associated fronts, moved over southern England early on the 8th and on the 9th linked up with low pressure over the near Continent to form a large complex area of low pressure with troughs moving around its northern edge. On the 10th and 11th a transient ridge of high pressure crossed the British Isles. A frontal system associated with a deep depression near Iceland crossed all parts, before clearing southern England by the morning of the 12th. Pressure became high over the British Isles with an anticyclone centred over North Wales by early on the 14th. A weak warm front affected northern Scotland for a time on the 14th. During the 15th the anticyclone slipped away northwards, while a frontal trough approached southern and eastern England from the east, crossing all areas during the next day or two and clearing northern Scotland by the 17th, leaving all areas covered by a ridge of high pressure. A weak cold front moved eastwards across all areas during the 18th and 19th, and then, from the 20th to the end of the month a succession of active, fast moving fronts swept across all parts of the United Kingdom.

Weather

On the 7th and 8th there was some very heavy snowfall over northern England, Wales, the Midlands and south-west England, with heavy drifting in gale-force winds, causing considerable disruption to traffic of all sorts and cutting power lines. The snow did not freeze, however, but melted very rapidly during the next few days, as the temperature rose a little. From the 23rd until the end of the month very strong winds and bands of rain, often prolonged and heavy at times, crossed many parts. Sleet and snow were reported as far south as South Wales on the 27th and Towy Castle, Dyfed reported hailstones of 15 mm diameter. On the 29th a cottage in North Wales was hit by lightning. Thunder was reported over west Cornwall on the 7th and 8th, and over Dyfed, west Cornwall, Fife, Northumberland, Kent and East Sussex on the 9th. There were thundery outbreaks over England and Wales on the 25th.

Wind

On the 8th many places in the north and east measured hourly mean wind speeds of more than 40 kn. On the 11th and 12th storm-force winds swept down the North Sea; Fair Isle, Shetland had a gust to 73 kn. On the 25th and 26th gales and storm-force winds affected many areas. Gusts of more than 70 kn were reported at Greenock Port, Strathclyde Region, Langdon Bay, Kent, Camborne, Cornwall, Plymouth, Devon and Killough and Orlock Head in Northern Ireland. Wind directions were mainly westerly or south-westerly.

Temperature

Mean monthly temperatures were generally about normal for the month, and ranged from 0.8 °C above normal at Fyvie Castle, Borders Region to 1.4 °C below normal at Fowey, Cornwall.

Temperatures over the month in south-west England and South Wales were a degree below average over a wide area. Broom's Barn, Suffolk reported the coolest December since 1982. Temperatures reached 12 °C around the Moray Firth on the 2nd. The night of the 12/13th was the coldest of the month at some stations in central and southern Scotland with -7.8 °C recorded at Leadhills, Strathclyde Region. On the Moray Firth coast a maximum temperature of 14.1 °C was reached on the 22nd. The highest temperature was 14.6 °C at Greenwich, Greater London on the 26th and the lowest was -8.0 °C at Dalwhinnie, Highland Region on the 8th.

Rainfall

Monthly rainfall totals were generally above normal in the north and west and below normal in the south and east, with nearly twice the average in parts of southern Scotland and northern England but only just over half the average on the south coast.

During the period from the 20th to 23rd rain was persistent and heavy in western Scotland, a 24-hour value of 50.6 mm was recorded at Isle of Rhum, Highland Region on the 23rd and a number of stations recorded totals of more than 40 mm in the following 24-hour period, including 54.2 mm at Clatteringshaws, Dumfries and Galloway. Among heavy falls were 93 mm at Cwmystwyth, Dyfed and 75 mm at Moel Cynnedd, Powys on the 20th.

Snow

Snow and sleet fell everywhere except over East Anglia and parts of the south coast on the 7th, and on the 8th there was snow or sleet over most of England and Wales and the north and east of Scotland, with 30 cm reported at Emley Moor and 19 cm at Wilsden, both West Yorkshire, and 12 cm

at Isle of Rhum, Highland Region. Further snow on the 9th gave level snow depths of 15 cm at Cellarhead, Staffordshire and 10 cm at Cynwyd, Powys. Many places in England and Wales reported light snow or sleet falling on the 17th, 18th and 19th and in the far north and west of Scotland on the 20th.

Sunshine

Monthly sunshine amounts were generally above average except for parts of western Wales, eastern England and central areas of Scotland, ranging from more than 180% at Belfast Airport to 61% in the Edinburgh area.

The most sunshine measured during the month was 77 hours at Ventor, Isle of Wight and the most in a day 7.6 hours at Jersey Airport on the 1st.

Fog

On the 4th and 5th patchy fog over England and Wales cleared during the morning, but re-formed overnight and became more widespread. On the 14th fog over some central and eastern parts of England and Wales persisted all day in the Thames Valley and re-formed in many areas later, especially in the Midlands and central southern England. On the 15th fog, dense in places, formed over England and Wales and Northern Ireland; the fog cleared slowly from most places during the morning, but lingered into the afternoon over parts of north-west England and Northern Ireland where it re-formed in a few places later. On the 16th fog was persistent in the Forth and Clyde valleys, and patchy over Northern Ireland and central parts of England. There was a good deal of coastal and hill fog on the 21st.

Miscellaneous Phenomena

On the 25th there were reports of tornadoes over Devon, Somerset and Avon. On the 29th a whirlwind caused extensive damage to houses in Gorseinon, South Wales. Towy Castle reported a whirlwind crossing the station with a maximum height of 35 m at 11 h on the 30th.

Table 1 District values

District	Air temperature °C					Mean 30 cm soil temp°C	Rain- days	Rainfall	Sun- shin
	Highest Max*	Lowest Min*	Max.	Min.	Mean				
			Difference from average						
0 Scotland N	13.9	−5.1	+0.1	0.0	+0.1	+0.1	0	126	65
1 Scotland E	14.1	−6.2	+0.1	+0.2	+0.2	+0.4	−1	105	92
2 England E & NE	12.9	−3.3	+0.2	+0.6	+0.4	+0.6	+1	135	93
3 East Anglia	12.7	−3.0	−0.3	+0.3	0.0	+0.4	−1	84	97
4 Midland Counties	13.6	−6.0	−0.3	−0.2	−0.2	+0.2	0	110	99
5 England SE & Central S	12.9	−5.4	−0.6	−0.1	−0.3	−0.2	−1	87	110
6 Scotland W	12.7	−7.1	−0.1	−0.5	−0.3	−0.1	−3	120	95
7 England NW & Wales N	12.7	−4.4	−0.3	0.0	−0.4	+0.2	−1	128	99
8 England SW & Wales S	13.5	−5.5	−0.5	−0.6	−0.8	−0.7	−2	96	110
N Ireland	13.5	−5.8	−0.4	−0.8	−0.6	−0.6	−2	104	143
Scotland	14.1	−7.1	0.0	−0.1	0.0	+0.1	−1	117	84
England & Wales	13.6	−6.0	−0.3	0.0	−0.2	+0.1	−1	108	101

* Highest maximum and lowest minimum of District Value Stations