

# MONTHLY WEATHER REPORT

# OCTOBER 1977

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## Mild: heavy rain and gales at times in the north and west.

The month began with a north-westerly airstream. On the 3rd and 4th fronts associated with a depression to the north-west moved eastwards across all areas and the depression subsequently moved south over western Britain. A complex area of low pressure then covered the British Isles. A ridge moving eastwards on the 10th was followed by a frontal system, but high pressure developed and persisted to the east from the 13th to the 22nd, whilst fronts moved northwards from time to time in the mainly southerly airstream. By the 23rd the European anticyclone had drifted sufficiently far south to allow Atlantic fronts to progress eastwards. Pressure was generally high to the south of Britain from the 25th to the 29th, frontal systems mainly affecting northern areas, but a cold front with developing waves crossed all parts on the 30th and 31st.

### Weather

The early part of October was unsettled with rain or showers, some hail and thunder, sunny periods and gales at times. Temperatures began to rise during the second week and the middle of the month was drier, though with overnight fog which often became widespread. There were outbreaks of rain towards the end of the third week and very heavy rain fell in the west and north during the last week, with gales in exposed places.

### Wind

Winds were fresh or strong throughout the month in northern areas, and in west Wales and western England until the 12th and from the 21st onwards. There were gales in northern and western districts on the 1st and 2nd and on western coasts on the 11th and 12th, but gales occurred most frequently from the 23rd onwards continuing chiefly to affect the same areas. The mountain station at Cairngorm recorded a gust of 92 kt on the 27th, but the gales were generally more severe at the end of the month, when the high-level stations at Lowther Hill (Strathclyde) and Great Dun Fell (Cumbria) recorded gusts of 83 kt on the 30th and 80 kt on the 31st respectively. Directions were west to north-westerly at first and then became mainly south-westerly, although South-easterly for a time, until the 12th. South to south-east winds prevailed from the 13th to the 21st and directions were later mostly south to south-westerly.

### Temperature

Monthly mean temperatures were above average in all areas, exceeding the normal by about 1 to 2 °C in most districts, but were not much above average in Shetland, the north Midlands and parts of south-west England. In Scotland this was the mildest October since 1969. Unusually for this time of the year, temperatures began to rise after the 12th. The nights were mostly warm and the days often mild during the remainder of the month, although persistent fog kept temperatures lower in some places. Monthly maxima were mainly recorded during the third week, the highest values being in North Wales, where the temperature rose to 24.0 °C at Pen-y-Ffridd on the 18th. Air frosts were infrequent, mostly occurring before the 12th,

and none at all were recorded in Northern Ireland.

### Rainfall (including melted snow)

Monthly rainfall totals were very varied. In general, rainfall was below average in England (except the north-west), eastern Wales, parts of Northern Ireland, Orkney and over most of mainland Scotland north of a line westwards from Aberdeen: totals were above average in remaining northern and western areas and in isolated spots elsewhere. Values ranged from less than 25 per cent of the normal in places in south-east England and East Anglia to over 200 per cent in the Edinburgh area and in parts of south-west Scotland. Most areas were dry between the 13th and the 18th, but outbreaks of rain and scattered thunderstorms occurred at other times with heavy falls in the north and west. In Cornwall, 99.0 mm were recorded at Goonhilly Down in the 12 hours ending at 09 GMT on the 6th and 190.6 mm fell at Honister Pass in Cumbria between 15 GMT on the 23rd and 14 GMT on the 24th. Rainfall was exceptionally heavy in Wales, north-west England and southern Scotland at the end of the month. In the border counties of south-west Scotland, where flooding caused a great deal of damage to property, bridges were washed away and livestock perished, the total damage being estimated at about £1 million.

### Snow

Snow fell on the upland slopes of the Scottish mountains between the 1st and the 5th and at the end of the month. The snow lay for a few days during the first week. No snow was observed at low-level stations, but a little sleet was reported at a few places in Scotland and on high ground in northern England during the same periods.

### Sunshine

Sunshine totals were mainly between 75 and 100 per cent of average in the Western Isles, over most of mainland Scotland north of the Forth and Clyde valleys, in central parts of Northern Ireland and in north-east England. The extreme west of Northern Ireland had only about 65 per cent of the normal and the Northern Isles 60 to 65 per cent. This was the dullest October in Shetland since 1945, both Baltasound and Lerwick recording only about 37 hours of sunshine during the month. Except in a few isolated spots in England, monthly totals were above average elsewhere, mostly between 100 and 120 per cent of the normal, but exceeding 125 per cent in a few places in the Home Counties and on the East Anglian coast.

### Fog

Overnight fog formed mainly at the beginning of the second week, between the 13th and the 22nd and from the 25th to the 28th. The fog was slow to clear in eastern England on the 8th and was widespread, dense and persistent over parts of England, particularly in central and eastern areas, during the third week. A number of road accidents occurred, London/Heathrow Airport was affected by fog, passengers were stranded on the Isle of Wight when the ferry service was cancelled because of dense fog in the Solent, and 14 cows were killed when a train struck a herd of cattle which strayed unseen on to the line near Newark (Nottinghamshire). Fog was also occasionally slow to clear in eastern Scotland during this period and it persisted in Shetland. Patchy fog at times in the last week mostly occurred over southern England and parts of Wales.

### Miscellaneous Phenomena

A tornado in Grantham (Lincolnshire) on the evening of the 8th was reported to have uprooted trees and damaged at least 60 houses. The aurora was observed in Scotland on 2 nights.

Table 1 District values

District	air temperature °C					mean 30-cm earth temp °C	rain-days	rainfall	sun-shine
	Highest	Lowest	max	min	mean				
	Max. *	Min. *	difference from average						
0 Scotland N	21.6	1.5	+1.2	+1.1	+1.2	-0.1	0	97	81
1 Scotland E	20.6	-0.3	+1.3	+1.5	+1.4	+0.9	+1	131	97
2 England E & NE	20.3	0.9	+0.7	+1.1	+0.9	+0.6	-1	72	102
3 East Anglia	20.4	1.0	+1.2	+1.2	+1.2	+0.6	0	43	115
4 Midland Counties	19.0	-0.5	+0.6	+1.1	+0.8	+0.5	+2	71	100
5 England SE & Central S	19.5	1.0	+1.0	+1.2	+1.1	+0.3	+1	72	113
6 Scotland W	20.0	-0.3	+1.4	+1.5	+1.4	+0.6	+2	152	103
7 England NW & Wales N	23.2	1.8	+0.9	+1.6	+1.2	+0.5	+2	107	105
8 England SW & Wales S	21.1	1.4	+0.7	+1.3	+1.0	+0.3	+2	93	107
N Ireland	17.6	3.3	+0.9	+1.6	+1.2	+0.9	+1	96	93
Scotland	21.6	-0.3	+1.3	+1.4	+1.3	+0.5	+1	127	94
England & Wales	23.2	-0.5	+0.9	+1.3	+1.0	+0.5	+1	76	107

\*Highest maximum and lowest minimum of District Value Stations