

# MONTHLY WEATHER REPORT

# SEPTEMBER 1977

COMPILED FROM RETURNS OF OFFICIAL AND VOLUNTARY OBSERVERS

VOLUME 94

NUMBER 9

## Mostly cool: very dry over much of southern and eastern England.

Fronts and alternating ridges crossed all areas from the west and north-west between the 1st and the 12th. An anticyclone then moved in from the Atlantic to become established over central and later south-western parts of the British Isles on the 13th and 14th, while weak fronts affected the north of Scotland. A cold front moved slowly south on the 15th and the high-pressure centre was absorbed into a ridge extending from Iceland to southern England. On the 16th the centre of the anticyclone moved to a position off north-west Scotland and the whole of the British Isles remained within its circulation until the 23rd, when the high-pressure area drifted eastwards. Atlantic fronts moved north-eastwards, and then eastwards, across all districts between the 24th and the 28th, and further fronts moved slowly south at the end of the month.

### Weather

The weather was changeable for much of the first two weeks, with sunny periods, outbreaks of rain, showers and scattered thunderstorms, although comparatively little rain fell in many parts of England. There were gales at times in northern districts. North-easterly winds brought cool and mainly dry conditions to most areas between the 16th and the 22nd, with sunny spells mostly occurring in western districts. Rain reached south-west England and South Wales on the 23rd and the unsettled weather returned to many areas; gales and heavy rain particularly affected parts of the north on the 29th and 30th. Fog, which formed from time to time during the month, was occasionally persistent along coasts and on hills. A few patches of snow were still visible on the summits of the higher Scottish mountains.

### Wind

Winds were frequently fresh or strong in exposed places in the west and north during the first half of the month and reached gale force from time to time. Winds were lighter during the third week, but were fresh or strong over most coastal and some inland districts from the 24th onwards. There were gales on exposed coasts on the 24th and 25th and also between the 28th and the 30th, when most stations recorded their maximum gusts for the month and northern districts were particularly windy; gusts of 77 and 74 kt were recorded on the 28th at the high-level stations at Great Dun Fell (Cumbria) and Lowther Hill (Strathclyde) respectively. Directions were mainly south-westerly until the 11th and were then mostly between west and north until mid-month. North-easterlies prevailed from the 16th to the 22nd, but directions then became south-easterly for a few days and winds later blew from points between south-west and north-west.

### Temperature

Monthly mean temperatures were below normal in all districts, mostly by not more than 1.0 °C, but by 1.0 to 1.5 °C in parts of northern and western Scotland, along much of the coast of southern England and in one or two places in Wales and the west Midlands. Mean maximum temperatures were between 1.0

and 1.5 °C below average in many areas. Except in the north of Scotland, where there was considerable variation in the date of the warmest day, monthly maxima mostly occurred between the 11th and the 15th: on the 11th the temperature rose to at least 24 °C in parts of eastern England and the north Midlands. The lowest minima were recorded during the third week, when air frost occurred in some northern areas and over high ground elsewhere. Temperatures fell to around -3.0 °C at several places in Scotland on the nights of the 15th/16th and 18th/19th, but these values are not unusually low there for September, despite the low mean temperatures.

### Rainfall

Monthly rainfall totals ranged from about 150 per cent of average in parts of central and southern Scotland to about 15 per cent in places in central England. Rainfall was above average over most of north-western, central and western Scotland (except along the extreme coastal strip) and also in Shetland and in places in the Grampian Region, but was below average in almost all other parts of the United Kingdom. Less than half the normal rainfall for September fell over much of England, excluding the north-west, the Isle of Wight and parts of the south-west, and a number of places in central and eastern England recorded less than 25 per cent of their average. In the Midlands only 5 mm were measured during the month at several places, but in sharp contrast, 119 mm fell in 12 hours on the 4th at Honister Pass (Cumbria), a rainfall classified as 'very rare'. Outbreaks of rain or showers, which were heaviest in the north and west, occurred in many areas between the 1st and the 12th, and in northern districts until around mid-month. There were scattered thunderstorms over England and Wales on the 8th and 9th and a few hail showers in Scotland. Apart from

occasional light rain and scattered showers, it was mostly dry from mid-month until the 23rd, but rain or showers then fell in many places and there were local thunderstorms in central England on the 25th. Heavy falls of rain occurred on the 29th and 30th in north-western areas and in Scotland, where hail and thunder were also reported.

### Sunshine

Monthly sunshine totals were between about 110 and 130 per cent of average in Shetland and north-west Scotland, and a little above average in Cornwall, parts of Devon and in a few isolated spots elsewhere. Totals were mostly between 75 and 100 per cent of average in remaining areas. Long sunny periods occurred from time to time during the first two weeks and it was very sunny over Wales and much of England on the 13th and 14th. Sunny periods continued in some western districts until the 19th, but the rest of the month was rather dull, with only occasional sunny spells during the last week.

### Fog

Patches of fog occurred from time to time, mostly during the first half of the month, but also occasionally during the last two weeks. Overnight fog patches in inland areas usually cleared soon after sunrise, but fog along northern and western coasts, and on hills, was sometimes persistent and was often associated with precipitation. Fog particularly affected the north coast of mainland Scotland on the 14th, Shetland on the 26th and the coasts of south-western England on the 27th.

### 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	19.0	0.0	-1.1	-1.2	-1.1	-1.1	-2	107	103
1 Scotland E	22.0	-2.3	-1.0	-0.3	-0.6	-0.4	-1	93	86
2 England E & NE	24.5	-1.5	-0.6	-0.1	-0.4	-0.4	-2	36	85
3 East Anglia	24.1	4.1	-0.7	-0.1	-0.4	-0.4	-3	31	89
4 Midland Counties	23.9	2.9	-1.1	-0.3	-0.7	-0.5	-4	36	85
5 England SE & Central S	21.8	2.9	1.2	-0.4	-0.8	-0.6	-4	33	88
6 Scotland W	19.0	-0.7	-1.1	-0.6	-0.8	-0.5	-1	125	89
7 England NW & Wales N	23.8	1.3	-1.2	-0.1	-0.6	-0.8	-2	69	80
8 England SW & Wales S	21.6	2.3	-1.2	-0.6	-0.8	-0.6	-4	48	95
N Ireland	19.6	-1.0	-0.7	-0.9	-0.8	0.0	-3	65	93
Scotland	22.0	-2.3	-1.1	-0.7	-0.8	-0.7	1	108	93
England & Wales	24.5	-1.5	-1.0	-0.3	-0.6	-0.5	-3	42	87

\*Highest maximum and lowest minimum of District Value Stations.