



METEOROLOGICAL OFFICE

ESTIMATED SOIL MOISTURE DEFICIT AND POTENTIAL  
EVAPOTRANSPIRATION OVER GREAT BRITAIN

SOIL MOISTURE DEFICIT AT 0900 GMT ON 14 SEPTEMBER 1977

The generally unsettled weather that commenced over much of England and Wales around the middle of August, continued until 1 September. In this period the only mainly dry day since the issue of the previous bulletin (24 August 1977) was 28 August, although rainfall was confined to south east England on 27th, where it was heavy and thundery in places; a fall of 85 mm was recorded at Dartford, Kent. Thunderstorms were also reported in parts of northern England on 25th and 26 August. From 2nd to 9 September, although the weather over England and Wales was still mainly unsettled, amounts of rain were generally small and confined mostly to the North and West. Thunderstorms occurred in many places on 8th. For the remainder of the period (10th to 13 September) the weather became mainly dry apart from small amounts of rain in north west England on 10th and 11th. The wettest day over England and Wales was 24 August. Over Scotland the weather has been generally unsettled throughout the period (24 August to 13 September), the only mainly dry days being 27 August (except in north west Scotland) and 12 September. The wettest days generally over Scotland were 24 August and 5th and 9 September. Falls of 20 mm or more occurred at Hurn, Dorset (42 mm) on 24th, Lerwick, Shetland (30 mm) on 25th, Carlisle (24 mm) on 26th, Gatwick Airport (34 mm) on 27th, Edinburgh (23 mm) on 30 August, Eskdalemuir, Dumfries (21 and 26 mm) on 5th and 9th respectively and Lerwick (23 mm) on 11 September.

During the first week of the period (24 August to 13 September) deficits over England and Wales were generally decreasing, especially over Cumbria. For the rest of the period there was an overall increase in deficits, more especially during the last week, except over north west England where small decreases continued. Over Scotland deficits have been decreasing steadily throughout the period with parts of western Scotland returning to field capacity. Over Wales and much of north and west England composite land use deficits are above average for the time of year. Over most of the remainder of England deficits are near to average, but are below average over parts of southern England. The largest deficits are at Squires Gate, Lancashire (119 and 128 mm respectively, for both short rooted vegetation and composite land use).

RATES OF SUBSCRIPTION: £10.00 per season (post free)

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ESTIMATED SOIL MOISTURE DEFICIT (S.M.D.)  
AT 09 GMT ON 14 SEPTEMBER 1977

River Area	Estimated Areal	Change during the week ending 09 GMT on		
	S.M.D. mm	14 Sep 1977 mm	7 Sep 1977 mm	31 Aug 1977 mm
Northumbrian	84.9	+ 0.5	- 1.8	- 19.9
Yorkshire	93.9	+ 5.9	+ 7.9	- 9.4
Trent	99.0	+ 12.7	+ 6.1	- 7.2
Lincolnshire	115.5	+ 6.6	+ 5.7	- 0.6
Welland and Nene	92.6	+ 11.3	+ 5.4	- 0.5
Great Ouse	79.1	+ 11.6	+ 1.1	- 2.2
Norfolk and Suffolk	108.5	+ 17.7	- 1.2	+ 2.3
Essex	100.5	+ 20.1	+ 2.9	- 10.7
Lee Division	82.4	+ 21.9	+ 1.2	- 14.6
Thames Conservancy	56.7	+ 12.9	+ 2.0	- 17.6
London Area	67.8	+ 24.0	+ 0.7	- 21.9
Kent	85.9	+ 15.1	+ 6.4	- 22.2
Sussex	68.1	+ 12.2	+ 2.9	- 33.2
Hampshire	45.8	+ 12.7	+ 1.3	- 26.5
Isle of Wight	108.2	+ 9.6	+ 3.5	- 14.0
Upper Thames	46.1	+ 8.0	+ 3.7	- 14.2
Avon and Dorset	33.3	+ 10.9	+ 2.4	- 22.3
Devon	71.1	+ 16.1	- 0.9	- 10.7
Cornwall	48.9	+ 17.4	- 3.4	- 9.3
Somerset	60.2	+ 19.6	+ 1.8	- 18.7
Bristol Avon	51.1	+ 11.7	+ 4.7	- 18.2
Severn	66.0	+ 8.1	+ 4.9	- 14.9
Wye	70.1	+ 21.8	+ 3.1	- 19.6
Usk	55.0	+ 19.3	+ 2.8	- 16.4
Glamorgan	58.1	+ 12.7	+ 1.7	- 10.0
South West Wales	49.5	+ 9.7	- 2.1	- 22.3
Gwynedd	50.7	+ 2.3	- 0.9	- 24.6
Dee and Clwyd	61.9	+ 4.3	+ 0.5	- 20.5
Mersey and Weaver	83.2	+ 6.4	+ 1.7	- 13.9
Lancashire	54.3	- 2.7	- 2.6	- 21.3
Cumbria	40.2	- 3.6	- 11.9	- 45.8

N.B. Apart from normal changes these differences also reflect retrospective adjustments after receipt of additional data.







