

METEOROLOGICAL OFFICE

ESTIMATED SOIL MOISTURE DEFICIT AND POTENTIAL
EVAPOTRANSPIRATION OVER GREAT BRITAIN

SOIL MOISTURE DEFICIT AT 0900 GMT ON 25 OCTOBER 1978



Although there have been some days with rainfall over England and Wales since the date of the last bulletin (11 October 1978), amounts in the main have been small, particularly in southern England. Less than 50 per cent of average for the fortnight has occurred over all areas except the northwest and less than 10 per cent was recorded over much of southern England; amounts in south Devon were negligible. The wettest day of the period, when a mere 2 mm fell generally over England and Wales, was the 16th and on this day 12 mm was recorded in the Fylde. Some rather heavy rain fell over the southern Pennines on 24th. Weather in Scotland was more unsettled and rainfall more frequent and heavier, particularly from 14th to 16th, but even over Scotland rainfall was less than average, except in the extreme north; at Cape Wrath 11 mm was recorded on 14th and 22 mm on 23rd. Some snow fell in Shetland on 19th and 20th.

Since the period of very heavy rainfall from 29 July to 9 August, rainfall totals have been generally small over England and Wales and amount to only 40 per cent of average for the period 10 August to 24 September for the two countries combined: in parts of southern England, less than 25 per cent of average has been recorded during the 11 weeks. Rainfall for the period has been about average over Scotland generally.

Over much of England and Wales, deficits have increased in the fortnight, albeit slowly now with the rapid seasonal decrease of potential evaporation and with extraction of soil moisture restricted by the dryness of the soils. In areas around the Firths of Forth, Tay and Moray, where deficits are still relatively high, there has been little change over the fortnight. Tight gradients are apparent over the eastern Pennines and Welsh Marches. The small deficits apparent over the Welsh Mountains and Grampians amount to a few millimetres; soils are virtually at capacity there.

Over major river areas of England and Wales, deficits were generally below average for the time of year in Northumbria, northwest England and Dee and Clwyd. Elsewhere deficits were well above average, amounting to 150 to 200 per cent in eastern England, more than twice the average in southeast and central England and more than three times the average in southwest England and south Wales.

If little rain falls in the coming week, many places in southern England, particularly the southwest, will have achieved highest soil moisture deficit for composite land-use for the end of October since the series began in 1941. At many other places the end of October deficits will be the greatest since the dry summers of 1959 or 1947.

RATES OF SUBSCRIPTION: £15.00 per season (post free)

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ESTIMATED SOIL MOISTURE DEFICIT (S.M.D.)
AT 09 GMT ON 25 OCTOBER 1978

River Area	Estimated Areal S.M.D.	Change during the week ending 09 GMT on	
		25 October 1978	18 October 1978
		mm	mm
Northumbrian	31.1	+ 5.6	- 0.2
Yorkshire	71.0	+ 3.7	+ 12.0
Trent	72.5	+ 2.8	+ 5.1
Lincolnshire	92.1	+ 4.4	+ 8.9
Welland and Nene	102.9	+ 4.7	+ 6.3
Great Ouse	111.7	+ 5.5	+ 8.3
Norfolk and Suffolk	106.1	+ 4.2	+ 16.6
Essex	128.0	+ 1.8	+ 7.8
Lee Division	119.1	+ 4.3	+ 4.1
Thames Conservancy	119.7	+ 2.8	+ 5.0
London Area	119.9	+ 3.6	+ 1.2
Kent	121.0	+ 2.8	+ 3.2
Sussex	118.9	+ 3.2	+ 4.6
Hampshire	103.0	+ 3.0	+ 5.4
Isle of Wight	132.8	+ 1.6	+ 3.0
Upper Thames	114.3	+ 1.7	+ 7.1
Avon and Dorset	113.4	+ 2.6	+ 8.3
Devon	95.1	+ 1.4	+ 2.7
Cornwall	92.1	+ 2.0	+ 0.5
Somerset	102.0	+ 2.4	+ 5.9
Bristol Avon	116.7	+ 2.8	+ 4.8
Severn	84.6	+ 3.0	+ 7.4
Wye	96.0	+ 1.9	+ 5.1
Usk	76.8	+ 1.5	+ 0.9
Glamorgan	56.4	+ 1.8	- 0.5
South West Wales	24.2	- 0.6	+ 0.6
Gwynedd	15.7	- 1.5	- 1.3
Dee and Clwyd	16.8	+ 7.7	- 1.6
Mersey and Weaver	14.8	+ 6.3	- 2.5
Lancashire	3.6	- 0.3	- 1.7
Cumbria	13.6	+ 4.6	+ 0.6

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



