



METEOROLOGICAL OFFICE

ESTIMATED SOIL MOISTURE DEFICIT AND POTENTIAL

EVAPOTRANSPIRATION OVER GREAT BRITAIN

SOIL MOISTURE DEFICIT AT 0900 ON 16 SEPTEMBER 1981

The first week of the most recent fortnight (from 2 September) continued the rather dry weather which has characterised much of southern Britain at least, starting in early June. A notable break occurred about 10 September, however, when wet, unsettled weather spread over the whole country. Wettest days generally were 10 and 14 September, when mean depths over Britain exceeded 10 mm. The 7th was a wet day also in Wales, with values exceeding 25 mm on the hills, and 3rd, 4th and 9th were wet in western Scotland, particularly in the Islands.

There was no very well defined pattern to the rainfall distribution in the fortnight. Most of Britain was rather dry but the average was exceeded in Devon, the Cardiff area and southwest Wales, over an area extending from the Isle of Wight through the Midlands to the Vale of York (but excluding the Pennines), from the Ayrshire Plain through Glasgow to Fife and in the Outer Hebrides. Less than half the average was recorded at Cape Wrath and in Morayshire where the period since April has been remarkably dry.

Most River Divisions have seen a steady increase in areal land use soil moisture deficit throughout the summer, starting from very low values at the end of May and interrupted only occasionally by heavy rainfall in thunderstorms, as at the beginning of August. The increase continued to reach a peak for the year at 9 September but over all Divisions there has been a decrease (ie soils are refilling with water) in the most recent week. Nevertheless mean deficits are still well above average for all Divisions and for all River Purification Board areas, except Clyde. In some River Divisions eg Northumbrian, Usk, Wye and South West Wales, 9 September mean values were the highest for mid-September in a series beginning in 1963.

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ESTIMATED SOIL MOISTURE DEFICIT (SMD) AT 09 GMT ON 16 SEPTEMBER 1981

RIVER AREA	AREAL LAND USE ESTIMATED SMD	CHANGE DURING THE WEEK ENDING 09 GMT ON	
		16 SEPT 81 MM	9 SEPT 81 MM
Northumbrian	91.5	-13.1	+5.8
Yorkshire	90.6	-10.7	+7.9
Trent	90.8	-13.5	+7.3
Lincolnshire	119.3	-4.3	+6.3
Welland and Nene	108.0	-11.8	+6.6
Great Ouse	106.4	-11.4	+7.1
Norfolk and Suffolk	115.9	-4.6	+6.3
Essex	112.5	-4.9	+5.9
Lee Division	97.2	-9.9	+6.1
Thames Conservancy	97.7	-15.4	+6.9
London Area	98.5	-8.3	+6.8
Kent	104.3	-5.7	+6.4
Sussex	93.2	-14.1	+6.3
Hampshire	96.5	-13.7	+6.6
Isle of Wight	99.2	-20.6	+6.3
Upper Thames	97.7	-19.4	+7.2
Avon and Dorset	96.4	-15.6	+6.4
Devon	77.5	-25.0	+10.2
Cornwall	78.6	-28.3	+13.0
Somerset	90.2	-18.6	+7.2
Bristol Avon	96.8	-18.1	+7.5
Severn	90.1	-17.8	+5.9
Wye	89.2	-20.6	+4.4
Usk	67.4	-35.4	+5.7
Glamorgan	54.0	-39.9	+5.8
South West Wales	68.5	-25.8	-0.9
Gwynedd	58.2	-12.1	-3.6
Dee and Clwyd	63.8	-9.7	+1.0
Mersey and Weaver	59.9	-11.2	+9.4
Lancashire	32.2	-18.0	+10.3
Cumbria	44.8	-15.9	+5.0

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



