



METEOROLOGICAL OFFICE

ESTIMATED SOIL MOISTURE DEFICIT OVER GREAT BRITAIN

AT 0900 ON 19 AUGUST 1981

In the previous bulletin (published a little late, on 7 August), attention was drawn to severe thunderstorms which had occurred in the 36 hours from the evening of the 5th. Heaviest rainfall on the 5th occurred in an area extending from Cheshire to south Yorkshire: 100 mm was recorded in a few hours at Ringway Airport. In the early hours of the 6th, violent thunderstorms moved up from the south coast and extended into the Midlands, where areas around the Wash were particularly affected. More than 60 mm was recorded in the two rainfall days, 5th-6th, from the Sussex coast to the Weald and more than 50 mm was recorded in the Fen District. But the area of heaviest rainfall for the two days, with more than 80 mm, extended from Cheshire to south Yorkshire. No rainfall was recorded on the two days in Cornwall, west Wales, the Lake District and Scotland. The remainder of the fortnight was dry over much of England and Wales, rain free in the south of England, but heavy rain persisted on 7th-8th in northeast England, including Lincolnshire. Northern Scotland experienced much more unsettled weather, following the dry days 5th-7th, and rainfall was particularly heavy on 10th-12th. Rainfall was also heavy on 17th in the Fylde and Hebrides.

Distribution of rainfall in the fortnight from 5 August, expressed as a percentage of average, showed marked variations. Less than 10 per cent of average (in fact 1 or 2 mm) occurred in Cornwall, east Sussex and Kent and the Central Lowlands. Less than 25 per cent of average was recorded over most of Wales, the Southern Uplands and Southern Grampians. Values exceeded 150 per cent of average in an area extending from west Sussex, through the London area as far north as Birmingham and west Norfolk, over the Cheshire Plain and Vales of York and Belvoir and also over the Hebrides. Three times the average was recorded at Ringway Airport.

Mean soil moisture deficit for areal land use showed a decrease over most English River Divisions, following the storms of 5-8 August, but in most cases deficits have recovered to near pre-storm values, which were the highest of the summer. Over most Divisions, mean deficits are now above the seasonal average, exceptions being in Lee, London, Kent, Sussex, Hampshire, Mersey and Weaver, Lancashire and Cumbria. The highest excesses are in South West Wales where mean deficits are 50 mm above the average. In Scotland, mean deficits are below average in Clyde River Purification Board and Islands but are above average in other RPB's, well above in North East, Tay, Forth and Tweed.

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ESTIMATED SOIL MOISTURE DEFICIT (S.M.D.) AT 09 GMT ON 19 AUG 1981

RIVER AREA	AREAL LAND USE ESTIMATED S.M.D. MM	CHANGE DURING THE WEEK ENDING	
		09 GMT ON	
		19 AUG 81 MM	12 AUG 81 MM
NORTHUMBRIAN	88.2	+ 7.5	- 1.0
YORKSHIRE	74.7	+ 9.2	- 26.4
TRENT	84.0	+ 13.8	- 25.6
LINCOLNSHIRE	103.7	+ 13.5	- 21.7
WELLAND AND NENE	102.6	+ 16.0	- 18.3
GREAT OUSE	101.1	+ 15.1	- 15.5
NORFOLK AND SUFFOLK	105.0	+ 10.0	- 3.6
ESSEX	102.8	+ 9.6	- 9.3
LEE DIVISION	87.8	+ 18.4	- 25.3
THAMES CONSERVANCY	94.4	+ 19.1	- 16.5
LONDON AREA	83.4	+ 22.6	- 36.7
KENT	94.7	+ 14.2	- 4.4
SUSSEX	90.9	+ 17.2	- 10.0
HAMPSHIRE	92.1	+ 16.0	- 7.8
ISLE OF WIGHT	103.1	+ 12.7	+ 5.9
UPPER THAMES	99.0	+ 16.4	- 11.2
AVON AND DORSET	95.1	+ 11.7	- 2.4
DEVON	83.8	+ 11.0	+ 1.3
CORNWALL	83.8	+ 14.0	+ 9.1
SOMERSET	91.0	+ 7.5	- 0.7
BRISTOL AVON	97.6	+ 9.6	- 3.0
SEVERN	91.1	+ 14.3	- 16.0
WYE	97.3	+ 11.8	- 4.4
USK	89.7	+ 8.9	- 0.7
GLAMORGAN	80.8	+ 8.6	- 5.3
SOUTH WEST WALES	88.6	+ 5.7	+ 1.8
GWYNEDD	69.6	+ 4.6	+ 3.8
DEE AND CLWYD	64.5	+ 7.8	- 9.5
MERSEY AND WEAVER	46.4	+ 9.9	- 38.4
LANCASHIRE	26.1	- 0.9	- 23.0
CUMBRIA	42.0	- 1.2	+ 3.5

N.B. APART FROM NORMAL CHANGES THESE DIFFERENCES ALSO REFLECT RETROSPECTIVE ADJUSTMENTS AFTER RECEIPT OF ADDITIONAL DATA



