

METEOROLOGICAL OFFICE

ESTIMATED SOIL MOISTURE DEFICIT OVER GREAT BRITAIN

SOIL MOISTURE DEFICIT AT 0900 GMT 6 JANUARY 1982



Most of Great Britain was still in the grip of arctic air when the period covered by this commentary began (23 December 1981). However milder weather encroached from the west during the 26th and 27th and spread to most of the country between the 28th and 30th. The combination of rain and thawing snow caused severe flooding in many districts, particularly in the Severn Valley and Yorkshire. Thunderstorms were reported over southwest England on the 29th at the end of a four day period (26th to 29th) during which over 80 mm fell over Dartmoor and Exmoor.

The first few days of 1982 saw the return of cold air to northern Scotland and this moved south during the 4th and 5th of January.

Southern Scotland and northern England had prolonged rain from the 2nd to the 4th with over 50 mms of rain being reported over the Lake District on the 2nd. Over 20 mm was also reported over the hills of Wales on the 2nd. Carlisle which had a very dry December reported over 100 mm as the three day total from the 2nd to the 4th of January and even higher three day totals were recorded over the hills of southern Scotland. Edinburgh (Turnhouse Airport) reported 55 mm on the 3rd and Dumfries reported 64 mm on the 3rd. Most places in Great Britain had precipitation on the 4th and 5th which fell as rain in the south but turned to sleet or snow in the north.

With the exception of the Western Isles and north western Scotland most parts of the country had near or more than the average rainfall (or rainfall equivalent) during the last fortnight.

Percentages ranged from 40% of average at Stornoway to over 500% of average at Edinburgh (Turnhouse Airport). Of the 123 mm which fell at Turnhouse during the last fortnight 110 mm fell during the 4 days from the 2nd-5th of January 1982, which has a return period on average of approximately once in 100 years.

Over all River Divisions mean deficits are approximately the same or lower than they were a fortnight ago.

The model used to calculate SMD for this bulletin takes no account of flooding caused by increased river flows, therefore some areas may show soil moisture deficits where no deficits, in fact, exist.

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ESTIMATED SOIL MOISTURE DEFICIT (S.M.D.) AT 09 GMT ON 6 JANUARY 1982

River Area	Areal land use Estimated S.M.D. mm	Change during the week ending 09 GMT on		
		6 Jan 82 mm	30 Dec 81 mm	23 Dec 81 mm
Northumbrian	1.1	- 4.7	- 1.9	- 0.8
Yorkshire	7.8	- 4.9	- 4.1	+ 3.3
Trent	6.3	- 3.6	- 3.7	- 0.4
Lincolnshire	40.2	- 8.7	- 7.3	- 0.5
Welland and Nene	19.8	- 3.7	- 2.6	- 1.3
Great Ouse	11.4	- 4.9	- 2.7	- 1.9
Norfolk and Suffolk	22.2	- 5.1	- 2.7	- 3.5
Essex	18.7	- 5.4	- 3.7	- 2.8
Lee Division	2.4	- 1.6	- 1.1	- 2.5
Thames Conservancy	0.7	- 1.5	- 1.8	- 1.1
London Area	0.0	0.0	0.0	- 1.5
Kent	3.3	- 0.6	- 0.4	- 0.8
Sussex	0.0	0.0	0.0	- 0.1
Hampshire	0.0	- 0.1	- 1.1	- 1.1
Isle of Wight	0.0	0.0	0.0	0.0
Upper Thames	1.4	- 1.7	- 4.3	- 1.2
Avon and Dorset	0.0	- 0.1	- 1.2	- 1.0
Devon	0.0	0.0	- 0.1	- 0.5
Cornwall	0.0	0.0	0.0	0.0
Somerset	0.0	0.0	- 0.1	- 0.1
Bristol Avon	0.0	0.0	- 0.1	- 0.2
Severn	0.1	- 1.9	- 3.1	- 0.5
Wye	0.0	- 0.8	- 1.4	- 0.5
Usk	0.0	0.0	- 0.1	+ 0.1
Glamorgan	0.0	0.0	- 0.1	+ 0.1
South West Wales	0.0	0.0	- 0.1	0.0
Gwynedd	0.0	0.0	- 0.1	0.0
Dee and Clwyd	0.0	0.0	- 0.1	0.0
Mersey and Weaver	0.0	0.0	- 0.1	0.0
Lancashire	0.0	0.0	- 0.1	0.0
Cumbria	0.0	0.0	- 0.1	0.0

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



