



## METEOROLOGICAL OFFICE

## ESTIMATED SOIL MOISTURE DEFICIT AND POTENTIAL

## EVAPOTRANSPIRATION OVER GREAT BRITAIN

SOIL MOISTURE DEFICIT AT 0900 ON 22 JULY 1981

Rainfall distribution in the most recent fortnight has been erratic over Britain. Many places, particularly in the south have experienced very small amounts on one or two days. To the west of London, only 2 or 3 mm have been recorded. Other places, however, have experienced heavy rainfall on occasional days, some of it in thunderstorms. For example, more than 12 mm was recorded on 8 July on the North York Moors, the east Midlands and Lincolnshire and in the extreme southern England from Dorset to Sussex. In central London, 61 mm was recorded in a violent thunderstorm on 9th, 58 mm falling in about an hour: similar heavy falls occurred locally in Norfolk and Derbyshire. The 10th was a day of heavy rainfall in many western districts of Scotland and the 15th-16th were days of general rainfall in Scotland and northern England. Heavy rainfall, more than 12 mm, occurred in western districts of Britain on 21st and this heavy rainfall spread to eastern districts after 0900 on 22nd. In these eastern areas, deficits now will be lower than shown on the maps. In districts which escaped all the heavier falls, particularly in the Thames Valley, less than 10 mm was recorded in the extended dry period from 11 June to 21 July.

Rainfall exceeded the average for the fortnight in southwest Scotland, including the Southern Uplands, in northern England, Norfolk and Caithness. Less than half the average was recorded in the Birmingham area, lower Severn Valley, South Wales, central southern England and Kent. Less than 25 per cent of average occurred in the Thames Valley and the Weald.

Over most river divisions, mean soil moisture deficits for areal land use have continued the remarkable rise from near full capacity at the beginning of June. Mean deficits are now above the seasonal average in Yorkshire, Trent, Lincolnshire, Welland and Nene, Thames, Somerset, Bristol Avon, Severn, Wye, South West Wales; they are still well below the average in Kent and Sussex. Mean deficits have decreased in the most recent week in northern river divisions of Wales and England. Mean deficits are less than average over all River Purification Board areas, with the exception of North East.

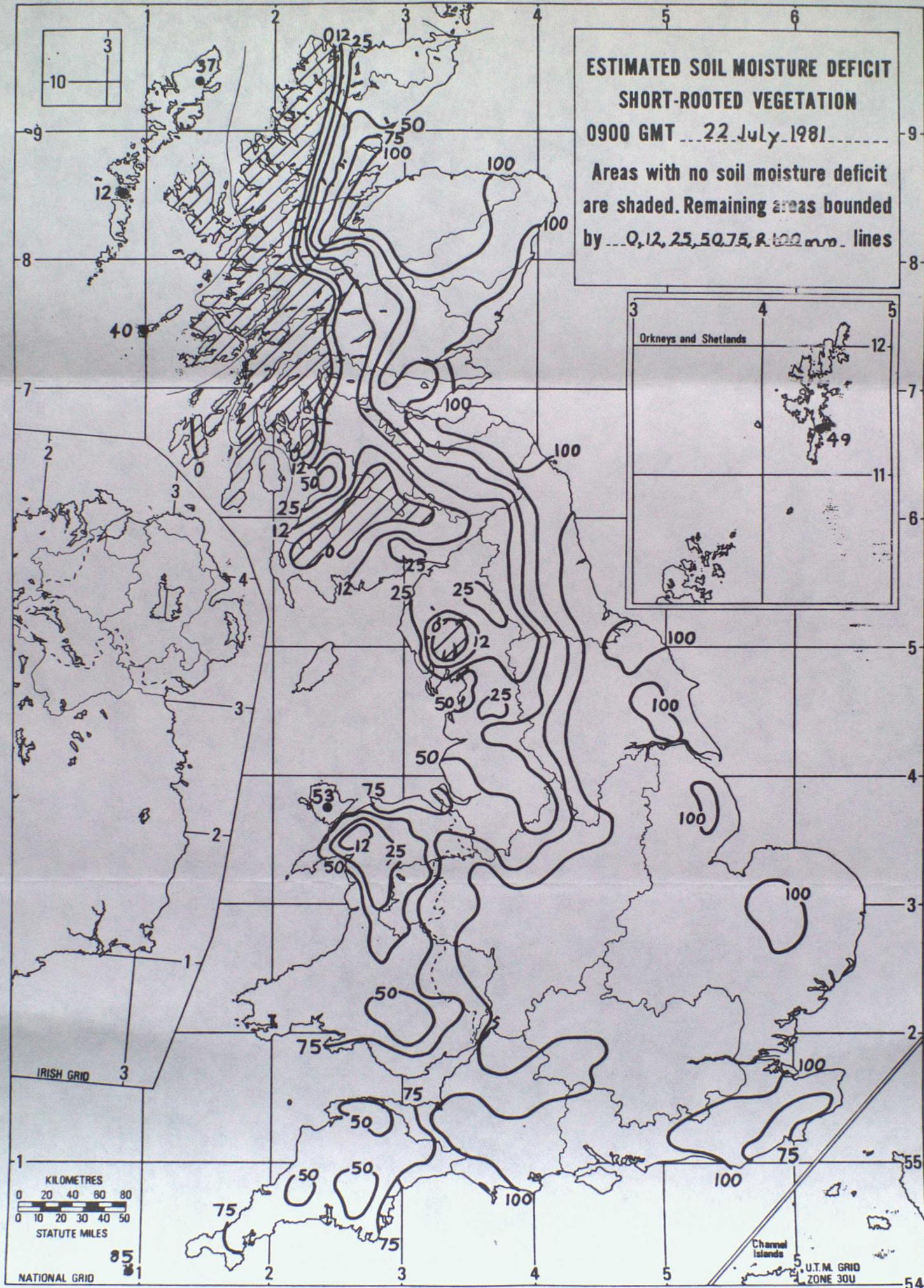
Director-General  
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RG12 2SZ

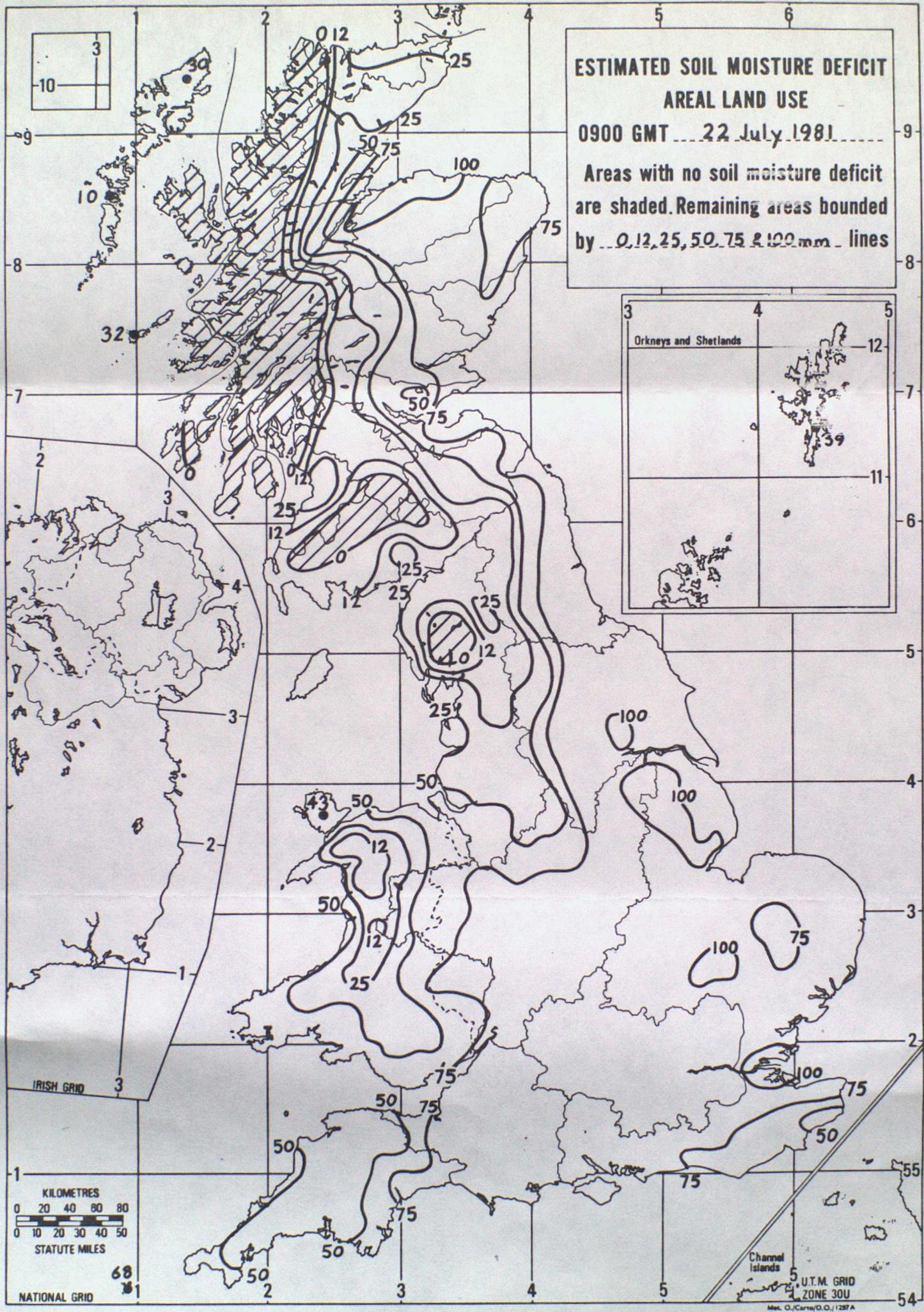
Issued 23 July 1981

ESTIMATED SOIL MOISTURE DEFICIT (SMD) AT 09 GMT ON 22 JULY 1981

RIVER AREA	AREAL LAND USE	CHANGE DURING THE WEEK ENDING 09 GMT ON		
	ESTIMATED SMD MM	22 JULY 1981 MM	15 JULY 1981 MM	8 JULY 1981 MM
Northumbrian	67.1	-4.5	+4.9	+8.1
Yorkshire	78.2	+5.6	+4.4	+15.1
Trent	78.8	+4.0	+9.0	+18.2
Lincolnshire	94.0	+6.2	+8.7	+17.8
Welland and Nene	89.3	+7.1	+8.3	+18.8
Great Ouse	88.1	+7.6	+9.8	+18.5
Norfolk and Suffolk	89.6	+9.0	+14.1	+17.2
Essex	93.9	+8.3	+11.3	+19.9
Lee Division	87.7	+7.3	+10.7	+19.4
Thames Conservancy	89.4	+8.8	+13.7	+15.9
London Area	94.3	+8.4	+14.8	+17.2
Kent	71.5	+7.7	+11.6	+18.0
Sussex	75.3	+6.2	+15.3	+16.8
Hampshire	87.6	+10.2	+12.3	+15.6
Isle of Wight	90.5	9.1	+4.9	+16.0
Upper Thames	84.5	+6.1	+13.9	+13.3
Avon and Dorset	82.8	+10.7	+9.9	+14.1
Devon	60.4	-0.8	+11.2	+7.2
Cornwall	50.4	-8.2	+7.9	+4.9
Somerset	77.5	+7.6	+14.4	+10.7
Bristol Avon	85.1	+9.5	+15.1	+13.1
Severn	75.9	+2.4	+13.9	+12.8
Wye	70.5	+7.5	+14.7	+7.8
Usk	61.8	+10.0	+9.6	+2.5
Glamorgan	55.5	+6.8	+8.7	+1.5
South West Wales	52.1	+0.9	+8.7	+6.3
Gwynedd	37.8	-8.7	+10.8	+0.6
Dee and Clwyd	43.3	-8.4	+13.0	+1.7
Mersey and Weaver	50.4	-5.2	+8.4	+11.7
Lancashire	28.8	-11.2	+8.1	+1.8
Cumbria	21.7	-15.6	+2.5	+4.2

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

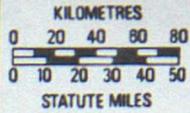
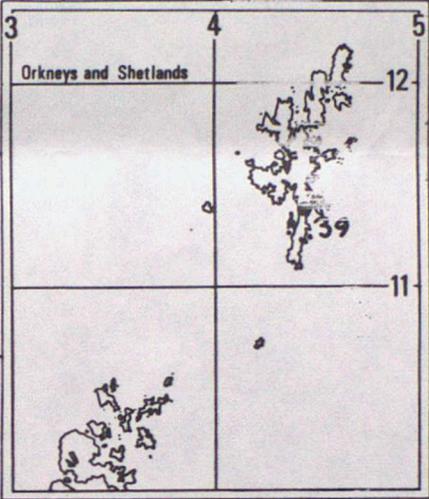




**ESTIMATED SOIL MOISTURE DEFICIT  
AREAL LAND USE**

**0900 GMT ... 22 July 1981**

Areas with no soil moisture deficit are shaded. Remaining areas bounded by ... 0, 12, 25, 50, 75 & 100 mm ... lines



IRISH GRID  
NATIONAL GRID

Channel Islands  
U.T.M. GRID  
ZONE 30U

Met. O./Carto/D.O./1297A