

METEOROLOGICAL OFFICE

ESTIMATED SOIL MOISTURE DEFICIT OVER GREAT BRITAIN

AT 0900 ON 22 NOVEMBER 1978

The four days following the publication of the previous bulletin (8 November 1978) were mainly dry over England, Wales and southern Scotland, although more than 25 mm was recorded in north-west Scotland on 9th. The 12th saw the commencement of a period of generally unsettled weather. Rainfall amounts were not large over many parts of England, particularly the east where less than half the average for the fortnight was recorded at a number of places. Rainfall was well above average in north-west England and about average in west Wales and south-west England where useful amounts of rain were recorded. The wettest day generally was the 18th, when more than 40 mm fell on the Moors of the south-west, the Lake District, the Welsh mountains and parts of the Pennines.

Scotland was much wetter than the south in the fortnight, with more than twice the average recorded over much of the west from the Southern Uplands to Cape Wrath. The east was rather drier, though still mainly wetter than average. The period 12th to 17th was extraordinarily wet. Indices of general daily rainfall over Scotland are available from 1967 (they should not be taken as very accurate estimates for the country). In the 6 days from the 12th, the general total was 92 mm, easily the highest 6-day total in the series. At Eskdalemuir, Southern Uplands, 10, 35, 41 and 45 mm were recorded respectively on 12th, 13th, 14th and 15th. Snow fell in northern Scotland on several days and thunderstorms occurred in the north-west on 12th and 19th.

Deficits have been reduced over most major river areas of England and Wales in the past fortnight and the reduction has been quite substantial in western areas. Nevertheless, deficits are still well above average over major areas except North Wales and north-west England and are markedly above average, by 3 or 4 times, in south-west England and the Usk, Wye and Severn basins.

Assuming average rainfall and evaporation in coming months, estimates have been made of dates when soils will be fully restored to capacity and of the amount of residual rainfall (rainfall contribution to permanent ground water and run-off) likely to accrue in the months November 1978 to March 1979. As is apparent from the maps, soils are already at capacity over much of Wales, north-west England and the Moors in the south-west. Soils would be restored to capacity over most of the south-west, Wales and northern England (except Vale or York) by the end of December. Capacity would not be attained until February 1979 in the Great Ouse basin, much of East Anglia and the Thames basin and may not be attained in lower Thames and Essex. Residual rainfall estimates amount to less than 100 mm in lower Trent, Welland and Nene, much of Great Ouse and East Anglia and to more than 400 mm over much of Pennines, Wales and south-west England and more than 800 mm on Dartmoor, Welsh mountains and Lake District.

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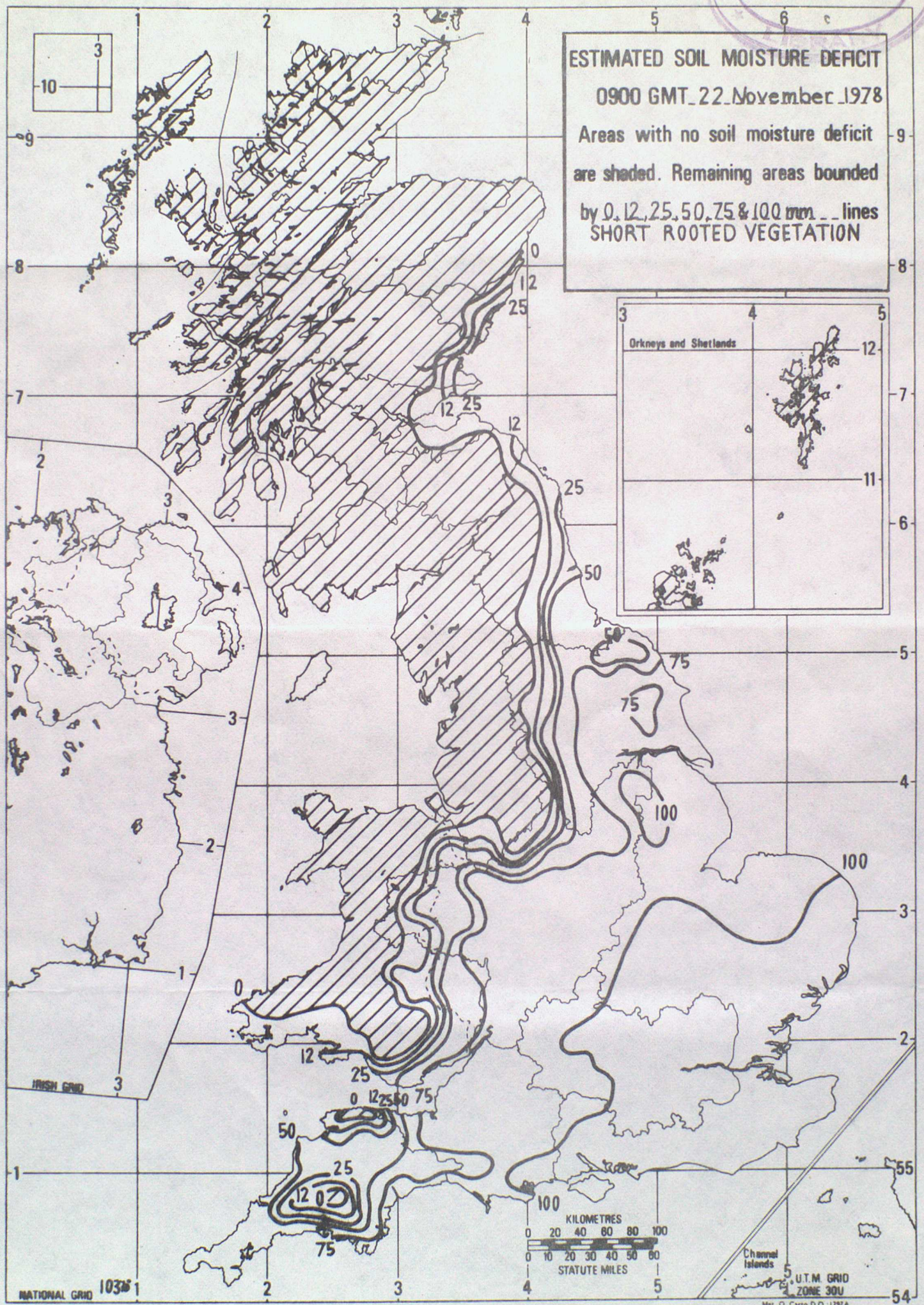
# ESTIMATED SOIL MOISTURE DEFICIT (S.M.D)

AT 09 GMT ON 22 NOV 1978

River Area	Estimated Areal	Change during the week ending 09 GMT on	
	S.M.D. MM	22 Nov 78 MM	15 Nov 78 MM
Northumbrian	22.7	- 9.1	- 6.6
Yorkshire	57.3	- 10.5	- 3.8
Trent	64.4	- 11.8	- 2.9
Lincolnshire	87.1	- 9.0	+ 1.6
Welland and Nene	95.2	- 8.6	- 3.0
Great Ouse	102.0	- 7.8	- 3.0
Norfolk and Suffolk	98.1	- 7.6	- 1.8
Essex	121.7	- 5.2	- 1.9
Lee Division	111.7	- 5.8	- 2.9
Thames Conservancy	109.3	- 7.5	- 4.1
London Area	113.1	- 4.5	- 3.5
Kent	117.6	- 4.5	- 2.8
Sussex	112.1	- 5.9	- 3.0
Hampshire	92.4	- 8.5	- 2.4
Isle of Wight	123.1	- 8.2	- 1.1
Upper Thames	100.1	- 10.6	- 5.4
Avon and Dorset	94.5	- 15.3	- 4.5
Devon	63.7	- 26.0	- 6.0
Cornwall	59.3	- 26.5	- 6.0
Somerset	76.7	- 22.1	- 5.4
Bristol Avon	95.6	- 16.5	- 5.6
Severn	67.5	- 14.1	- 5.2
Wye	57.5	- 28.4	-10.3
Usk	44.2	- 24.2	- 8.5
Glamorgan	24.4	- 26.1	- 5.8
South West Wales	3.3	- 11.0	- 7.4
Gwynedd	1.5	- 9.0	- 3.5
Dee and Clwyd	6.6	- 7.1	- 2.8
Mersey and Weaver	3.7	- 10.1	- 3.4
Lancashire	0.0	- 1.6	- 2.4
Cumbria	0.0	- 3.3	- 5.5

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





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