METEOROLOGICAL OFFICE

ESTIMATED SOIL MOISTURE DEFICIT AND POTENTIAL EVAPOTRANSPIRATION OVER GREAT BRITAIN

SOIL MOISTURE DEFICIT AT 0900 GMT ON 16 APRIL 1980

At the time of the last ESMD bulletin (24 January 1980), soils were estimated to be at capacity with respect to short-rooted vegetation in all parts of the country. Areal land use deficits were apparent in parts of the East Midlands and East Anglia, with values as high as 25 mm in the Cambridge area and on the Essex and north Kent coasts.

The remainder of the winter was generally open (unlike the previous severe winters of 1977-78 and 1978-79) and was rather wet, particularly so over England and Wales as a whole. Rainfall for the two months, February-March combined, was 57 per cent more than the average over the two countries. Scotland as a whole was relatively drier but rainfall still exceeded the average for the two months.

Rainfall was heavy in the last few days of January, particularly on 29th in Scotland, and the unsettled weather continued until the end of March. There were a few dry days in February and the first four days of March were rain-free almost everywhere over England and Wales. Possibly the most severe weather of the winter occurred from 16 to 26 March. The worst of the weather occurred in the north and in Wales where snow drifted and roads were blocked. In general there was little snowfall in the South. Rainfall for the winter six months, October 1979-March 1980, was 598 mm over England and Wales, 25 per cent more than average. It was the second wettest winter six months in the past 20 years (1976-77 was wetter). Over Scotland, the winter of 1977-78 was about as wet as 1979-80 but otherwise there has been no period, October-March, as wet since 1966-67.

Despite the unsettled weather, deficits under long-rooted vegetation were carried through the winter in the Cambridge area and on the coasts bordering the Thames Estuary (they reached their lowest level in the week ending 2 April). From 2 April, weather has been dry nearly everywhere and many places have experienced a rain free fortnight. A little light precipitation occurred in northern Scotland, 6 to 9 April, and in Scotland generally on 14th. Heavy rain (more than 12 mm) fell in extreme south-west England and south-west Wales on 13th. As a result of the dry fortnight, and with now rapidly increasing evaporation rates, soil moisture deficits are beginning to build up rapidly. Maximum values for short-rooted vegetation amount to about 34 mm in the Ryde-Southsea area. General soil moisture deficits for areal land use were above average for the time of year over all major river areas in England and Wales and over River Purification Board areas in Scotland.

Explanatory notes, setting out the method by which soil moisture deficit estimates are derived, can be obtained free of charge to subscribers from the address below.

RATES OF SUBSCRIPTION: £22.73 per season (post free)

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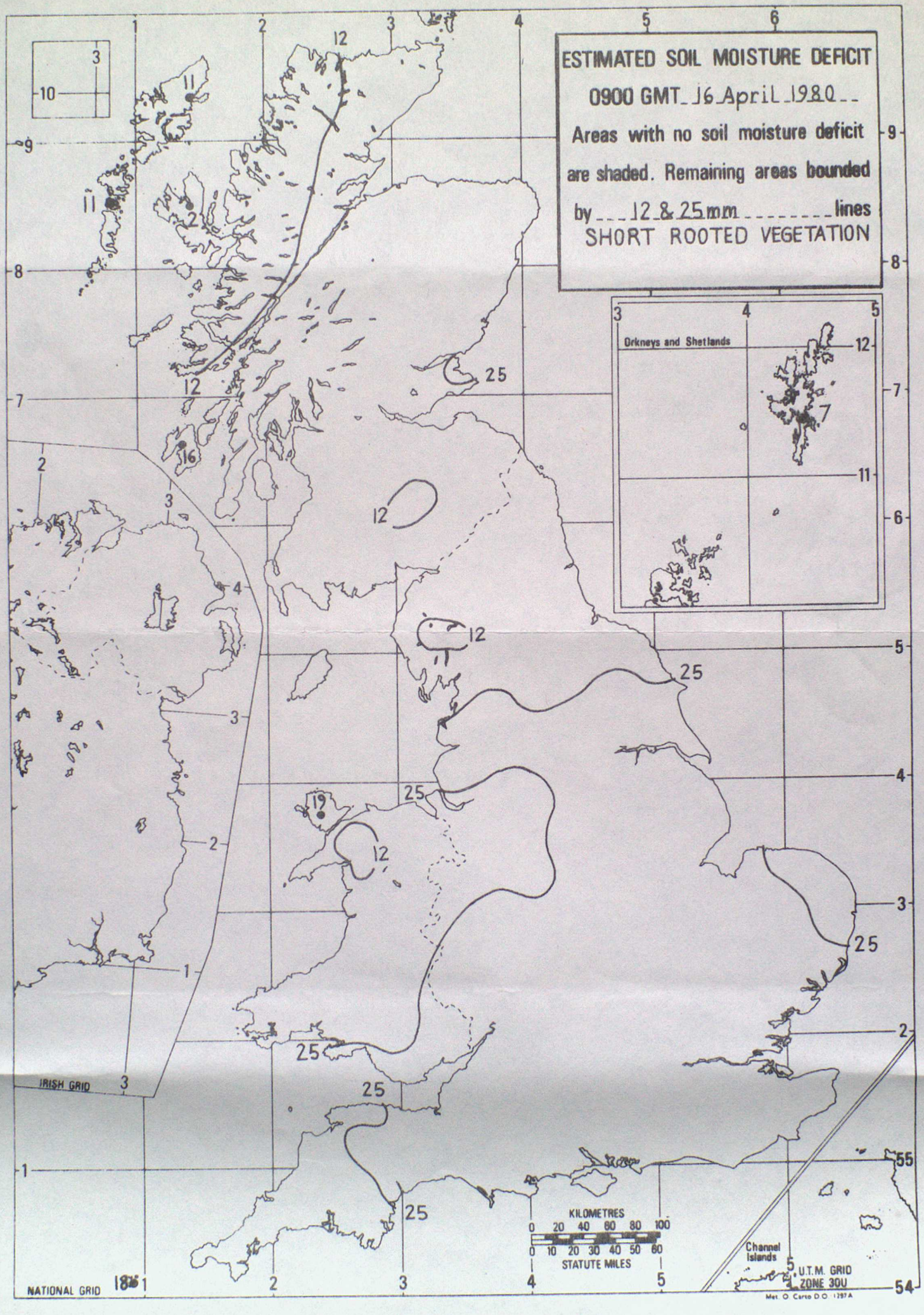
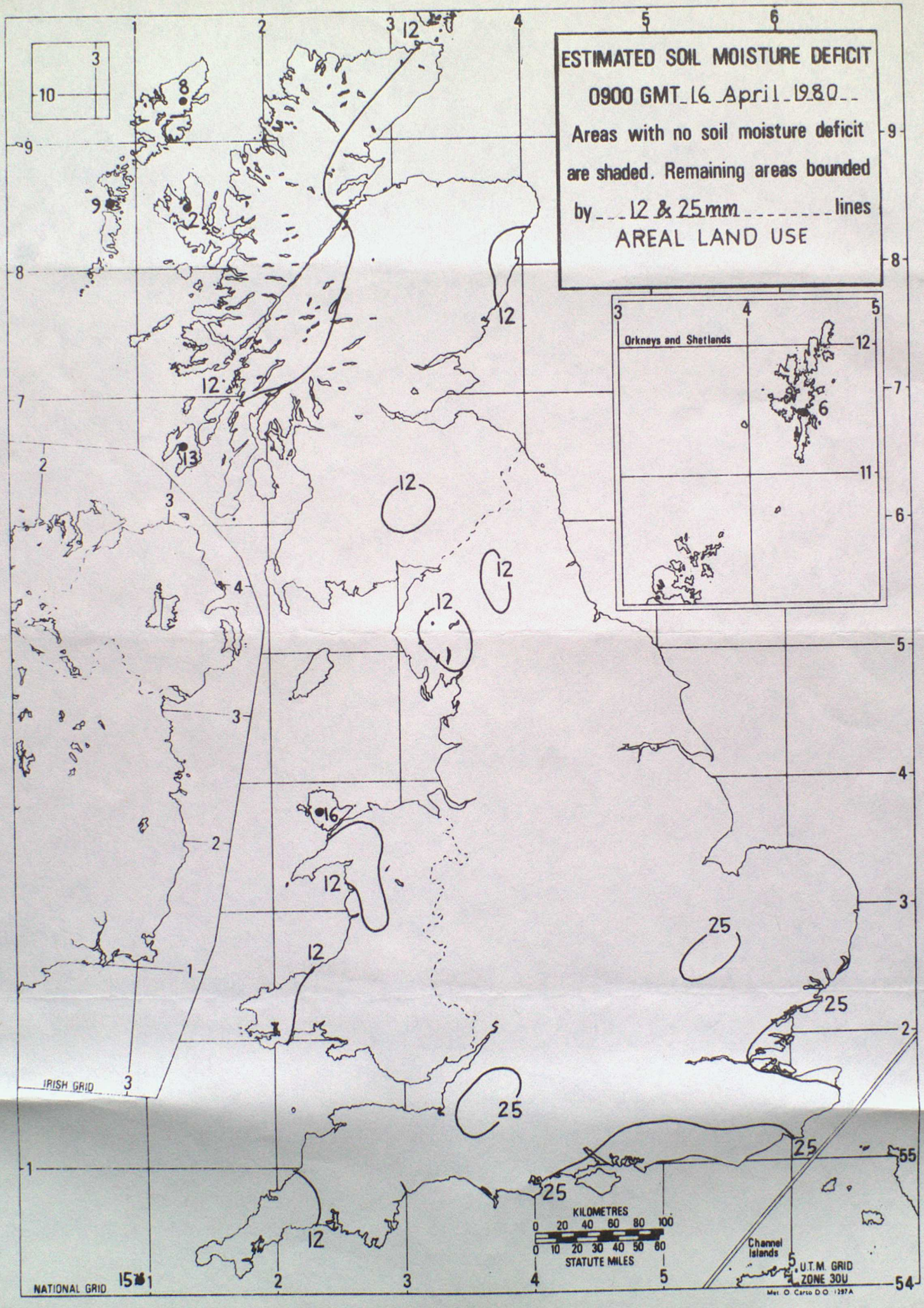
ESTIMATED SOIL MOISTURE DEFICIT (S.M.D.)
AT 09 GMT ON 16 APRIL 1980

River Area	Areal Land Use Estimated S.M.D. mm	Change during the week ending 09 GMT on 16 April 1980 mm	9 April 1980 mm
Northumbrian	15.0	+ 5.2	+ 8.6
Yorkshire	21.4	+ 9.4	+ 11.0
Trent	19.9	+ 9.5	+ 10.3
Lincolnshire	21.4	+ 10.7	+ 10.6
Welland and Nene	19.0	+ 9.7	+ 9.3
Great Ouse	22.9	+ 11.5	+ 10.4
Norfolk and Suffolk	19.9	+ 11.5	+ 7.5
Essex	26.8	+ 12.2	+ 10.3
Lee Division	22.7	+ 12.4	+ 10.3
Thames Conservancy	22.8	+ 11.7	+ 11.1
London Area	24.0	+ 13.5	+ 10.5
Kent	26.1	+ 13.3	+ 10.6
Sussex	25.5	+ 14.2	+ 11.3
Hampshire	24.0	+ 12.3	+ 11.7
Isle of Wight	25.5	+ 12.9	+ 12.6
Upper Thames	22.1	+ 10.4	+ 11.7
Avon and Dorset	23.8	+ 11.6	+ 12.2
Devon	20.6	+ 8.4	+ 12.2
Cornwall	13.7	+ 1.4	+ 12.3
Somerset	24.1	+ 11.4	+ 12.7
Bristol Avon	24.1	+ 11.3	+ 12.8
Severn	21.3	+ 9.9	+ 11.4
Wye	20.8	+ 9.3	+ 11.5
Usk	21.0	+ 9.3	+ 11.7
Glamorgan	20.6	+ 9.1	+ 11.5
South West Wales	14.7	+ 4.0	+ 10.7
Gwynedd	14.8	+ 3.3	+ 10.6
Dee and Clwyd	16.1	+ 5.6	+ 10.1
Mersey and Weaver	15.3	+ 7.0	+ 7.8
Lancashire	18.9	+ 6.7	+ 10.5
Cumbria	12.5	+ 2.3	+ 9.4

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


ESTIMATED SOIL MOISTURE DEFICIT
0900 GMT 16 April 1980
Areas with no soil moisture deficit are shaded. Remaining areas bounded by 12 & 25 mm lines
SHORT ROOTED VEGETATION
Orkneys and Shetlands
IRISH GRID
NATIONAL GRID
KILOMETRES
0 20 40 60 80 100
0 10 20 30 40 50 60
STATUTE MILES
Channel Islands
U.T.M. GRID ZONE 30U
Met. O. Carto D.O. 1297A


ESTIMATED SOIL MOISTURE DEFICIT
0900 GMT 16 April 1980
Areas with no soil moisture deficit are shaded. Remaining areas bounded by 12 & 25mm lines
AREAL LAND USE
Orkneys and Shetlands
IRISH GRID
NATIONAL GRID
KILOMETRES
STATUTE MILES
Channel Islands
U.T.M. GRID ZONE 30U
Met O Carto D.O. 1297A

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