

METEOROLOGICAL OFFICE

ESTIMATED SOIL MOISTURE DEFICIT AND POTENTIAL
EVAPOTRANSPIRATION OVER GREAT BRITAIN

SOIL MOISTURE DEFICIT AT 0900 ON 14 OCTOBER 1981

The mainly wet, autumnal spell which began about 10 September continued throughout the most recent fortnight. Heavy rain (more than 30 mm) fell on 30 September in west Wales and on the moors of southwest England. One of the most notable rainfall events of the year so far, occurred on the following day with largest amounts, more than 50 mm, falling in Central Lowlands, Southern Uplands, the border counties of England and also in southwest Wales and parts of southwest England. The general depth of rainfall on 1 October over Scotland was 39 mm: this follows general falls of 41 mm on 26 October and 34 mm on 19th. In the index covering the previous 16 years, there has been no daily general fall exceeding 30 mm. Further heavy rain occurred on 2 October in Scotland, mainly in the north, with a general depth of 22 mm, and general rainfall approached that value on 8th, which was also a very wet day in the English Lake District. Rain fell on most days in the fortnight over most of Britain but in eastern and southern England (except the southwest) amounts were mainly small, the wettest day in southeast England being 6th, with amounts generally exceeding 12 mm.

Less than average rainfall for the fortnight was recorded only in an area extending from the Somerset plain to Birmingham and in the Isle of Thanet. Values exceeded twice the average generally northwest of a line extending from Hartland Point, Devon to Flamborough Head, Yorkshire. More than three times the average was recorded in Dyfed, Galloway, Lothians and Morayshire.

The most notable features of the maps are the return of soils to capacity, for short-rooted vegetation, over virtually the whole of Scotland and over much of southern England including Downs and Wealden areas.

Over all River Divisions of England and Wales, with one exception (Essex), and all River Purification Board areas, mean deficits for areal land use have continued to decrease during the fortnight. Mean deficits are now below the seasonal average over all areas except Lincolnshire, Norfolk and Suffolk and Essex: the greatest departure from average, 49 mm, is over the Sussex Division. Over many western divisions of England and Welsh divisions, there has been a remarkable, steep decline from near record excesses of soil moisture deficit on 9 September to near capacity on 14 October.

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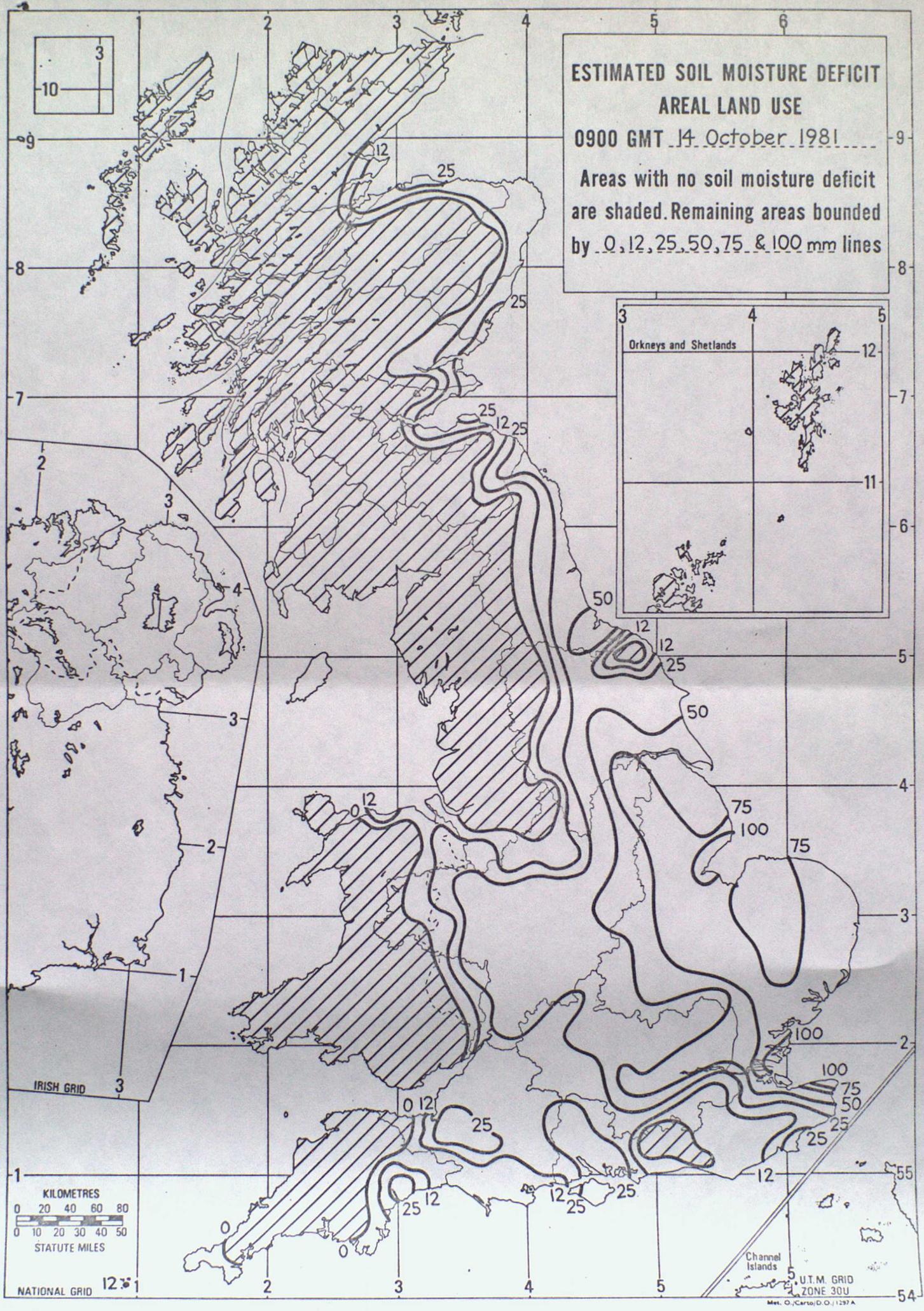
Issued 15 October 1981

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ESTIMATED SOIL MOISTURE DEFICIT (S.M.D.) AT 09 GMT ON 14 OCTOBER 1981

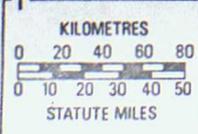
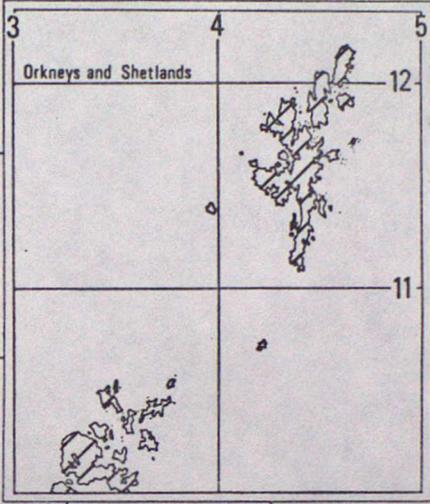
RIVER AREA	AREAL LAND USE ESTIMATED S.M.D. MM	CHANGE DURING THE WEEK ENDING	
		14 OCT 81 MM	09 GMT ON 7 OCT 81 MM
NORTHUMBRIAN	25.5	- 5.3	-26.9
YORKSHIRE	36.7	- 8.0	-12.5
TRENT	36.4	- 5.0	- 5.7
LINCOLNSHIRE	82.7	- 1.2	- 4.8
WELLAND AND NENE	60.5	- 5.8	- 9.0
GREAT OUSE	62.8	- 3.2	-14.7
NORFOLK AND SUFFOLK	80.8	- 2.2	-17.7
ESSEX	81.7	+ 4.1	-14.7
LEE DIVISION	52.4	- 1.2	-14.9
THAMES CONSERVANCY	36.7	- 1.8	-13.7
LONDON AREA	31.9	- 2.9	-17.5
KENT	36.2	- 3.6	-20.0
SUSSEX	8.9	- 1.4	-24.8
HAMPSHIRE	19.6	- 4.9	-17.1
ISLE OF WIGHT	28.1	- 5.8	-24.5
UPPER THAMES	36.8	+ 0.9	- 9.9
AVON AND DORSET	20.4	- 7.3	-16.6
DEVON	12.6	- 0.2	-10.0
CORNWALL	1.7	- 1.5	-15.2
SOMERSET	22.0	- 6.6	-13.0
BRISTOL AVON	25.0	- 3.6	-14.1
SEVERN	25.4	- 7.5	- 7.0
WYE	7.1	- 6.2	- 9.5
USK	0.7	- 0.5	- 6.4
GLAMORGAN	0.7	+ 0.7	- 2.9
SOUTH WEST WALES	0.6	+ 0.6	- 3.6
GWYNEDD	2.9	- 3.5	- 9.5
DEE AND CLWYD	11.3	- 6.0	-11.0
MERSEY AND WEAVER	7.7	-10.0	- 6.4
LANCASHIRE	0.1	+ 0.1	- 1.6
CUMBRIA	0.3	- 0.2	- 4.6

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 14 October 1981

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



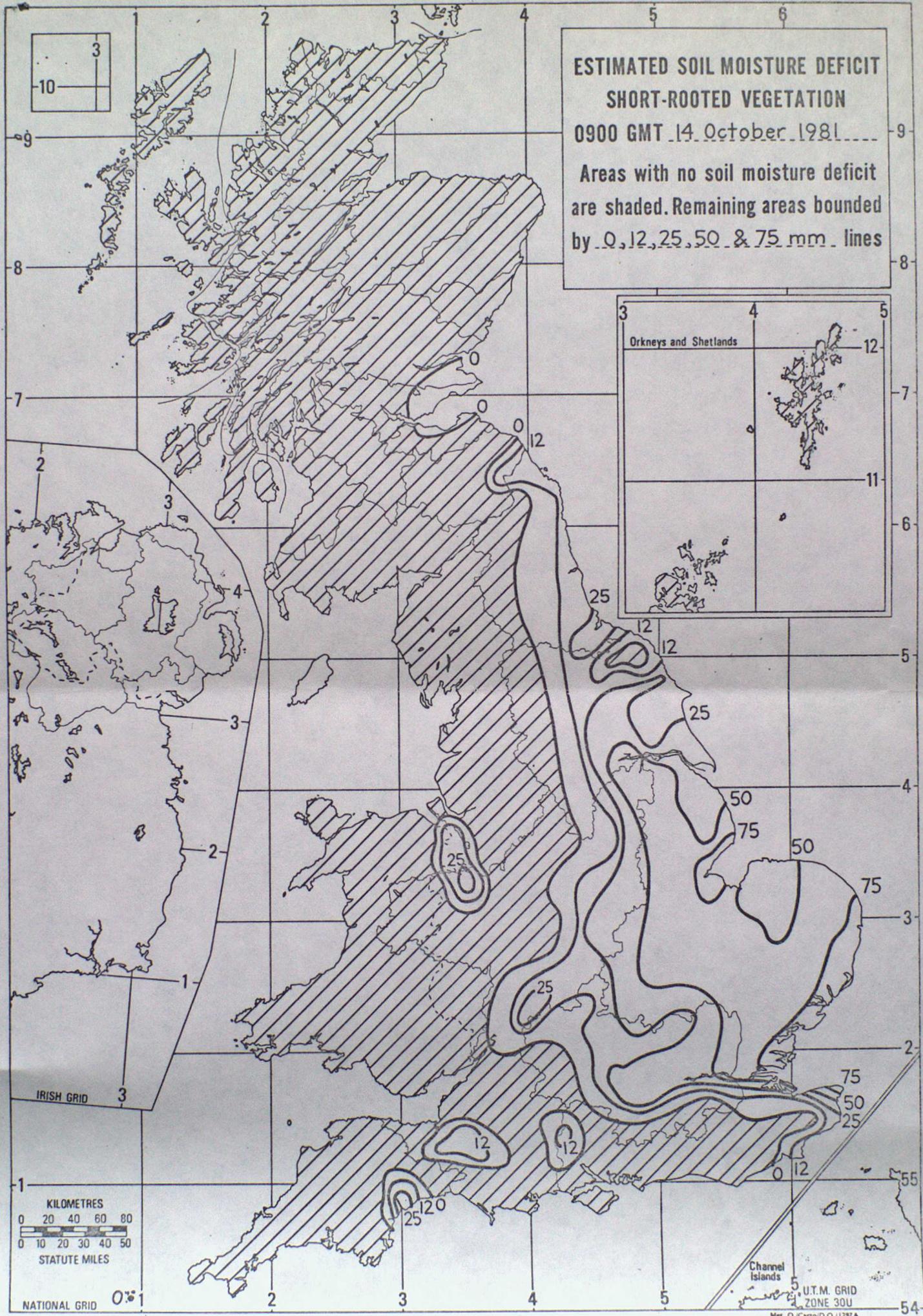
NATIONAL GRID 12 1

Channel Islands
U.T.M. GRID
ZONE 30U
Met. O. Carto. D. O. 1297A

**ESTIMATED SOIL MOISTURE DEFICIT
SHORT-ROOTED VEGETATION**

0900 GMT 14 October 1981

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



KILOMETRES
0 20 40 60 80
STATUTE MILES
0 10 20 30 40 50

IRISH GRID
NATIONAL GRID

Channel Islands
U.T.M. GRID
ZONE 30U
Met. O./Carto/D.O./1297A