

DUPLICATE

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METEOROLOGICAL OFFICE
CLIMATOLOGICAL MEMORANDUM NO. 42A
1931-60 AVERAGE MONTHLY SEASONAL AND ANNUAL MAPS OF BRIGHT SUNSHINE
OVER THE BRITISH ISLES

by R. E. BOOTH

0112751

This memorandum is a revision of Climatological Memorandum No. 42.

The accompanying maps are now based on data given in the publication "Averages of Bright Sunshine over Great Britain and Northern Ireland, 1931-60" (MO 743) and also on data kindly supplied by the Director of the Meteorological Service of the Republic of Ireland whose co-operation the Director-General of the Meteorological Office acknowledges with appreciation.

The data were obtained from Campbell-Stokes sunshine recorders installed at 216 stations. In this instrument the duration of sunshine is recorded in the form of a scorch or burnt trace on a standardised graduated card by the rays of the sun focussed through a spherical lens. Only sunshine bright enough to scorch the card is recorded, and the term 'bright sunshine' is usually used to denote this. Measuring the duration of sunshine presents some difficulty owing to the spread of the burn, but observers are instructed how to make an allowance for this, and approximate uniformity of practice in this and other respects is aimed at by checking observers' estimates from time to time at Meteorological Office Headquarters.

The averages are expressed as monthly and annual means of the daily duration of bright sunshine in hours, and refer exclusively to the period 1931-60. Four seasonal maps are also included, each season being the mean of three months' data (e.g. Winter=Dec, Jan and Feb; Spring=March, April and May etc.). Values of any missing intervals of less than five years during the period have been computed by reference to the nearest station with comparable values in order to **complete** the record.

Similar monthly and annual maps for the period 1921-50 are available for comparison in Climatological Branch Memorandum No.8, and maps for the period 1901-30 are included in the Climatological Atlas of the British Isles MO 488 published by Her Majesty's Stationery Office in 1952. Averages for stations having ten or more complete years' observations in the 30-year period ending 1935 were published in MO 408, and similar averages for periods ending 1930, in MO 377.

Comparison of the monthly averages for the various 30-year periods shows that those for 1931-60 differ little from those for 1921-50 except that April seems to have become sunnier. However, the 1921-50 averages were generally somewhat lower than those of 1901-30 and 1906-35, apart from June and December, when amounts in the more recent period were greater over much of the country. Table I gives the average monthly and annual sunshine at various stations during the periods 1901-30, 1906-35, 1921-50 and 1931-60.

MO
Dup-3A
Met O 3a Bracknell
September 1966.

ORGS UKMO C Duplicate

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FitzRoy Road, Exeter, Devon. EX1 3PB

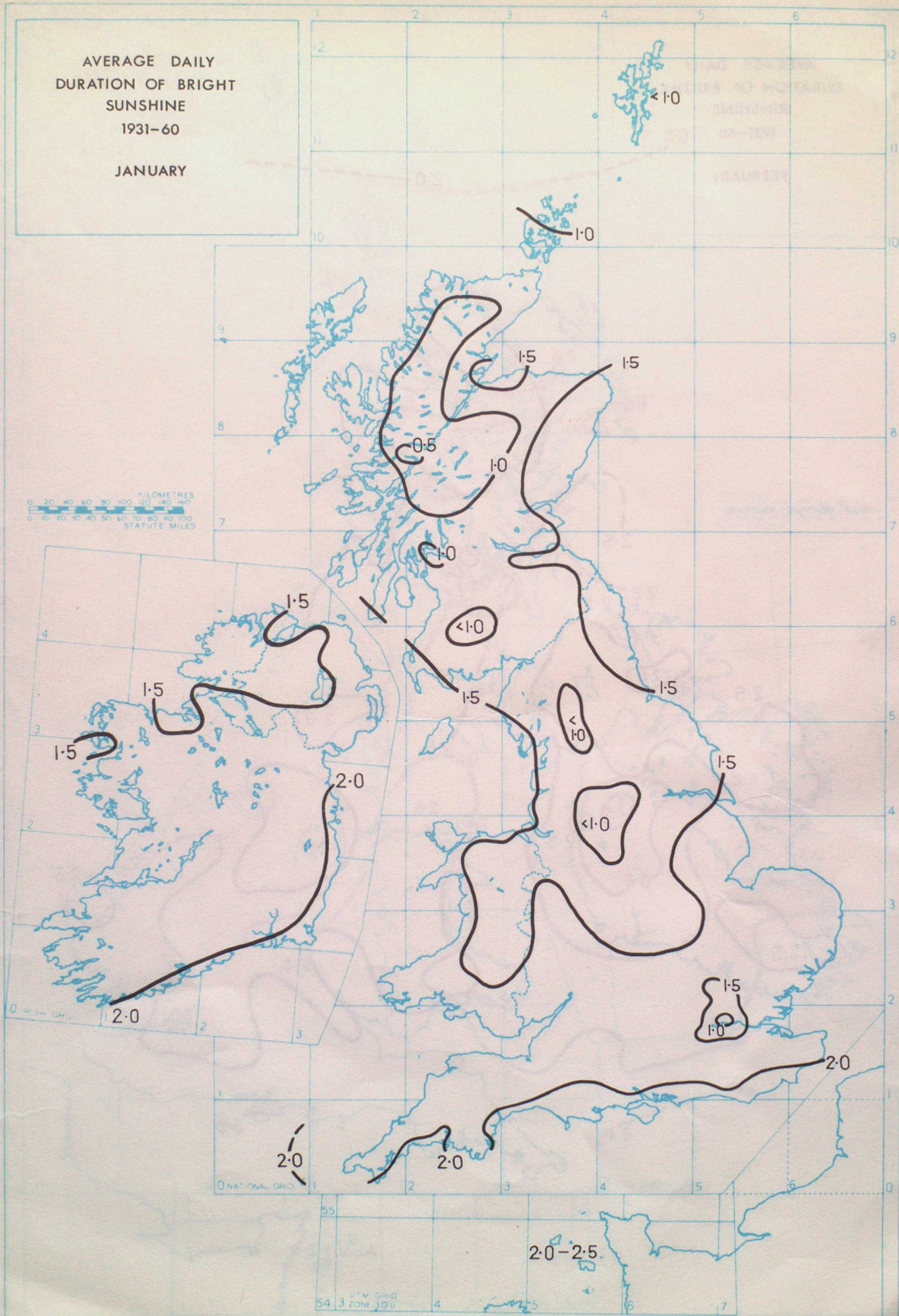
Table I - Comparison of averages of bright sunshine for different periods

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Newquay													
1901-30	1.82	2.80	4.29	6.00	6.83	7.24	6.72	6.15	5.24	3.65	2.54	1.63	4.58
1906-35	1.91	2.88	4.45	5.96	6.63	7.42	6.65	6.16	5.14	3.68	2.50	1.67	4.60
1921-50	1.82	2.68	4.42	5.89	6.82	7.52	6.29	6.15	4.99	3.64	2.40	1.68	4.53
1931-60	1.90	2.75	4.29	6.08	7.02	7.33	6.33	6.31	5.00	3.51	2.33	1.73	4.55
Eastbourne													
1901-30	2.01	3.00	4.34	6.04	7.85	7.82	7.66	7.07	5.91	3.85	2.66	1.67	5.00
1906-35	2.01	3.07	4.55	6.02	7.70	7.92	7.62	7.18	5.90	3.91	2.53	1.72	5.02
1921-50	1.99	2.87	4.72	6.03	7.56	8.16	7.67	7.23	5.55	3.93	2.37	1.87	5.01
1931-60	2.06	2.83	4.53	6.25	7.45	8.31	7.52	7.12	5.47	3.97	2.23	1.77	4.96
Kew													
1901-30	1.43	2.14	3.31	4.98	6.54	6.65	6.29	5.90	4.83	3.02	1.78	1.20	4.01
1906-35	1.41	2.16	3.49	4.87	6.40	6.76	6.25	5.91	4.88	3.10	1.77	1.21	4.02
1921-50	1.36	2.13	3.60	4.90	6.21	6.87	6.28	5.93	4.58	3.05	1.69	1.27	4.00
1931-60	1.49	2.26	3.64	5.34	6.40	7.11	6.39	6.07	4.75	3.15	1.77	1.28	4.16
Birmingham (Edgbaston)													
1901-30	1.38	1.91	2.88	4.37	5.66	5.94	5.52	5.21	4.10	2.81	1.75	1.08	3.56
1906-35	1.42	2.03	3.10	4.24	5.52	5.96	5.51	5.24	4.12	2.94	1.54	1.14	3.57
1921-50	1.34	2.00	3.19	4.40	5.38	6.07	5.38	5.23	4.00	2.90	1.63	1.16	3.56
1931-60	1.37	2.06	3.16	4.63	5.39	6.00	5.35	5.13	3.90	2.77	1.59	1.22	3.55
Morpeth (Cockle Park)													
1901-30	1.52	2.41	3.74	4.90	5.62	6.15	5.30	4.99	4.52	3.14	2.35	1.45	3.84
1906-35	1.66	2.46	3.67	4.67	5.45	6.02	5.25	4.89	4.47	3.14	2.20	1.42	3.78
1921-50	1.62	2.43	3.48	4.69	5.52	6.23	5.26	4.66	4.20	3.19	2.19	1.53	3.75
1931-60	1.79	2.62	3.35	4.89	5.64	6.04	5.26	4.65	4.21	3.09	2.05	1.53	3.76
Aberdeen													
1901-30	1.43	2.39	3.47	5.03	5.60	6.03	4.89	4.47	4.12	3.09	2.00	1.18	3.64
1906-35	1.50	2.46	3.51	4.81	5.49	6.02	4.91	4.50	4.21	3.04	1.95	1.21	3.64
1921-50	1.50	2.41	3.41	4.53	5.50	6.09	4.85	4.64	4.11	3.08	1.91	1.21	3.61
1931-60	1.64	2.66	3.31	4.80	5.72	5.98	4.98	4.65	4.24	3.00	1.81	1.32	3.71

AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE
1931-60

JANUARY

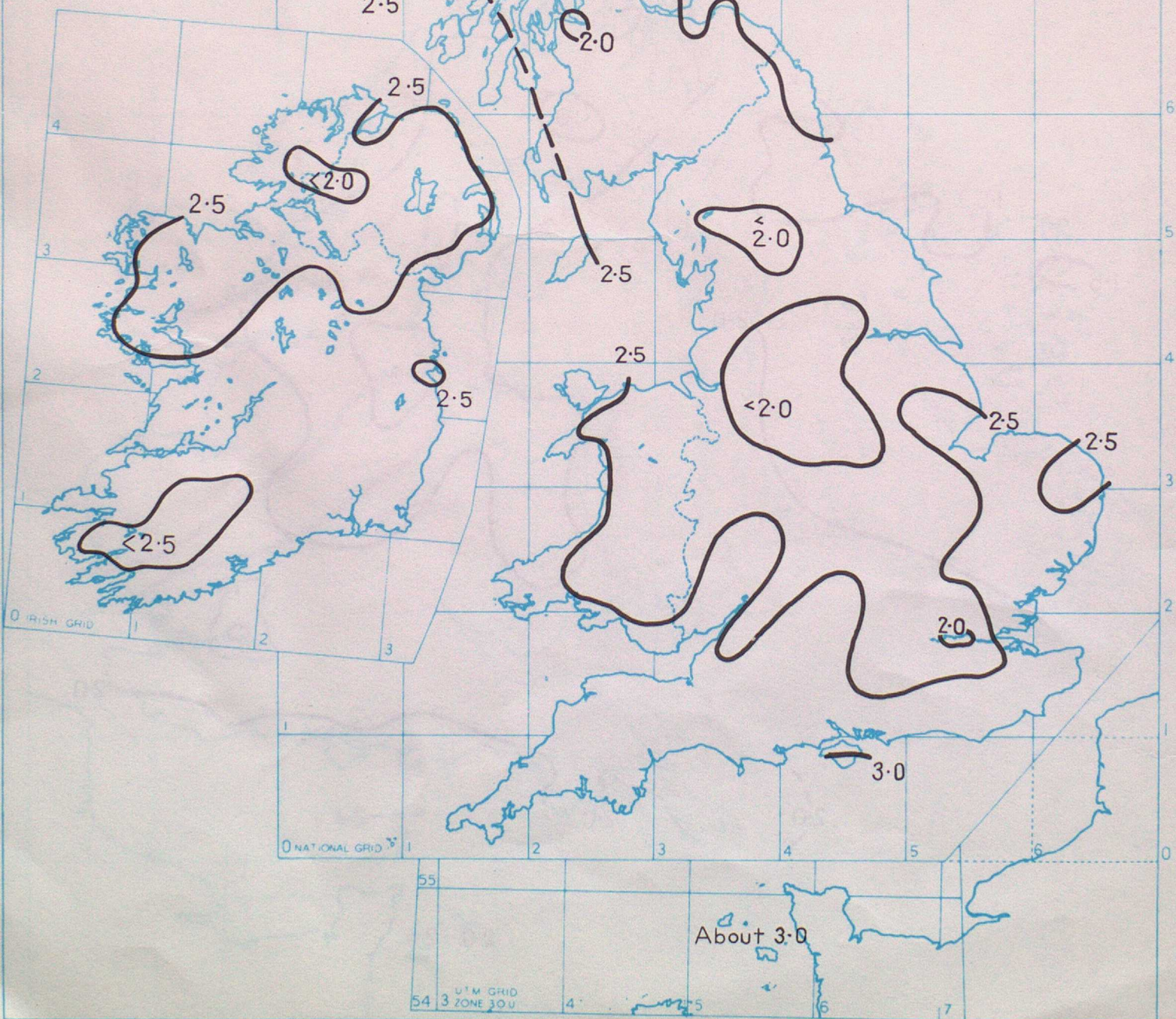
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STATUTE MILES
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AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE
1931-60

FEBRUARY

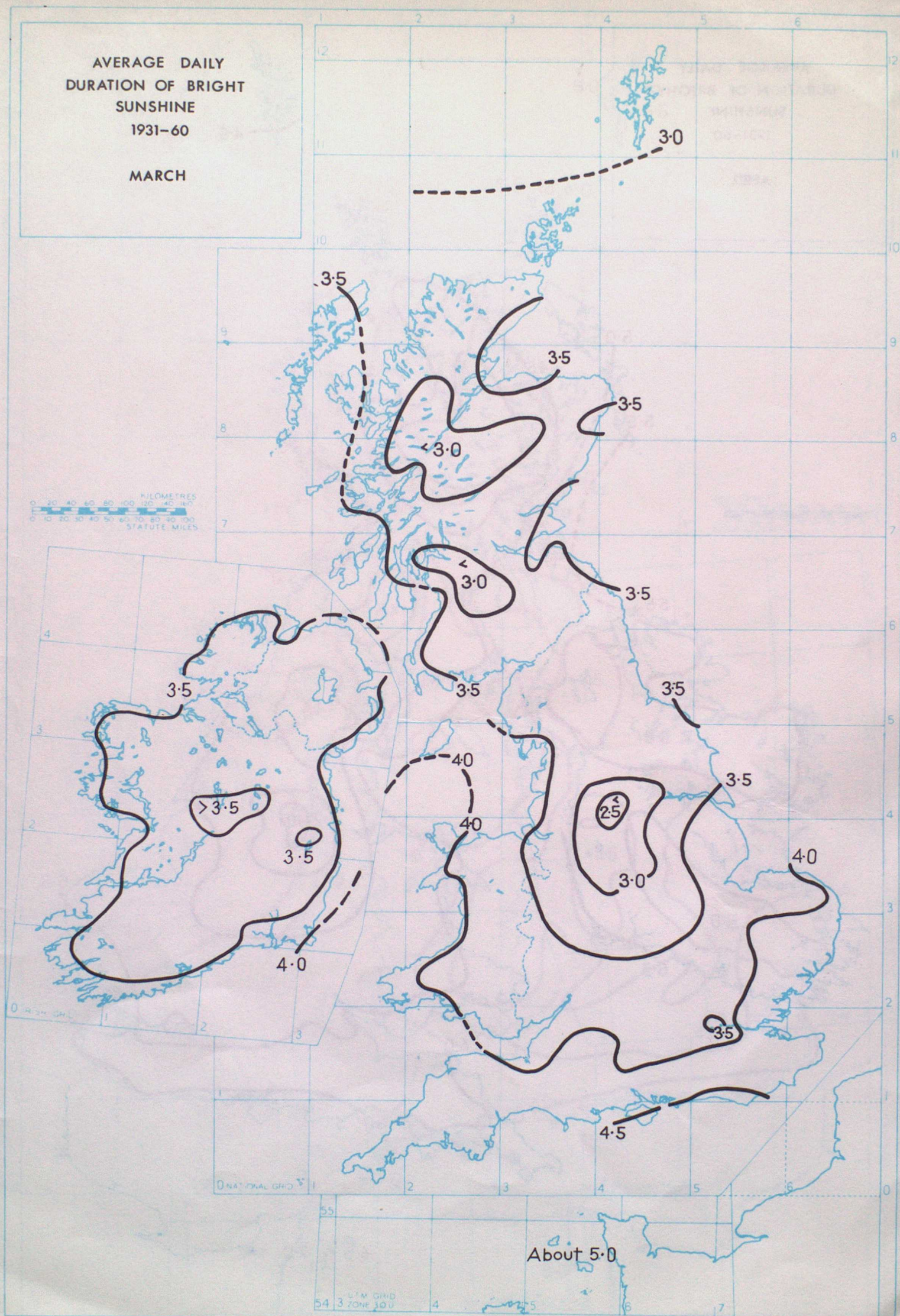
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KILOMETRES
0 10 20 30 40 50 60 70 80 90 100
STATUTE MILES



AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE
1931-60

MARCH

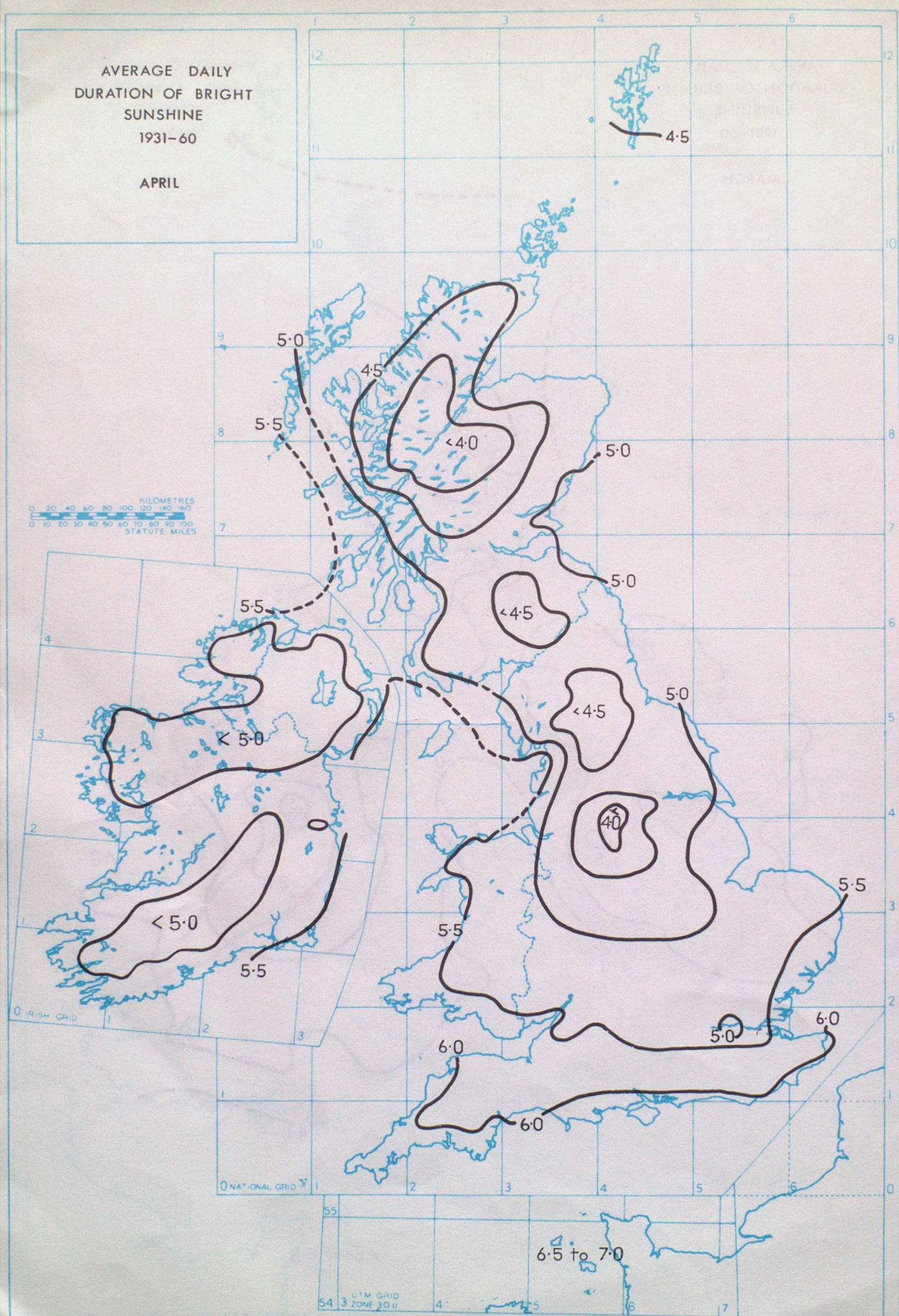
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KILOMETRES
0 10 20 30 40 50 60 70 80 90 100
STATUTE MILES



AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE
1931-60

APRIL

KILOMETRES
0 20 40 60 80 100 120 140 160
STATUTE MILES
0 10 20 30 40 50 60 70 80 90 100



AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE
1931-60

MAY

5.0 to 5.5

5.5 to 6.0

0 20 40 60 80 100 120 140 160
KILOMETRES
0 10 20 30 40 50 60 70 80 90 100
STATUTE MILES



AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE

1931-60

JUNE

KILOMETRES
0 20 40 60 80 100 120 140 160
STATUTE MILES
0 10 20 30 40 50 60 70 80 90 100



AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE

1931-60

JULY

4.0 to 4.5

4.5

4.5

< 4.0

5.0

5.0

5.0

5.5

5.5

< 4.5

4.5

< 4.0

4.5

5.5

6.0

5.5

6.0

< 5.0

5.5

6.0

6.0

6.0

6.5

7.0

7.5

7.5 to 8.0

7.5

8.0

KILOMETRES
0 20 40 60 80 100 120 140 160
STATUTE MILES
0 10 20 30 40 50 60 70 80 90 100

IRISH GRID

NATIONAL GRID

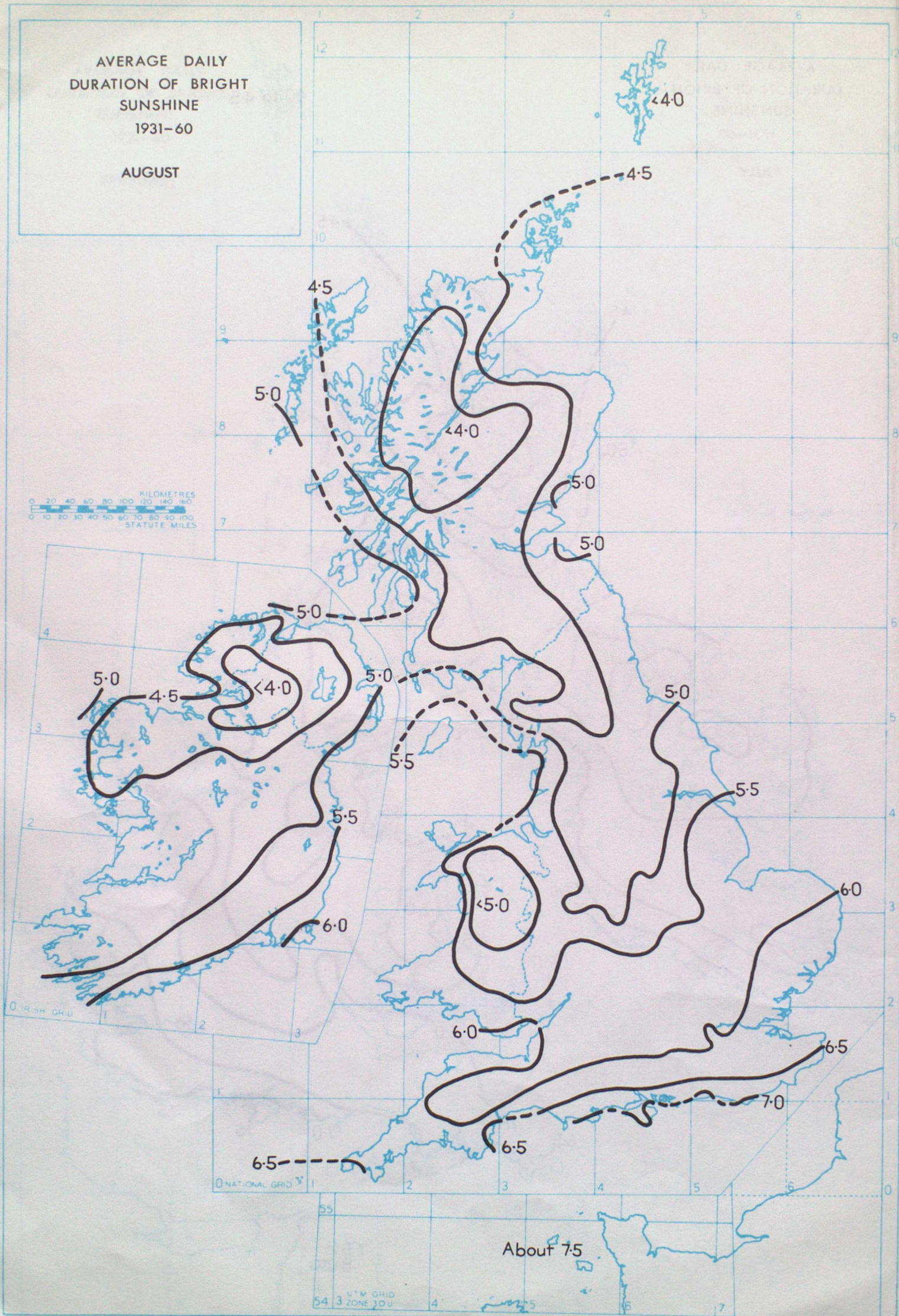
UTM GRID
ZONE 30U

AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE

1931-60

AUGUST

0 20 40 60 80 100 120 140 160
KILOMETRES
0 10 20 30 40 50 60 70 80 90 100
STATUTE MILES



AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE
1931-60

SEPTEMBER

About 3.5

4.0

4.0

3.5

<3.0

4.5

4.5

<3.5

4.0

<3.5

4.0

4.5

4.5

4.5

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4.5

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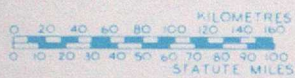
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5.5

5.0

5.5

About 5.5



0 NATIONAL GRID

54 3 UTM GRID
ZONE 30U

AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE
1931-60

OCTOBER

0 20 40 60 80 100 120 140 160
KILOMETRES
0 10 20 30 40 50 60 70 80 90 100
STATUTE MILES



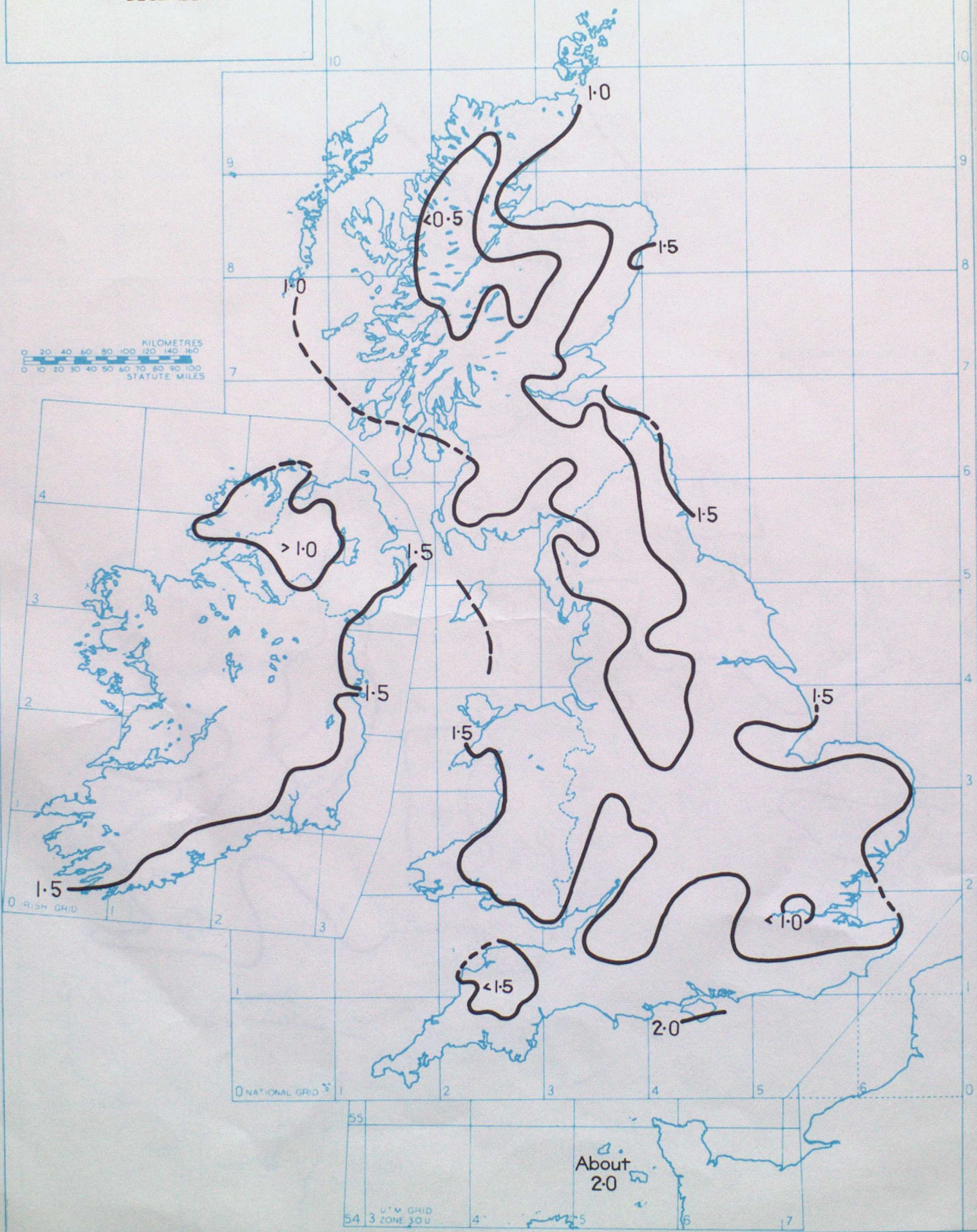
AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE
1931-60

NOVEMBER



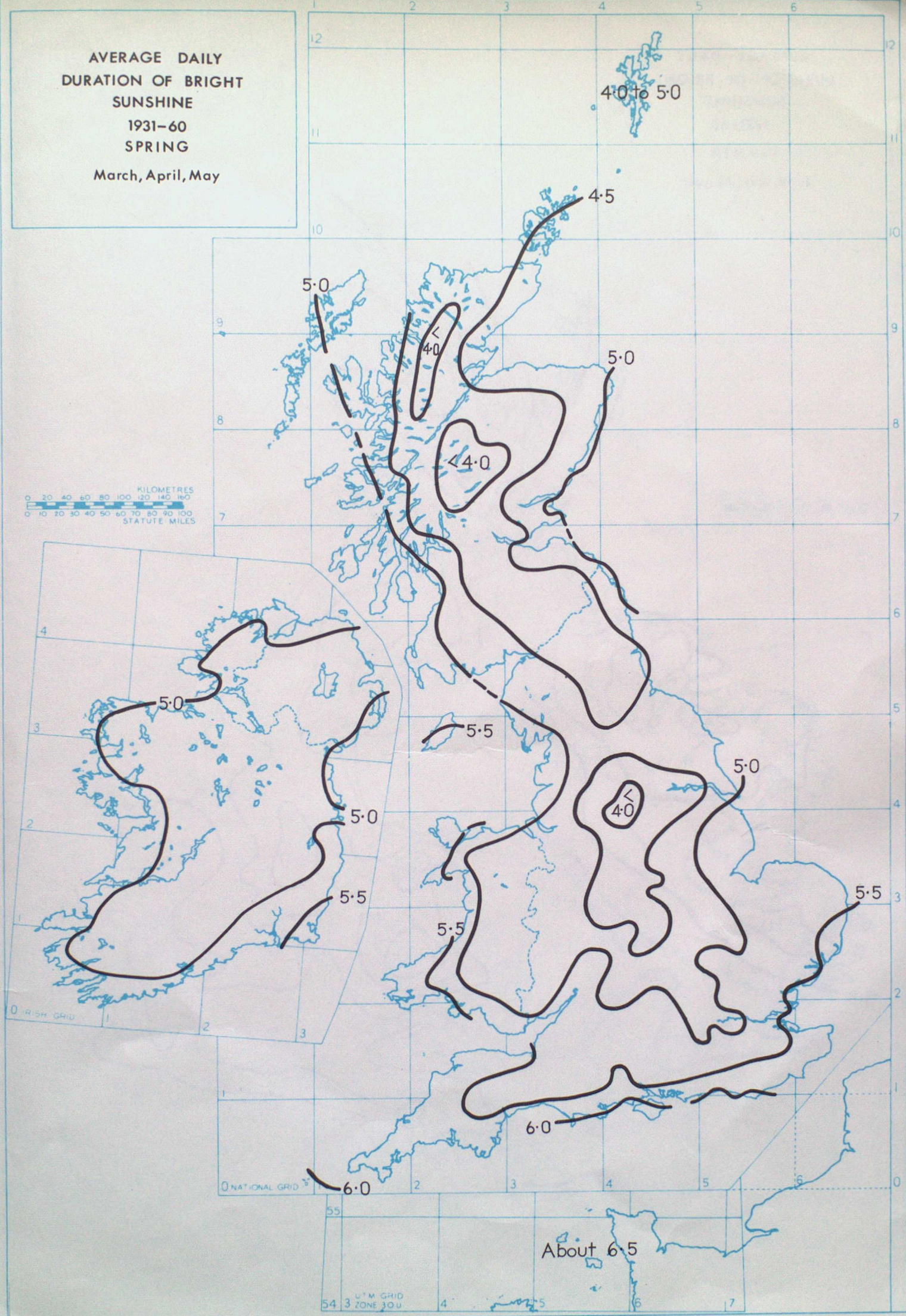
AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE
1931-60
DECEMBER

0 20 40 60 80 100 120 140 160
KILOMETRES
0 10 20 30 40 50 60 70 80 90 100
STATUTE MILES



AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE
1931-60
SPRING
March, April, May

0 20 40 60 80 100 120 140 160
KILOMETRES
0 10 20 30 40 50 60 70 80 90 100
STATUTE MILES



4.0 to 4.5

4.5

5.0

< 4.0

4.0

5.5

< 5.0

5.5

6.0

6.0

6.5

< 5.0

< 5.0

< 5.0

6.5

7.0

7.0

7.0

About 8.0

UTM GRID
54 3 ZONE 30U

RUSH GRID

0 NATIONAL GRID

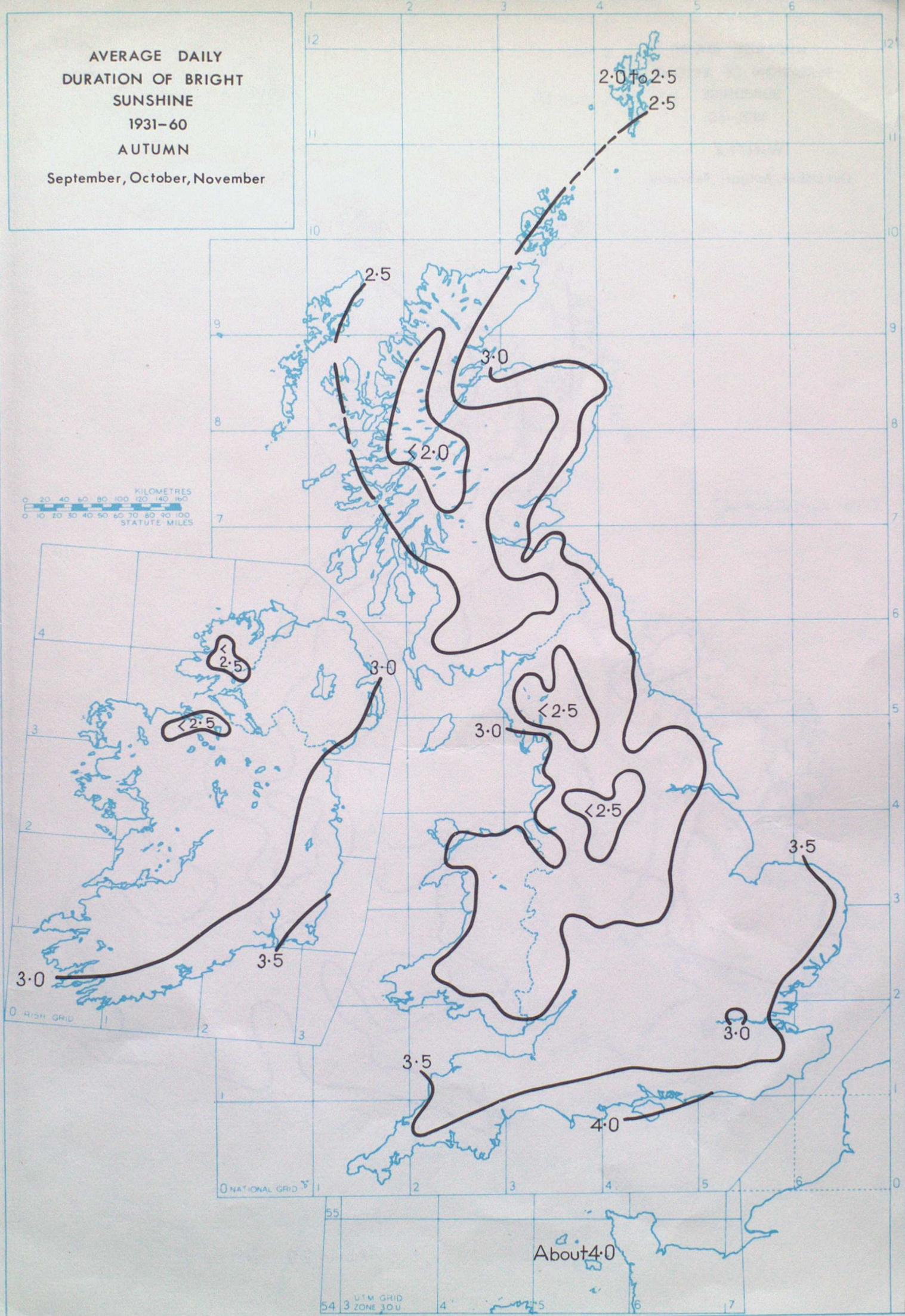
54	3	UTM GRID ZONE 30U
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About 8.0

AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE
1931-60
AUTUMN

September, October, November

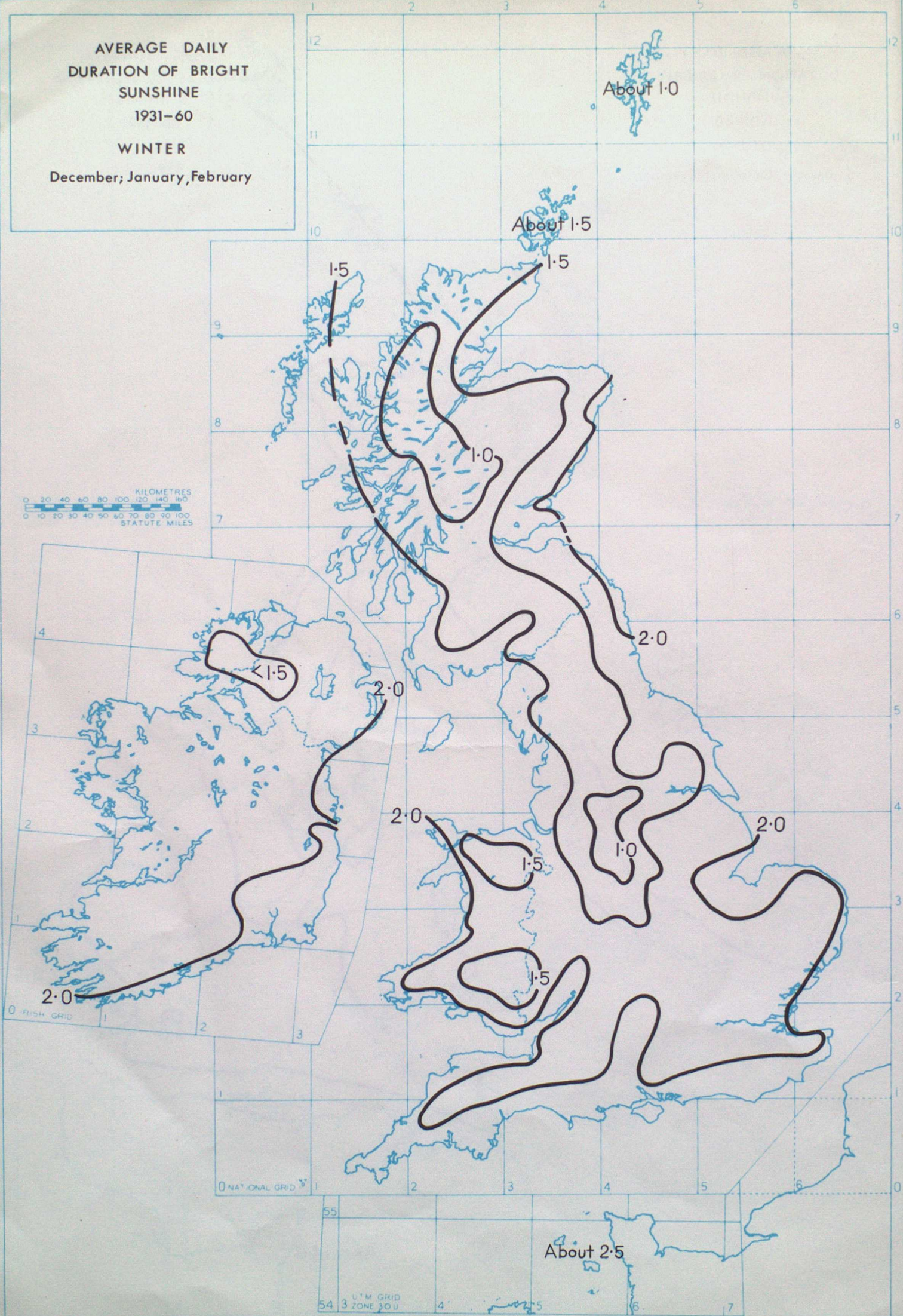
0 20 40 60 80 100 120 140 160
KILOMETRES
0 10 20 30 40 50 60 70 80 90 100
STATUTE MILES



1931-60

WINTER

December; January, February



AVERAGE DAILY
DURATION OF BRIGHT
SUNSHINE
1931-60

YEAR

0 20 40 60 80 100 120
KILOMETRES
0 10 20 30 40 50 60 70 80 90 100
STATUTE MILES

