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DEPARTMENT OF TRANSPORT - METEOROLOGICAL SERVICE

CLIMATOLOGICAL NOTE No. 6.

SEA WATER TEMPERATURES AT MALIN HEAD

(1959 - 1980)

by

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(replacement for)

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(This Note brings up to date Climatological Note No. 4, Sea Water Temperatures at Malin Head, by M. O'Cathain, D. O'Regan and F.E. Dixon, based on data for the period 1959 to 1974).

A tide gauge station is maintained by the Irish Ordnance Survey at Portmore Pier, Malin Head, Co. Donegal. (See Fig. 1). Check readings of the recorder are made twice each day by the staff of the nearby meteorological station. The times of the readings are controlled by the state of the tide but are all between 08 and 18h GMT. In association with these check readings of the water level observations are made of the temperature of the water within the recorder well. Until November 1971 the thermometer was within a sea-thermometer protector. More recent measurements were made using instead the standard meteorological sea bucket. The purpose of this note is to present the sea water temperatures obtained during the period 1959 to 1980. The assistance of Mr. J. O'Hagan (Ordnance Survey Office, Phoenix Park, Dublin) in supplying some of the earlier data is much appreciated. There are, however some small gaps, resulting mainly from the impossibility of reaching the tide gauge in stormy weather. From the nature of the data it is reasonable to interpolate for these occasions, and such estimated figures have been used in calculating the monthly, seasonal and annual means.

Table 1 includes the mean sea temperature for each month and year, together with the extreme values. The last line of the table shows the mean monthly air temperature for the same 22 years. Only in May and June is the air warmer than the sea, and the largest difference between sea and air temperatures occurs in November.

The monthly means of sea and air temperature are plotted in Figure 2, and show that the extremes of sea temperature lag behind those of air temperature by about two weeks.

Figure 3 shows the seasonal and annual mean sea temperatures from 1959 to 1980 (winter being defined as January to March etc.). It seems unwise to attempt to draw any firm conclusions from these graphs regarding periodicities or trends.

Table 1.

## MALIN HEAD SEA TEMPERATURES (°C) 1959-1980 - MEANS AND EXTREMES

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year	Max.	Min.
1959	7.2	6.9	7.9	8.9	10.8	13.6	15.0	15.6	15.2	14.1	10.9	8.9	11.2	16.1	6.1
1960	7.9	6.9	7.2	8.7	11.0	(13.7)	14.8	15.3	14.8	12.6	10.2	8.4	11.0	15.6	6.1
1961	7.1	7.4	8.5	9.2	11.2	12.7	13.7	14.3	14.0	12.4	10.3	8.2	10.7	15.2	6.5
1962	6.9	7.2	6.6	7.6	9.9	12.1	13.2	14.4	13.8	12.6	10.5	8.6	10.3	14.9	6.2
1963	5.8	4.9	5.9	7.5	9.2	12.1	13.4	14.2	13.6	12.1	10.3	8.1	9.8	14.4	4.2
1964	7.6	7.1	6.9	8.3	10.6	12.2	13.9	14.7	14.2	12.6	11.0	8.9	10.7	15.2	5.8
1965	7.4	6.9	6.6	8.1	9.9	11.9	13.9	14.3	13.2	12.3	9.9	7.9	10.2	14.7	5.9
1966	6.8	6.4	7.4	7.2	9.8	12.3	14.6	14.5	14.3	12.7	9.9	8.1	10.4	15.1	5.5
1967	7.6	7.3	7.3	8.4	9.8	12.4	13.9	14.7	14.2	12.1	9.6	8.4	10.5	15.1	6.7
1968	7.4	6.7	7.3	8.2	9.2	12.0	13.9	14.3	14.6	13.3	10.3	8.7	10.5	15.2	6.2
1969	7.6	6.1	5.9	7.6	9.3	11.9	14.3	15.2	14.6	13.4	10.4	8.4	10.5	15.6	5.3
1970	7.3	6.6	6.7	7.6	10.0	12.6	13.2	14.2	13.8	12.3	10.1	8.9	10.3	14.4	6.2
1971	7.9	7.4	7.8	8.8	10.5	11.8	13.9	14.0	14.8	13.3	10.6	9.4	10.9	15.6	6.7
1972	7.7	6.7	6.8	8.2	9.8	11.2	13.1	13.4	13.3	12.6	10.0	8.2	10.1	14.5	5.9
1973	7.7	7.4	7.6	8.3	9.7	12.2	14.2	14.6	14.6	12.3	10.2	8.4	10.6	15.4	6.4
1974	7.6	7.3	7.4	9.1	10.3	12.4	13.9	14.9	13.7	11.5	9.1	8.4	10.5	15.2	6.4
1975	7.8	7.0	7.2	8.0	9.9	12.2	14.2	15.9	14.6	12.5	10.7	9.1	10.8	16.5	6.7
1976	8.4	7.1	7.4	8.7	10.5	12.8	14.7	15.6	13.5	11.8	9.9	7.9	10.7	16.4	6.5
1977	6.9	6.2	7.2	7.8	9.9	11.3	13.8	14.4	13.5	12.4	9.9	8.1	10.1	15.2	5.9
1978	7.2	5.9	6.7	7.6	9.2	12.0	12.6	14.1	14.2	12.9	11.2	8.6	10.2	14.6	4.9
1979	6.6	5.7	6.0	6.8	8.6	11.1	13.2	14.3	13.8	12.4	10.2	8.9	9.8	14.7	4.7
1980	7.0	6.9	7.1	8.3	10.4	12.1	13.6	14.7	14.5	12.1	10.1	8.6	10.5	15.5	6.2
Mean	7.3	6.7	7.1	8.1	10.0	12.2	13.9	14.6	14.1	12.6	10.2	8.5	10.4		
Max.	9.0	8.2	8.9	10.1	12.4	14.9	15.6	16.5	15.8	15.3	13.1	10.3			
Min.	4.5	4.2	4.3	6.0	7.3	10.0	11.7	13.0	12.4	9.9	8.1	6.8			
Mean air temp.	5.3	5.3	6.3	7.8	10.1	12.6	13.8	14.1	12.9	11.0	7.4	6.3	9.4		

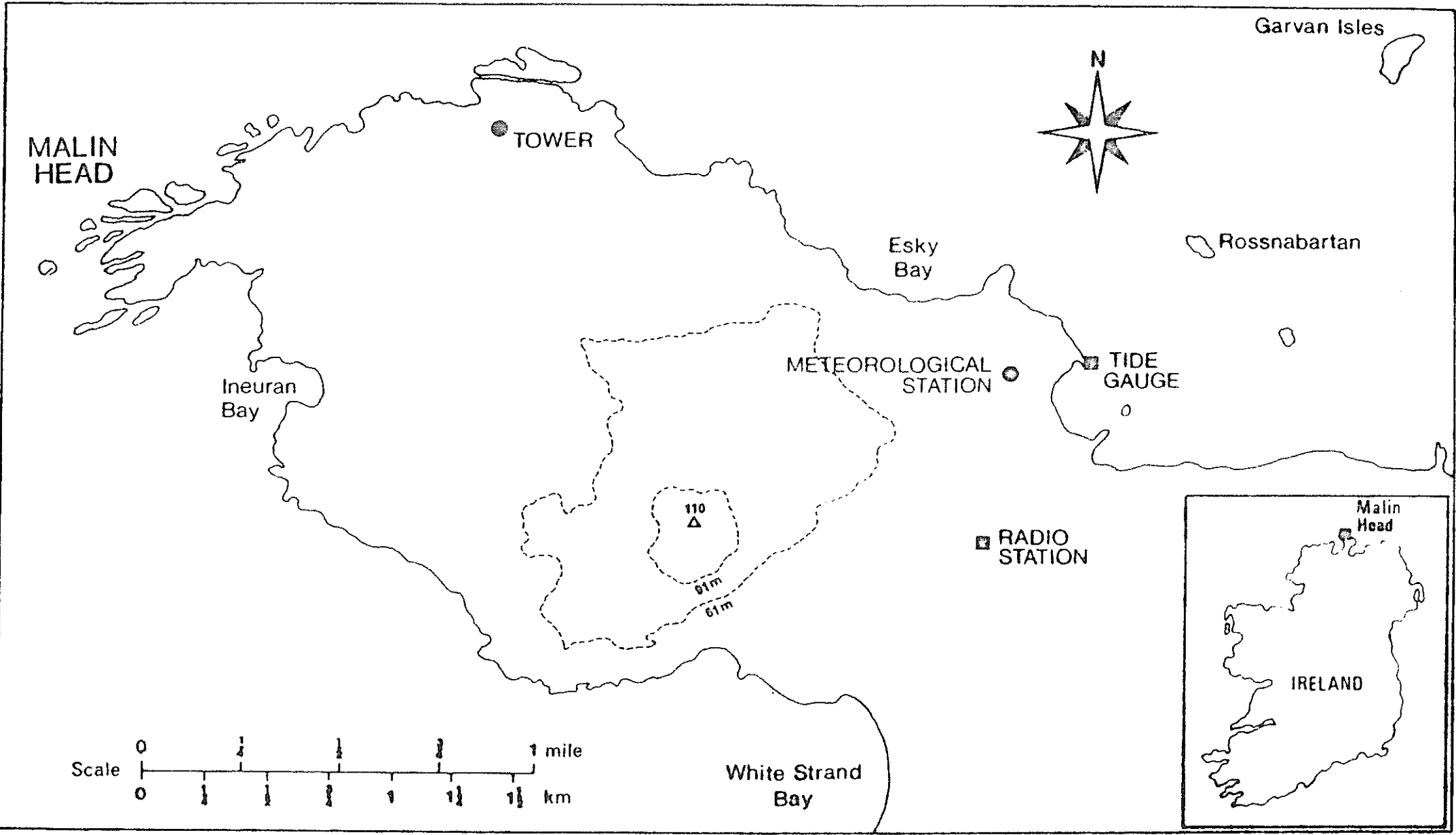


Fig. 1. Location of Malin Head and the Tide Gauge.

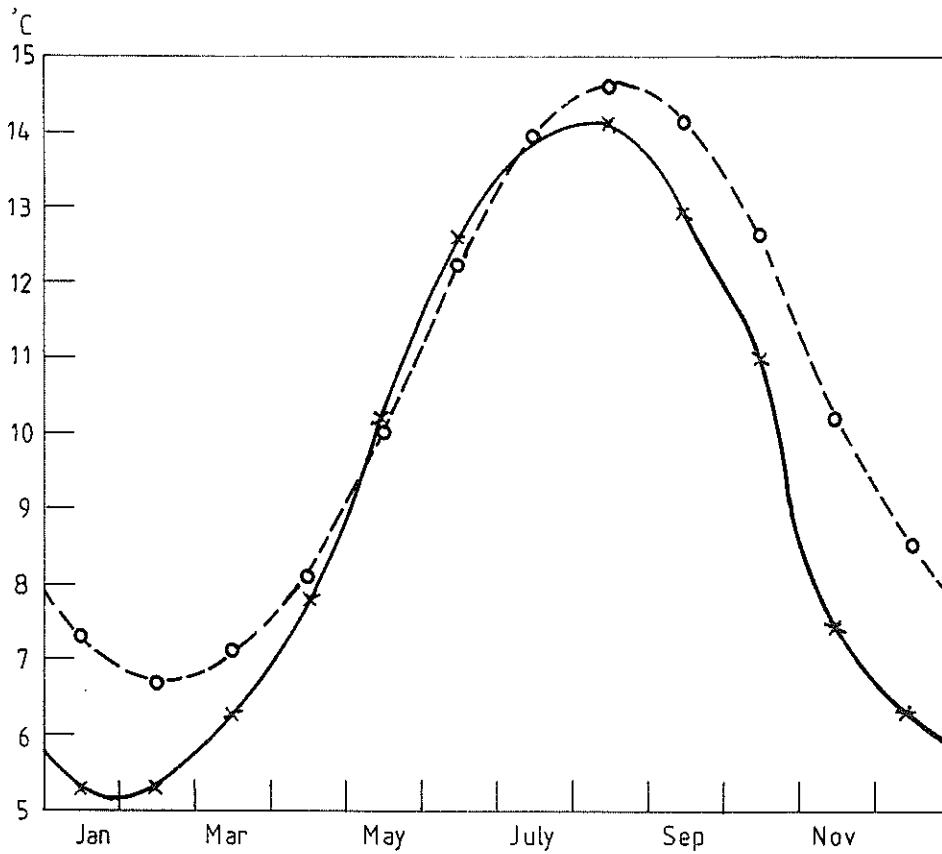


Fig. 2. Monthly mean sea (●) and air (x) temperatures 1959-1980, at Malin Head.

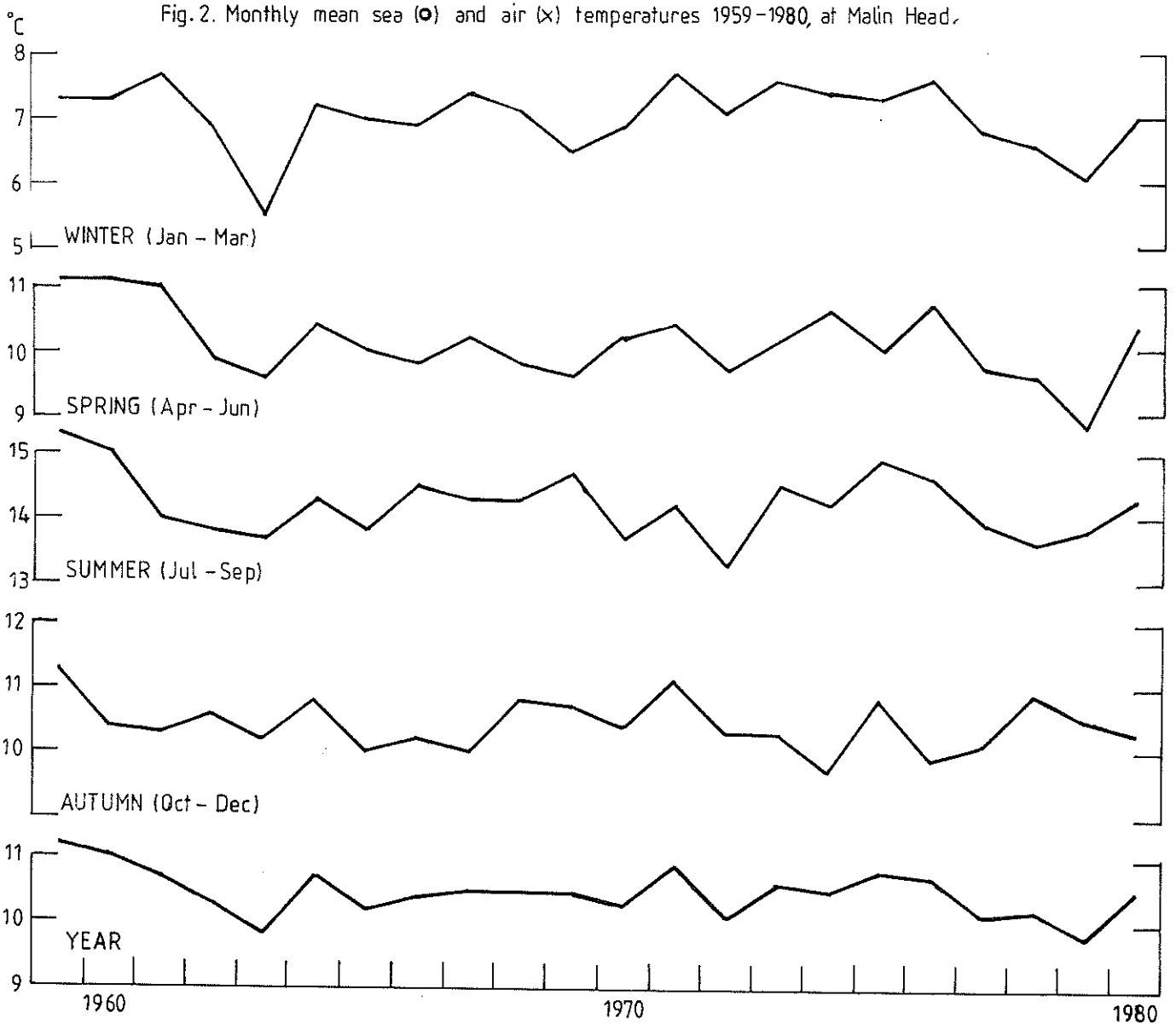


Fig. 3. Seasonal and annual mean sea temperatures, at Malin Head.