

Bottom Temperature and Salinity in the North Sea  
during the ICES Young Herring Survey  
in February 1975

by

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On the basis of the hydrographic observations carried out during the ICES Young Herring Survey in 1975 charts showing the distribution of bottom temperature and salinity in the North Sea have been prepared. From the surveys only the data collected within the month of February were used for the charts. This material, however, was supplemented with observations made by other vessels in February 1975. The charts are presented in this document.

Furthermore, a comparison of bottom temperature and bottom salinity in February 1975 with the long-term means was undertaken. As standards were used the February mean charts of the publications referred to below, i.e., the base period is 1902-1954. All stations worked in February 1975 were plotted in enlarged mean charts. The long-term means were interpolated for these points, and the 1975-values were compared to them. The last two figures of this document show the result of the comparison. In the figures isanomals of bottom temperature and bottom salinity, respectively, have been drawn. Areas of negative anomalies have been hatced in the figures.

The figure illustrating the distribution of the temperature anomaly shows that, with the exception of a patch at the Orkney Islands, the bottom water of the whole North Sea is warmer than normal. In the northern North Sea the anomalies, except for minor areas, are below  $0.5^{\circ}$ . In the central and southern parts of the North Sea temperatures are in the main  $0.5^{\circ}$  to  $1^{\circ}$  above normal. Over the central part of the Dogger Bank temperatures are  $1^{\circ}$  to  $1.5^{\circ}$  above normal; in the Southern Bight, the German Bight and off Jutland they would seem to be  $1^{\circ}$  to  $2^{\circ}$  above normal, near the coast of Jutland even  $2^{\circ}$  to  $3^{\circ}$  above.

Salinity is below normal (up to  $0.1\%$  below) in the northwestern part of the North Sea, in a patch near the Orkney Islands even  $0.1$  to  $0.3\%$  below. It is also below normal over parts of the Dogger Bank (up to  $0.2\%$  below) and in a tongue of water in the Southern Bight (about  $0.1\%$  below normal). In the rest of the North Sea salinity is above normal, with anomalies mainly less than  $0.1\%$ .

However, in the eastern part of the Southern Bight, in the German Bight, and off Jutland salinity is 0.1 to 0.2‰ above normal, in parts of the German Bight even 0.5‰ or more above. Also, in an area off the coast of England salinity is 0.1 to 0.3‰ above normal.

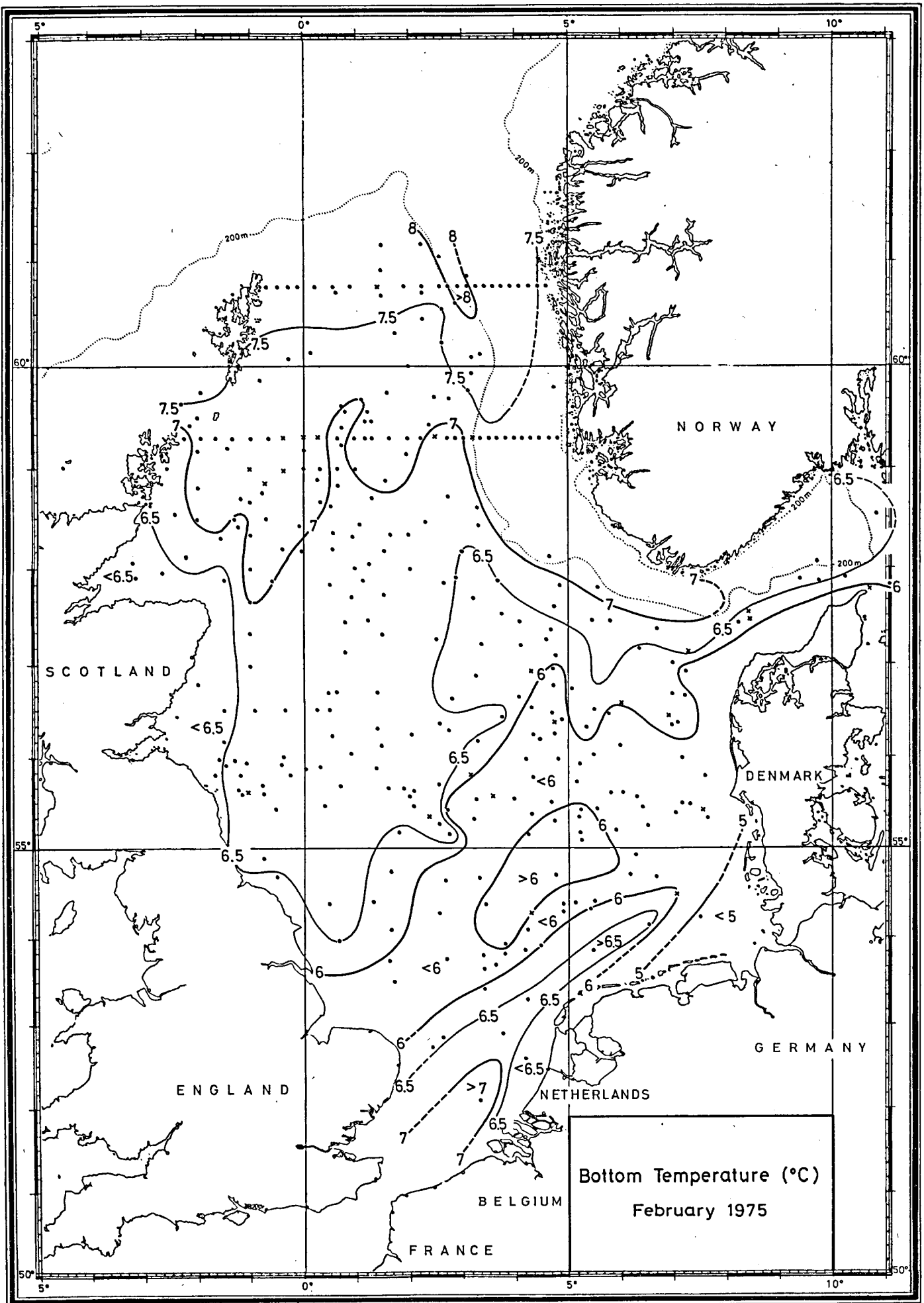
### Discussion

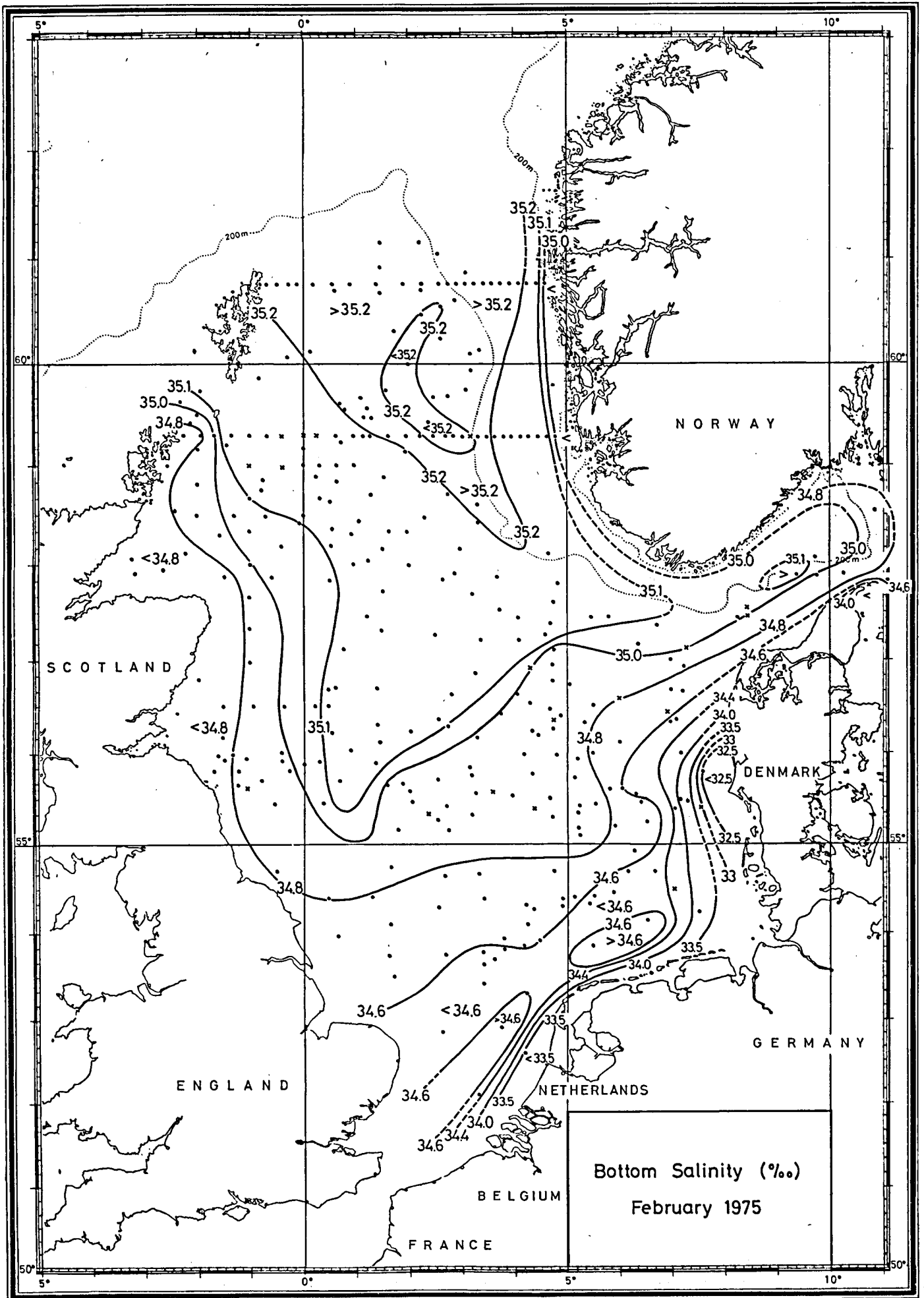
The high temperature of the waters of the North Sea in February 1975 may be considered a consequence of the high air temperatures in the region during the months of the winter 1974/75.

With regard to the salinity the values below normal mainly occur in the regions of inflow of Atlantic water, i.e., in the northwest and in the south. The distribution of salinity anomalies would therefore seem to indicate either a below normal inflow of Atlantic water, or that the salinity of the inflowing Atlantic water is below normal.

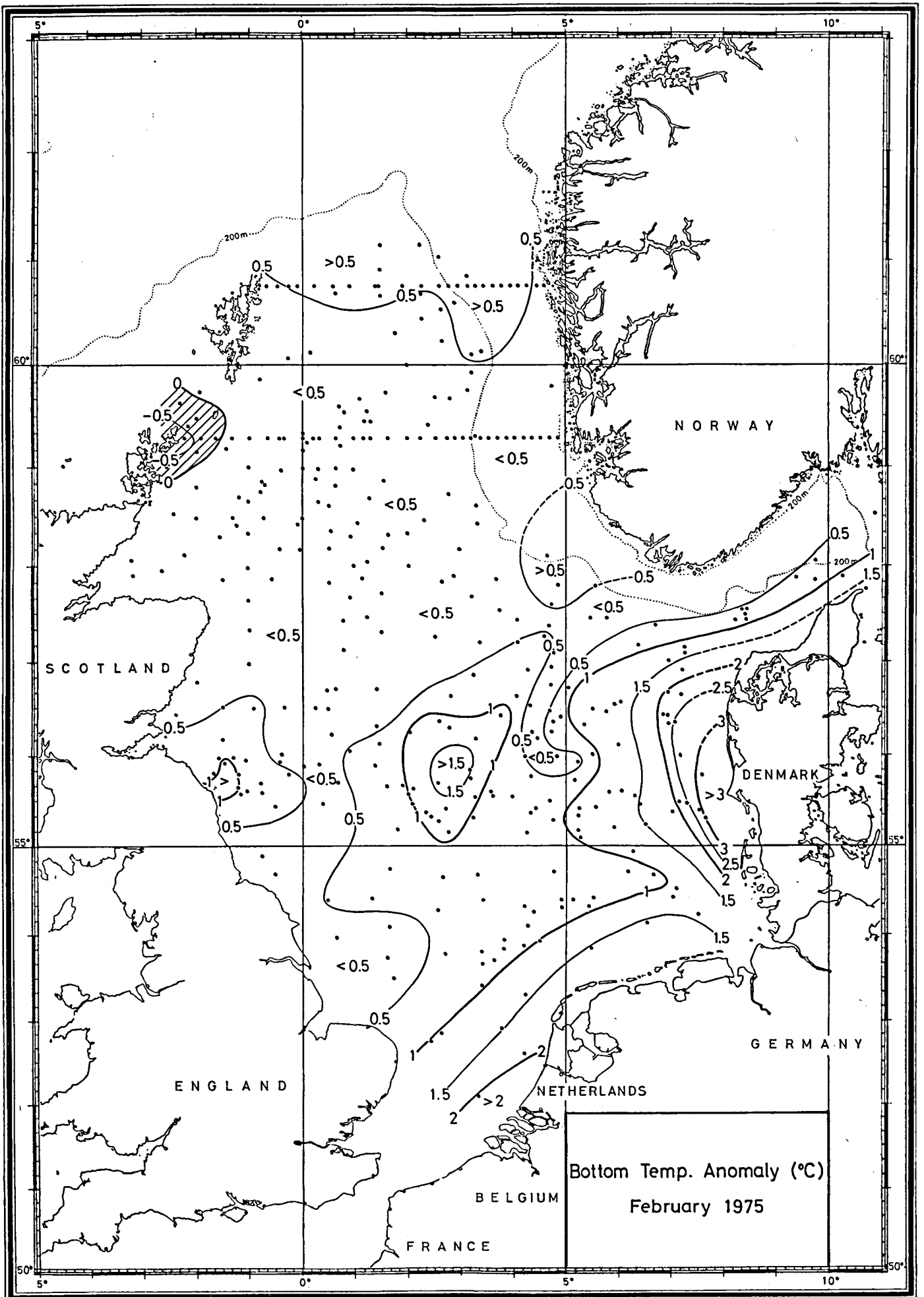
### References

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Bottom Salinity (‰)  
February 1975



Bottom Temp. Anomaly (°C)  
February 1975

