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Introduction to the Hydrography Chapter  
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The survey of the sea surface temperature in the northern North Atlantic (Smed) unfortunately lags one year behind. In all of the sub-areas, with one exception, temperature was lower in 1972 than in 1971. The decrease is small in the easternmost part of the area (round eastern Iceland even an increase is recorded) whereas in the rest of the area a decrease of the magnitude  $\frac{1}{2}^{\circ}$  to  $1^{\circ}$  is found. In accordance with this picture is the slight decrease found in the area off the eastern coast of Scotland (Smed, p. ).

The favourable conditions in North Icelandic waters in spring 1972 were also found in spring 1973 (MalMBERG). The ice conditions were about the same as in the "good" period 1951-1960. The Atlantic influx into these waters was the strongest since 1964, and the Polar water component north and northeast of Iceland was the weakest since 1963. Thus a significant amelioration has taken place in 1972 and 1973. It is true that later in the year (July-August) the International O-Group Fish Survey (p. ) found surface layer temperatures to the NE, N and NW of Iceland, as well as in the Greenland Sea,  $1^{\circ}$ - $2^{\circ}$  lower than in 1971 and 1972. It is suggested, however, that this lower heat content of the surface layer is due to disturbance of the thermocline layer by wind action rather than to a reduced intensity of the Atlantic inflow.

Observations of temperatures at 0 m and 50 m around the Faroe Islands and Faroe Bank in early July showed (Ellett) values  $\frac{1}{2}^{\circ}$ - $1^{\circ}$  lower than at the same time in 1972.

Information on the hydrographic conditions in the Norwegian Sea is available from observations made in connexion with the Joint Soviet-Icelandic fish surveys in May-June (p. ). In early June the Atlantic influx through the Faroe-Shetland Channel was below normal, with the lowest temperatures observed during the last 20 years (about  $0.8^{\circ}$  below normal). The temperature in the Norwegian Current was observed on a number of latitudinal sections. In the south ( $63^{\circ}$ N) temperature was about normal in the 0-200 m layer,  $0.6^{\circ}$  above normal in the 200-500 m layer. In a number of sections in the zone  $65^{\circ}$ N- $70^{\circ}$ N temperatures were above normal in all layers, the anomalies varying from  $0.3^{\circ}$  to  $1.2^{\circ}$ . North of  $70^{\circ}$ N temperatures were normal or slightly below.

In the southern Barents Sea temperatures were high, especially from January to August (Sarynina). During the last 25 years the water temperature on the standard sections has only been higher in 1950 and 1954. The data collected in August-September in connexion with the International O-Group Fish Survey (p. ) corroborate this picture: temperatures were similar to those found in the warm year 1972. Of special interest is that whereas the temperature of the 50-200 m layer in the Murman Current was the highest recorded in the period 1965-1973 the surface temperature was about 1° colder than in 1972. This would seem to indicate an intensive advection of warm water in 1973 whereas in 1972 the warm conditions were mainly attributable to high solar radiation.

The conditions in the North Sea are illustrated by a number of contributions. According to the material from the Young Herring Survey bottom temperature in February is above normal (1902-1954) in the whole North Sea (Smed). Generally the anomaly is below 1°, but in parts of the central and southern North Sea it is 1°-2°. Positive anomalies are also dominating in bottom salinity. In the central part the anomaly is below 0.1‰; on the coast of England and in the Southern Bight, however, it reaches 0.5‰.

A radiological survey by "Gauss" in April-May covers most of the North Sea. Wegner shows that surface temperature is normal (1902-1954) except for an area north of the Dogger Bank where it is more than  $\frac{1}{2}$ ° above. Temperature at bottom is only a few tenths of a degree lower than at surface. The surface salinity deviates clearly from the normal in so far as the Atlantic water from the north in spring 1973 forms a much broader tongue at the surface, covering the central North Sea from Flamborough Head to Small Fisher Bank. The distribution of bottom salinity is similar to that of surface salinity.

Information on the hydrographic situation in July in the North Sea off the coast of Scotland and northern England, and in the waters off the British west coast, is presented by Becker, on the basis of observations by "Walther Herwig". In the North Sea region covered the conditions deviate only slightly from the long-term means.

Again in the first half of October the North Sea is quite well covered by observations, originating from a radiological survey with "Komet" and presented by Huber and Becker. There is a somewhat increased influence of Atlantic water in the northern and central North Sea. Below normal salinities along the Norwegian coast indicate a stronger than normal outflow of Baltic water. In general, temperatures and salinities did not deviate much from the long-term means.

On the basis of data from a cruise with "Anton Dohrn" in the first half of December Becker presents two sections in Skagerrak and a section Bergen-Shetland. The bottom water temperature decreased from slightly above 7° at the northern entrance to the Norwegian Deep to below 6° in the section Skagen-Torungen.

Monthly means of temperature observations at English and Welsh coastal stations are presented by S.R. Jones for both 1972 and 1973, so that this series is now complete from 1968 onwards.

From the Southern Bight and the German Bight 3 Dutch light vessels supplies monthly means and anomalies (standard: 1961-1970) of surface temperature and salinity (Wiggers). A conspicuous feature for all 3 stations is high temperature anomalies in the first three months (about 1.5° for the two southern stations, about 2.5° for the northern), negative anomalies in the last three months. The same picture presents the surface temperature at the German light vessels of the German Bight (Prahm) and also at the Danish L.V. "Vyl" (Stougaard Nielsen) at the northern outskirts of the Bight. Taken over the year the surface salinity of the German Bight shows a conspicuous predominance of positive anomalies.

Data from 3 stations in the Skagerrak-Kattegat region are supplied by Svansson. The mean deviations (standard: 1931-1960) of temperature and salinity at 5 m depth at Bornö Station was 0.6° and 0.0‰. A comparison of data from the three light vessel stations "Anholt Knob" (Kattegat), "Halsskov Rev" (Great Belt) and "Gedser Rev" (Western Baltic), all supplied by Stougaard Nielsen, is interesting. They all show a very low surface salinity in January, indicating outflow from the Baltic. All three stations show positive anomalies of surface and bottom temperatures during at least the first 6 months of the year. Negative anomalies are dominating in the last month of the year. The same picture presents the temperature data from two other stations in the Western Baltic, viz., L.V. "Fehmarnbelt" (Prahm) and Christiansø (Stougaard Nielsen).

From the Baltic proper Engström and Fonselius present figures indicating an inflow of new water to the Arkona Deep in February-March. Longitudinal sections for dissolved oxygen, from the Arkona Basin to the Gotland Deep, illustrate the conditions in January, May and September. Maps for the same months show the oxygen deficient deep areas and the distribution of hydrogen sulphide.

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