

CRUISE REPORT FROM R/V ARGOS

Survey period: 990222-990228

Survey area: The Skagerrak, the Kattegat, the Sound,
and the Baltic Proper

Principal: SMHI

SUMMARY

The expedition was performed within SMHI's regular marine monitoring program and covered the Skagerrak, the Kattegat, the Sound and the Baltic Proper. Mapping for the winter pool of nutrients in the Baltic was performed. The weather during the first part of the expedition was dominated by strong northerly winds while during the later part weak to moderate winds from south to southwest dominated. Nutrient concentrations were at typical winter levels in all areas. High oxygen saturation and high fluorescence values in the northern Kattegat indicated that the spring bloom had just started in this area. Oxygen concentrations under 2 ml/l were found at depths greater than 70-90 meters in the whole Baltic and hydrogen sulphide at depths greater than 150 m in the eastern Gotland basin

PRELIMINARY RESULTS

The expedition, which was part of SMHI's regular marine monitoring programme, started in Göteborg and ended in Karlskrona. It covered the Skagerrak, the Kattegat, the Sound and the Baltic Proper. Mapping for the winter pool of nutrients in the Baltic was performed. The weather during the first part of the expedition was dominated by strong northerly winds while during the later part weak to moderate winds from south to southwest dominated.

The Skagerrak

Surface temperatures varied between 3.7 and 4.2°C. The salinity in the upper layer was somewhat higher than normal and there was no distinct halocline.

At the Swedish and Danish coasts, the concentrations of nitrogen and silicate was higher than normal, 15 and 8 µmol/l respectively, while phosphate showed for the season, typical values.

The Kattegat and the Sound

The surface water temperatures varied between 3.7 and 4.2°C. The halocline and thermocline was found at the same depth app. 15 m. Concentrations of nitrogen and phosphate were normal for the season while silicate showed enhanced values. Oxygen saturation in the surface water was over 100% and there were some strong peaks in fluorescence, indicating that the spring bloom had just started. The lowest oxygen value in the bottom water was found in the Sound 5.5 ml/l corresponding to 77% saturation.

The Baltic

Surface water temperatures varied between 1.7 and 2.7°C. The halocline and thermocline was found at a depth of 30 to 40 meters in the south and at 60 to 70 meters in the rest of the Baltic Proper.

All nutrients showed typical winter concentrations in the surface layer.

Oxygen concentrations under 2 ml/l were found at depths greater than 70-90 meters in the whole Baltic and hydrogen sulphide at depths greater than 150 m in the eastern Gotland basin

PARTICIPANTS

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APPENDICES

- Cruise track
- Table over stations, parameters and sampling depths
- Map showing bottom water oxygen concentrations
- Parameter-depth profiles at selected stations
- Monthly average and presently observed values at selected stations