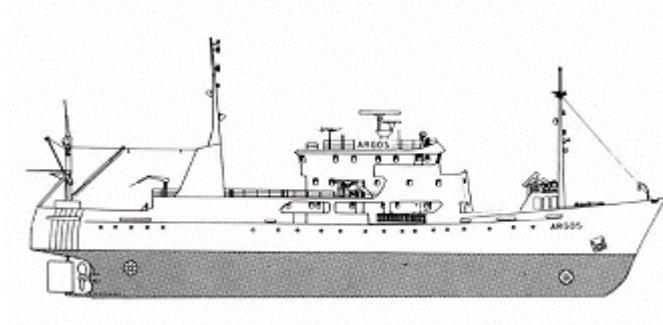


CRUISE REPORT FROM R/V ARGOS



Survey period: 2006-08-25 - 2006-09-01

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

Principal: SMHI

SUMMARY

The expedition took place within SMHI's regular marine monitoring programme and covered the Skagerrak, Kattegat, Sound and Baltic Proper.

Data presented in this report have been subject to preliminary quality control procedures only.

Surface water temperatures were slightly higher than normal in the main part of the investigated area. Nutrients showed typical summer values in the Baltic Proper and in the main part of the Kattegat and Skagerrak.

Oxygen concentrations below 2 ml/l were observed at depths exceeding 60 to 80 metres in the Baltic.

Hydrogen sulphide was found deeper than 125 to 150 metres in the Eastern Gotland Basin and at depths greater than 60 to 80 metres in the Western Gotland Basin.

Surface accumulations of cyanobacteria (blue green algae) were observed in the Kattegat and in the Sound.

The next expedition is scheduled for September 25 to 30, 2006.

PRELIMINARY RESULTS

The cruise, part of SMHI's ordinary monitoring programme, began in Gothenburg on August 25 and ended in the same port on September 1. During the weekend August 26-27 the ship docked in the port of Simrishamn, as part of an exhibition. Weather during the expedition was dominated by weak to moderate winds of varying direction. Rain showers, sometimes with thunder, occurred. Water samples were taken for analysis of oxygen- and carbon isotopes for the University of Gothenburg (FRISBEE-project). Personnel from Uppsala University took samples for the analysis of iodine.

The Skagerrak

Surface water temperatures were slightly above normal throughout the investigated area and varied from 17°C in the central parts to 18.5°C in the coastal areas. The thermocline, which was weak, was located at a depth of 10 to 30 metres. The halocline was also weak and had a large vertical extent. Nutrient concentrations in the surface water were very low: phosphate <0.02-0.04 µmol/l, highest in the coastal zone; silicate <0.1-1 µmol/l while nitrite+nitrate were below detection limit (0,10 µmol/l).

The Kattegat and the Sound

In this area surface water temperatures were normal, ca. 18.5°C. During the end of the expedition, an inflow of water (ca. 5 km³) to the Baltic took place and surface salinity was high ca. 17.5 psu. The halocline was found at a depth of 5 to 10 metres, while the thermocline was located at depths of 10 to 25 metres.

Surface concentrations of nitrogen and phosphate were normal for this time of the year. Phosphate was about 0.04 – 0.07 µmol/l and nitrate below detection limit (0.10 µmol/l). Silicate concentrations in the northern Kattegat were normal, ca. 1 µmol/l, while in the southern part and in the Sound they were below normal, 0.3 – 0.6 µmol/l. Secchi depth in the Kattegat was 7 metres. The lowest oxygen concentration in the bottom water was measured at Anholt E in the southern Kattegat, 3.07 ml/l corresponding to a saturation of ca. 45%.

During the beginning of the expedition heavy surface accumulations of cyanobacteria (*Nodularia spumigena*) were observed throughout the area. At the end of the expedition these accumulations were less dense and more dispersed.

Baltic Proper

Surface water temperature varied from 18.2°C to 20.2°C, which is somewhat higher than normal for the season. The thermocline, which was pronounced, started at a depth of 10 to 20 metres. The halocline in the southern Baltic was located at a depth of 40-50 metres, while in the remaining parts it was found at 70 to 80 metres.

Nutrient concentrations in the surface water showed typical summer values. In the central Baltic, phosphate varied between 0.06µmol/l and 0.08 µmol/l, while concentrations in the Arkona and Bornholm Basins were higher at ca. 0.12 µmol/l. Silicate concentrations varied between 6 and 9 µmol/l. Concentrations of nitrite+ nitrate were below the detection limit in the whole Baltic Proper. Secchi depths varied between 5 and 11 metres.

Oxygen concentrations below 2 ml/l were observed at depths exceeding 60 to 80 metres, however at the station BY1 in the Arkona Basin, a concentration of 1.54 ml/l was measured at a depth of 47 metres. Hydrogen sulphide was found at depths exceeding 125 to 150 metres in the Eastern Gotland Basin and at depths greater than 70 to 80 metres in the Western Gotland Basin.

No surface accumulations of cyanobacteria were observed.

PARTICIPANTS

Name		From
Lars Andersson	Chief scientist	SMHI Oceanographic lab.
Sari Sipilä		-"-
Jan Szaron		-"-
Anna-Kerstin Thell		-"-
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APPENDICES



Click on the button to open appendices.
Note that this will only work when
connected to Internet!

- Track chart
- Table over stations, parametres and sampling depths
- Map showing bottom oxygen concentrations
- Monthly average plots for selected stations
- Profiles for selected stations