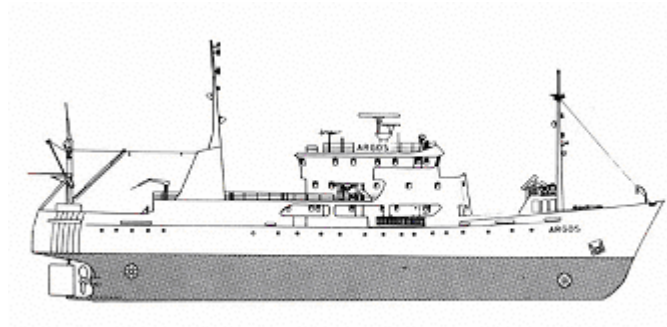


CRUISE REPORT FROM R/V ARGOS



Survey period: 2006-08-07 - 2006-08-12

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 higher than normal in the whole investigated area. Nutrients showed typical summer values, on the west-coast as well as in the Baltic Proper. Oxygen concentrations below 2 ml/l were observed at depths exceeding 70 meters in the Baltic. Hydrogen sulphide was found at 90 meters in the Bornholm Basin, deeper than 125 meters in the Eastern Gotland Basin and at depths greater than 80 meters in the Western Gotland Basin. Large surface accumulations of cyanobacteria (blue green algae) were observed in the southern part of Kattegatt and in the Sound. A less dense accumulation was found in a small area east of Fårö in the Baltic Proper.

The next expedition is scheduled for August 25 to September 1, 2006.

PRELIMINARY RESULTS

The cruise, part of SMHI's ordinary monitoring programme, began in Gothenburg on August 7th and ended in the same port on August 12th. The weather during the expedition was dominated by sunshine, high air temperature and weak winds of varying directions. During the two last days air temperature dropped and showers with thunder occurred. For the University of Göteborg (FRISBEE-project), water samples were taken for analysis of oxygen- and carbon isotopes.

The Skagerrak

Surface water temperatures were above normal throughout the investigated area and varied from 19.9°C in the central parts to 21.4°C in the coastal areas. The thermocline was located at a depth of ca. 10 meters. Surface salinities were below normal in the eastern part.

Nutrient concentrations in the surface water showed typical summer values, phosphate 0.02-0.07 µmol/l, lowest in the central parts, silicate 0.2-0.6 µmol/l while nitrite+nitrate were below detection limit (0,10 µmol/l).

The Kattegat and the Sound

Also in this area surface water temperatures were higher than normal, ca. 21.5°C. Surface salinities were normal in most parts, in Kattegat ca. 20 psu and in the Sound 11 psu. Thermocline and halocline coincided and were found at a depth of 10 to 15 meters.

Nutrient concentrations in the surface water were normal for this time of the year. Phosphate about 0.03 µmol/l, silicate 0.3 µmol/l in the Kattegat and 9.2 µmol/l in the Sound while nitrite+nitrate were below detection limit (0,10 µmol/l. Secchi depths were in the Kattegat 12 meters and in the Sound only 3 meters.

The lowest oxygen concentration in the bottom water was measured at Anholt E in southern Kattegat, 3.92 ml/l corresponding to a saturation of ca. 50%. At the second visit at Anholt E at the end of the expedition oxygen concentration had fell to 3.69 ml/l.

During the last weeks there has been a large outflow from the Baltic and in the southernmost Kattegat and in the Sound heavy surface accumulations of cyanobacteria (*Nodularia spumigena*) were observed. In these areas salinity was much lower than normal, only 12-13 psu.

Baltic Proper

Surface water temperature varied from 20.1°C in the northeast to 21.4°C in the southwest, which is higher than normal for the season. The thermocline, which was pronounced, started at a depth of 15 to 20 meters. The halocline in the southern Baltic was located at a depth of 30-40 meters, while it in the remaining parts was found at 70 meters depth.

Nutrient concentrations in the surface water showed typical summer values. Phosphate varied between 0.05µmol/l and 0.09 µmol/l, lowest in the north. Silicate concentrations in the Arkona Basin was ca. 7.8 µmol/l and in the remaining parts 5.2 µmol/l. Concentrations of nitrite+ nitrate were below detection limit in the whole Baltic Proper. Secchi depths varied between 7 and 10 meters.

Oxygen concentrations below 2 ml/l were observed at depths exceeding 70 to 80 meters in the whole area. Hydrogen sulphide was found at 90 meters depth at BY5 in the Bornholm Basin, at depths exceeding 150 meters in the Eastern Gotland Basin and at depths greater than 80 meters in the Western Gotland Basin. A rather weak surface accumulation of cyanobacteria was detected in a limited area east of Fårö.



PARTICIPANTS

Name		From
Lars Andersson	Chief scientist	SMHI Oceanographic lab.
Philip Axe		-”-
Johan Håkansson		-”-
Eva Nyberg		-”-
Arne Svensson		-’-

APPENDICES



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

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