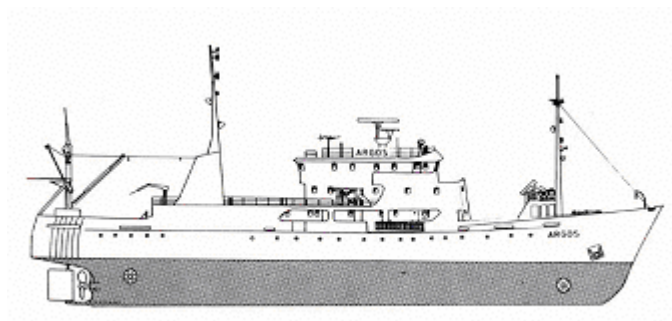


CRUISE REPORT FROM R/V ARGOS



Survey period: 2006-11-13 - 2006-11-18

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 somewhat higher than normal on the west-coast, though close to normal in the Baltic Proper.

Nutrient concentrations in the surface water were elevated in the Kattegat and the eastern part of Skagerrak. In the Baltic, surface concentration of phosphate was higher than normal in the Arkona Basin and in the Hanö Bight, while it was normal in the remaining areas. Nitrogen and silicate showed typical or somewhat below normal values for the season,

Oxygen concentrations below 2 ml/l were observed at depths exceeding 60 to 70 metres in the whole Baltic Proper.

Hydrogen sulphide was found at depths exceeding 125 metres in Eastern, 80 metres in the Northern and 80-90 metres in the Western Gotland Basins.

The next expedition is scheduled for December 3 to 15, 2006.

PRELIMINARY RESULTS

The cruise, part of SMHI's ordinary monitoring programme, began in Gothenburg on November 13th and ended in Karlskrona on November 18th. The weather during the expedition was dominated by strong to moderate winds of varying directions. For the University of Göteborg (FRISBEE-project), water samples were taken for analysis of oxygen- and carbon isotopes.

The Skagerrak

Surface water temperatures varied from 10.5°C in the central parts to 11.2°C in the coastal areas, which is above normal. Surface salinity was higher than normal in the eastern part and the stratification was weak throughout the area.

Nutrient concentrations – and particularly silicate - in the surface waters in the eastern Skagerrak were above normal. Phosphate 0.2-0.4 µmol/l, nitrite+nitrate 1.7.-2.8 µmol/l while silicate varied between 2.5 and 5.4 µmol/l. At station Släggö, in the mouth of the Gullmarsfjord, concentrations were higher: phosphate 0.55, nitrite+nitrate 6.9 and silicate 13.7 µmol/l. The lowest oxygen concentration in the bottom water was measured at Släggö, 3.88 ml/l, corresponding to a saturation of 62%.

The Kattegat and the Sound

In this area surface water temperatures were also higher than normal and varied from 9.5°C in the Sound to 12.1°C in the northern Kattegat. Surface salinities were higher than normal, ca. 32 psu in the northern part of Kattegat and 23 psu in the Sound. Thermocline and halocline coincided and were found at a depth of 15 to 20 metres, although both were weak.

Nutrient concentrations in the surface water were also elevated in the Kattegat. Phosphate was about 0.4-0.5 µmol/l, nitrite+nitrate 2.5-3.7 µmol/l and silicate 8.1 µmol/l. In the Sound all nutrients had normal values: phosphate 0.35, nitrite+nitrate 2.55 and silicate 8.1 µmol/l. Secchi depth in the Kattegat was 8 metres.

The lowest oxygen concentrations in the bottom water were measured at Anholt E in southern Kattegat, 3.35 ml/l corresponding to a saturation of ca. 56% and in the Sound at W Landskrona, 2.37 ml/l, ca. 35% saturation.

Baltic Proper

Surface water temperature varied from 6.5°C in the northeast to 9.6°C in the southwest, which is normal for the season. The thermocline started at a depth of 30 to 40 metres. The halocline in the southern Baltic was located at a depth of 20-30 metres, while in the remaining parts was found at 70 metres.

In the Arkona Basin and Hanö Bight, concentrations of phosphate were clearly above normal, 0.50-0.63 µmol/l. In other areas it varied between 0.25 and 0.43 µmol/l. Silicate concentrations in the surface water were 3.8 to 11.7 µmol/l. This was somewhat below normal in the southeastern Baltic and above normal in the Hanö Bight. Concentrations of nitrite+ nitrate in the surface layer were close to or just below normal in the whole area, 0.2-1.3 µmol/l. Secchi depths were 8 to 9 metres. Oxygen concentrations below 2 ml/l were observed at depths exceeding 60 to 70 metres in the whole area. The extension of hydrogen sulphide in the central and northern parts of the Baltic Proper, were, as during the last expedition, extreme. Hydrogen sulphide was found at depths exceeding 125 metres in the Eastern Gotland Basin (at station BY20, 90 metres), 80 metres in the Northern and 80-90 metres in the Western Gotland Basin.



PARTICIPANTS

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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