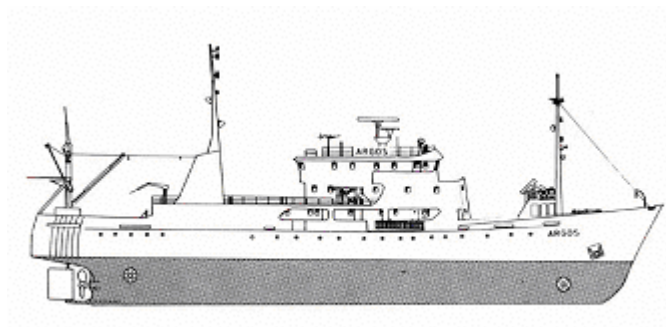


CRUISE REPORT FROM R/V ARGOS



Survey period: 2008-01-14 - 2008-01-20

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

Principal: SMHI

SUMMARY

The expedition was part of SMHI's regular marine monitoring programme and covered the Skagerrak, the Kattegat, the Sound and the Baltic Proper. Mapping of winter conditions was performed in the Kattegat and the Sound.

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

Surface water temperatures were somewhat above normal in Kattegat and the Baltic Proper. All nutrients, showed normal winter values in the whole area, with the exception of phosphate, that showed elevated concentrations in the Southern Baltic Proper. In no areas, any sign of spring bloom was detected.

In the Baltic Proper, oxygen concentrations below 2 ml/l, were found at depths exceeding 55 to 85 metres. Hydrogen sulphide was found in the eastern, northern and western Gotland Basin, as well as in parts of the Bornholm Basin.

The next expedition is scheduled for February 18 to 24, 2008.

PRELIMINARY RESULTS

The cruise, part of SMHI's ordinary monitoring programme, began in Göteborg on January 14th and ended at the same place January 20th. Mapping of winter conditions was performed in the Kattegat and the Sound.

During the main part of the expedition the wind speed varied between 11 and 17 m/s, mainly from the south. During the last day the wind turned to west.

Sampling for national screening of substances according to the water framework directive was carried out in Skagerrak and Kattegat.

The Skagerrak

Surface water temperatures were normal: about 6°C in the sea and 4°C in the entrance of Gullmar fjord. Surface salinities in the central parts varied between 31.5 and 33.1 psu and the stratification was weak.

Surface nutrient concentrations, in the central parts as well as in the entrance of the Gullmar fjord, were normal for the season. Phosphate concentrations varied between 0.5 and 0.7 µmol/l, silicate between 5 and 11 µmol/l, with the lowest values in the west. The sum of nitrite + nitrate, from 5 in the west to about 10 µmol/l at the coast. At the station P2 in the southeast, all nutrient concentrations were clearly elevated, phosphate 0.94 µmol/l, nitrite + nitrate ca: 14 µmol/l and silicate ca: 16 µmol/l. Phytoplankton activity, based on fluorescence measurements and oxygen saturation was very low.

The Kattegat and the Sound

Surface water temperatures, which were somewhat above normal, varied between 4 and 5.5°C, lowest in the Sound and highest in the north. Surface salinities, were normal and decreased from 26 psu in the north to 18 psu in the southern Kattegat. In the Sound, salinities decreased from 16 psu to 10 psu in the southernmost part. The halocline was found at a depth between 15 and 20 meters. Phosphate concentrations in the area were about 0.7 µmol/l, nitrite + nitrate varied between 3.5 and 6.5 µmol/l, lowest in the Sound. In the Kattegat silicate concentrations were high above normal, between 11 and 13 µmol/l, while in the Sound concentrations were normal, 11 µmol/l.

The lowest oxygen concentration in the bottom water was measured at W Landskrona in the Sound, 5.6 ml/l corresponding to a saturation of 85%.

Phytoplankton activity was low.

Baltic Proper

Surface water temperatures were somewhat above normal for the season, and varied between 3.5 and 5°C, lowest in the Kalmar Sound and highest in northeast. Surface salinities were normal in the whole area, 6.8 to 8.5 psu. Halocline and thermocline were found at depths between 40 and 70 meters, most shallow in the Arkona Basin and deepest in the northern parts.

Nutrients showed normal values in the whole area, with the exception of phosphate, that showed values above mean for the season in the southern and south-eastern parts. Phosphate varied between 0.57 and 0.71 µmol/l. Nitrite + nitrate from 2.1 to 4.2 µmol/l and silicate between 10 and 13.5 µmol/l.

The bottom water of the Arkona Basin was well oxygenated with concentrations exceeding 5 ml/l. In the remainder of the Baltic Proper oxygen concentrations below 2 ml/l were found at depths exceeding 55 to 85 meters.

Hydrogen sulphide was found deeper than 80 metres in the western Gotland Basin. In the northern- and eastern Gotland Basin, hydrogen sulphide began at a depth of 100 to 125 meters. In the Bornholm Basin hydrogen sulphide was found at station BY4, at depths exceeding ca: 85 meters. Phytoplankton activity was low in the whole area.

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