

CRUISE REPORT FROM R/V ARGOS

Survey period: 990705-990711

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 programme and covered the Skagerrak, the Kattegat, the Sound, and the Baltic Proper. Nutrient conditions were normal for the season. Hydrogen sulphide was found in the deep water in large areas of the Baltic and oxygen concentrations below 2 ml/l was generally found at depths exceeding 60 to 70 metres in the whole Baltic Proper. In the Skagerrak there was an ongoing bloom of a coccolitophorid, *Emiliana Huxleii*. In the central and northern part of the Baltic there was a bloom of blue green algae.*

A detailed algal situation report is available on <http://www.smhi.se/sgn0102/nodc/reports/>.

PRELIMINARY RESULTS

The expedition, which was a part of the SMHI ordinary monitoring programme, began in Göteborg on the 5th of July and ended in the same place on the 11th of July. The weather was dominated by weak northerly winds.

A detailed algal situation report is available on <http://www.smhi.se/sgn0102/nodc/reports/>.

The Skagerrak

Both the halocline and the thermocline were located at a depth of five metres. Surface water temperatures varied between 15 and 16.5°C. Concentrations of nitrite, nitrate and silicate were all below detection limits (0.02, 0.10 and 0.2 µmol/l respectively) in the surface layer, while there still was some phosphate and ammonia left. The surface water in the whole area was coloured turquoise by a bloom of the coccolitophorid *Emiliana Huxleii*.

The Kattegat and the Sound

Surface water temperatures varied from 15.5 in the north to 18°C in the south (the Sound). The thermocline and the halocline were both located at a depth of 10 metres. The nutrient showed the same pattern as in the Skagerrak. However, in the southern part there was silicate left in the surface water. The lowest oxygen concentration in the deep water was measured at Fladen, 4.60 ml/l corresponding to a saturation of 69%.

The Baltic Sea

Surface water temperatures varied between 16.5 to 18°C, highest in the central parts. The thermocline was found at a depth of 10 metres. In the Arkona Basin the halocline was located at 40 metres depth, while it in the Bornholm basin was located at a depth of 60 metres and in the central and northern parts at 90 metres. The surface water was emptied of nitrite and nitrate down to 40 metres. Phosphate concentration varied between 0.05 and 0.15 µmol/l, silicate between 3.5 and 10 µmol/l. In the central and northern parts the surface water was very turbid due to a bloom of blue green algae.

In the deep water, oxygen concentrations were lower than 2 ml/l at depths exceeding 60 to 70 metres. Hydrogen sulphide was detected in the Hanö Bight at depths greater than 70 metres, in the Bornholm Basin at depths greater than 80 metres and in the eastern Gotland Basin at depths exceeding 140-150 metres. This time hydrogen sulphide was also found at BY29, 175 metres and in the Landsort Deep at 440 metres.

PARTICIPANTS

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APPENDICES

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