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CRUISE REPORT FROM R/V ARGOS

Survey period: 19991113-19991115

Survey area: The Skagerrak, the Kattegat and the Sound

Principal: SMHI

SUMMARY

The expedition was performed within SMHIs regular marine monitoring programme. Surface temperatures varied between 8 and 11 degrees C. Nutrient concentrations in the surface water were below normal for the season.

PRELIMINARY RESULTS

The expedition, which was a part of the ordinary monitoring programme of SMHI, started in Göteborg on the 13th and ended in Karlskrona November 15. The first day the weather was dominated by northerly winds with strengths of 15 m/s, the last day decreasing to about 5 m/s.

Skagerrak

The surface water temperatures varied from 9 to 11°C. In the central Skagerrak, a weak halocline was found at a depth of 20 to 30 meters, while a very strong halocline was found along the Swedish coast a 10 meters depth. The concentrations of nutrients in the central part were normal for the season, phosphate; 0.2 µmol/l, nitrate about 1.5 and silica 1.2 µmol/l. In the Baltic water along the coast, however, concentrations were lower than normal, 0.08, 0.10 and 0.5 µmol/l respectively.

On 14th of November the plankton flora in the Skagerrak was rich with a mixture of diatoms and dinoflagellates. Several species of *Chaetoceros*, *Thalassiosira* and *Dactyliosolen* among diatoms were found. *Ceratium* species were the most common dinoflagellates.

Kattegat and the Sound

In the Kattegat the surface water temperatures varied between 8 and 9°C. The halocline, found at 15 meters depth, was very strong. Nutrients were essentially absent in the surface layer. Phosphate was about 0.05, nitrate < 0.10 and silicate < 0.2 µM, which is lower than normal.

In the Kattegat the bloom of *Pseudo-nitzschia pseudodelicatissima* and *P-n. delicatissima* has continued. Several other diatoms, as well as dinoflagellates were also present. *Dinophysis acuta*, *D. norvegica* and *D. acuminata* were common.

In the Sound the situation was somewhat different. Low salinity water from the Baltic dominated the upper 5 meters, with a salinity of 10 PSU. Nutrient concentrations in the surface layer were 0.3 µmol/l for phosphate, 1.2 for nitrate and 11 µmol/l for silicate. At depths greater than 15 meters, oxygen saturation was below 50 %.

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