



Brief Report of the Study Group on Environmental Modelling of the Baltic Sea

Stockholm, 93-09-07

Dear Stig,

here is a brief report on the ICES Study Group on Environmental Modelling of the Baltic Sea:

To understand the large-scale changes of the Baltic environment that have occurred during the last decades, integrated systems-level studies, both in the field and in the analysis of data, are necessary. Numerical models are then an important tool where hypotheses about the interaction and relative importance of physical, chemical and biological processes can be tested and verified against data.

I was appointed Chairman of this ICES Study Group in Nov. 1992. The formal activity of the Group have so far been very limited and I have not yet organised a meeting involving all of the eight members, appointed by ICES. The rapid political changes that have occurred in the former socialist countries bordering the Baltic has also resulted in rapid changes in the organisational structure of the research community and in the financial support of marine research. It has therefore been very difficult to organise and finance any Working Group meeting so far. However, the Baltic research community is small and key members of the Group are in continuously in contact though other meetings and by correspondence.

My personal view is that numerical modelling should be looked upon as a very powerful tool and not as a goal in itself: Current models of the Baltic range from biogeochemical models with time and space scales of decades and entire basins to detailed 3D eddy resolving physical models with time scales of days and miles. Obviously, these models are aimed at entirely different problems and are not readily combined. However, of common interest to all modelling research groups are the need of good data: both in terms of forcing functions (weather, runoff, etc.) and from the system (salt, temperature, nutrient fields, etc.).

The modellers within the Baltic research community has therefore been very active in recent initiatives to create a better data flow and exchange through implementing various technical solutions (international electronic networks) and by combining results from Baltic monitoring cruises with model analyses. In this topics, I can find common interests within the Baltic 'modelling community' which could be worthwhile to explore further within the ICES Working Group. On the other hand, there is little interest now to create a common model of the Baltic Sea at present. Such a task would be scientifically unwise to set up since it will cover to many scales and to many topics to be feasible to implement.

My intention is to prepare a document describing a possible solution to how data flow and assimilation for model purposes could be implemented in the Baltic region, taking into account the activities of ICES, HELCOM and various national and international research programmes currently operating and planned for in this region. I will distribute this document to all members of the ICES Working Group for discussion and improvement during the fall and winter. I will also have the opportunity to meet most members of the Working during the same period at various meeting that I plan to attend this fall.

Thus, I hope to have a concrete plan ready for consideration of a wider body of the ICES during the spring of 1994. Obviously, there are many links to other ICES Working Groups, for instance on:

Environmental assessment and Monitoring Strategies (Carlberg et al)
Oceanic Hydrography (Buch et al)
Marine Data Management (Richards et al)

I will therefore try to keep you Stig informed on the activities of our working group for possible interactions of other working groups so that we, in the end can produce a document and recommendations useful for a wider audience.

yours sincerely,



Fred Wulff