

Preface

BALTEX, the Baltic Sea Experiment, is the European continental-scale experiment within the Global Energy and Water Cycle Experiment (GEWEX) of the World Climate Research Programme (WCRP). BALTEX addresses water and energy cycles in the climate system of the entire drainage basin of the Baltic Sea, including the sea itself. About 50 research institutions, universities and hydro-meteorological services in about 15 European countries have established a well-functioning research infrastructure on the European level, including regular conferences dedicated to BALTEX research results and their applications.

The third BALTEX Study Conference was held in Finland on 2–6 July 2001. Following the tradition adopted for these symposia, the site was on a Baltic island, Åland (in Swedish), or Ahvenanmaa (in Finnish). The Åland archipelago forms a province of Finland, enjoying certain autonomous rights, also today as a part of the European Union. The presentations were given in the impressive three-floor meeting hall of the provincial parliament in the city of Mariehamn.

The number of participants was about 150, representing 18 countries. About 90 lectures and 40 posters were delivered during the five days, enhanced by the warm atmosphere of the Conference and the very warm weather that facilitated the outdoor activities in the maritime surroundings.

The Mariehamn meeting took place at a time when the earlier BALTEX chairmen had nearly completed handing over the program to younger ones. Professor Zdzisław Kaczmarek and Lennart Bengtsson had already retired, but Professor Ehrhard Raschke, the initiator of the BALTEX program, enjoyed fully the presentations and contributed significantly to planning of the future of the BALTEX program. The new chairman, Professor Hartmut Grassl, had already entered the arena, bringing with him the experience gained directly as head of the World Climate Research Program of the World Meteorological Organisation.

The original scientific topic of the BALTEX

program was the energy and water balance of the Baltic Sea drainage area, culminating in the question of the net outflow of water from the Baltic Sea to the North Sea. The BALTEX observational data bases have served as a basis for the studies, including the numerous modelling exercises in the three disciplines involved – meteorology, hydrology and oceanography. Achieving the coupling among these three fields has been the underlying strategy.

New trends are, however, appearing. Funds are more and more directed to climate change research. In addition, the pollution and eutrophication of the Baltic Sea are hot topics. These topics have appeared already earlier in the conferences, albeit in a minor way. More recent discussions about the future of the BALTEX program have raised these topics to the core of questions to be pursued more comprehensively.

A large number of highly qualified papers passed the thorough review process. They fill two complete issues of the journal, *Boreal Environment Research*. The interested reader should note that the complete table of contents with all articles of both special BALTEX issues appears only in this issue.

The editing, including the organisation of the review process, was divided among BER co-editors and guest BALTEX co-editors (Professors Sten Bergström, Eberhard Ruprecht and Sylvain Joffre). Their skilful and professional contribution to the finalisation of the proceedings is highly appreciated.

The Finnish Meteorological Institute, the Finnish Institute of Marine Research, the Finnish Environment Institute, the Swedish Meteorological and Hydrological Institute, the Swedish regional climate modelling programme, the Max-Planck-Institute for Meteorology in Hamburg, Germany and the GKSS Research Centre Geesthacht, Germany provided financial support for the publication of the two special BALTEX issues in BER.

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