BALTEX

Baltic Sea Experiment

World Climate Research Programme / Global Energy and Water Cycle Experiment

WCRP GEWEX

Minutes of

9th Meeting of the BALTEX Science Steering Group

at

Finnish Meteorological Institute

in Helsinki, Finland

19 to 20 May 1999

edited by Cord Ruhe

International BALTEX Secretariat

Publication No. 16

July 1999

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Contents

LIST OF APPENDICES **PAGE**

Introduction

The 9th meeting of the BALTEX Science Steering Group (SSG) was hosted by the Finnish Meteorological Institute in Helsinki, Finland. The meeting opened on Wednesday, 19 May, at 2 pm and closed on Thursday, 20 May, at 5 pm. The agenda of the meeting is given in **Appendix 1** of these minutes. See **Appendix 2** for a list of this meeting's participants.

An earlier planned scientific workshop has been postponed.

1 Opening

The Vice-Chairman of the BALTEX SSG, Zdzislaw Kaczmarek, opened the SSG meeting. He expressed his cordial welcome to the meeting participants and thanked the FMI for hosting the SSG meeting in Helsinki. Major topics of this meeting were the plans for several proposals to the EU (5th Framework Programme) and preparations for the BRIDGE related activities.

The local organizer, Mikko Alestalo, member of the BALTEX SSG and representative of the FMI, welcomed also the participants of the meeting and explained some organizational items.

2 Report of the BALTEX Secretariat

Ehrhard Raschke gave the report of the BALTEX Secretariat, which is located at the GKSS Research Centre in Geesthacht.

He regrets that at the moment the Secretariat suffers under some personel problems and changes at the Secretariat. The former head of the Secretariat, Hans-Jörg Isemer, left the Secretariat in February and went to a permanent position at GKSS. Rüdiger Brandt also left the Secretariat. So the position of the head of the Secretariat is vacant. This position has to be filled as soon as possible. An announcement has been made in widely distributed newspapers. A confirmed support is given through the BMBF until the end of 2001.

Because of those circumstances a minimum service is maintained by Cord Ruhe and Ehrhard Raschke.

The former Secretary in the BALTEX Secretariat Mrs. Wiebke Jansen also left the Secretariat in March. Her work has been taken over by Mrs. Sabine Hartmann (e-mail sabine.hartmann@gkss.de). Mrs. Hartmann speaks English and Russian.

There were a couple of activities:

- As a part of a project funded by the BMBF radiation instruments for Belarus have now been ordered.
- The BALTEX-BASIS Data Report 1998 (Publication No. 14, Editor Jouko Launiainen) has been printed and will be distributed during the next weeks.
- The Interim Memorandum of Understanding (IMoU) has been updated and distributed to all participants of the IMoU.
- At the next EGS Assembly a special symposium (OA 16) will be held jointly with other large scale hydrometeorological experiments.
- Some papers of the Second BALTEX Conference in Juliusruh, Rügen (Germany) will be published in a special issue of the journal 'Contribution to Atmospheric Physics (Beiträge zur Physik der Atmosphäre)'. A list of them is given in **Appendix 3**.

- In September (13.9. - 17.9.1999) a meeting of the GEWEX Hydrometeorological Panel (GHP) will take place at GKSS in Geesthacht and discuss recent plans for the CEOP (GEWEX Co-ordinated Enhanced Observing Period). Ehrhard Raschke stressed the situation, that BALTEX is a part of GEWEX and there must be an active collaboration with other CSE's (MAGS, GCIP, LBA, GAME). The best and most effective way would be direct cooperations between individual groups from the different CSE's.

Mikko Alestalo attended a WMO Congress where Hartmut Graßl gave an incomplete description of BALTEX. Mikko Alestalo corrected this and presented there some additional informations on the international character of BALTEX.

Jerzy Dera, Sopot, pointed out that the use of the BALTEX Publication Library, available on the Internet as part of the BALTEX homepage, is uncomfortable. The 'search and sort algorithms' has to be improved.

3 Report of BALTEX Working Groups

At the beginning of this item a brief discussion started about the future organisational structure within BALTEX. This was finally picked up again at the second day and is summarized under 10.3.

- **Working Group Process Studies (WGP)**

Jouko Launiainen reported that the last meeting of WGP had been held during the Second Study Conference on BALTEX in Juliusruh/Rügen. The next meeting will be held in Abisko (Sweden) on 19./20.6.1999. A new member of WGP is Hannu Savijärvi from the University of Helsinki (e-mail hannu.savijarvi@cc.helsinki.fi).

3.2 Working Group Numerical Experimentation (WGN)

Sten Bergström gave further informations about the Workshop in Abisko, Lapland, Sweden, 20 - 21 June 1999. WGN and WGP arranged the Workshop with the title 'Parameterization of surface fluxes, atmospheric planetary boundary layer and ocean mixed layer turbulence for BRIDGE - What can we learn from field experiments?'. 33 people confirmed their participitation and will give 15 presentations.

3.3 Working Group Radar (WGR)

Jarmo Koistinen informed the SSG about the last WGR meeting at the Institute of Meteorology and Water Management in Legionowo, Poland. A new member of the WGR is Dr. Jan Szturc from Katowice, Poland.

- At the end of 1999 there will be 29 operational radars (about 27 are Doppler systems) in the BALTRAD network. In the future this number can increase by about 10 additional radars.
- At the next AMS Radar conference Daniel Michelson of SMHI will give a BALTRAD presentation (title: 'The international radar network for the Baltic Sea Experiment').

Jarmo Koistinen pointed out that radar research seems to be homeless in the BALTEX EU proposals for the 5th Framework Programme. The WGR wonders, if the present cluster of proposals any more seriously is interested in the observed, best estimate precipitation over the Baltic Sea catchment area. This should be a key factor in climatology, process studies and model validations.

4 Report of BALTEX Network co-ordinators

4.1 DIAMIX

Bengt Liljebladh from Göteburg gave the report about DIAMIX instead of Anders Stigebrandt.

DIAMIX is a planned oceanographic field experiment to evaluate the dynamics of wind forced diapycnal mixing in the stratified ocean. It concentrates on measurements of vertical mixing and advection in an experimental box in the Gotland Basin (Gotland eddy track, east of Gotland).

Two pilot surveys have been conducted in summer 1997 an 1998. A 'sharp' experiment has been performed in March 1999 with four ships. The measurements comprise ADCP, CTD recordings, temperature, salinity and other parameters.

Four groups take part in the DIAMIX Network.

The DIAMIX datasets will be useful for the modelling of mixing processes.

4.2 PEP in BALTEX

PEP (Pilot Study of Evaporation and Precipitation in BALTEX) is designed as a pilot experiment to BRIDGE, with the specific scope to study precipitation and evaporation over the sea. **Mrs. Ann-Sofi Smedman** is co-ordinating this experiment and informed the SSG about some preliminary results of PEP.

PEP provides a comprehensive set of actual evaporation data measured with the eddy correlation technique at four well exposed sites: Kopparnäs (Finland), Zingst (Germany), island of Christiansö (Denmark), island of Östergarnsholm (Sweden).

A study for the sites Christiansö and Östergarnsholm shows that the HIRLAM model overestimates considerably the evaporation.

The PROBE-BALTIC model shows the same tendency but fits better to the measurements.

The simulation of sensible heat flux is much better in both models.

One reason of this overestimate might be the bulk formulation of evaporation which is very simple in the models.

The two models use different sea surface temperatures. The values used in the PROBE-BALTIC model might be better than in the HIRLAM model.

The stability in Baltic Sea has an influence on the evaporation. The stability shows an annual cycle and differs between the sites.

In the next step the model parameterizations will be improved and it will be checked if the differencies becomes smaller. But there might be also some difficulties with the measurement techniques.

Ann-Sofi Smedman finally pointed out that all stations are well calibrated but most of them over land sites.

4.3 BASIS

The Baltic Air-Sea-Ice Study (BASIS) is a sub-project of BALTEX. The overall objective of the project is to create and analyse an experimental data set for verification and optimization of coupled atmosphere-ice ocean models. BASIS will be continued until the end of 2000.

Jouko Launiainen (FIMR Helsinki) pointed out that the BALTEX BASIS Report 1998 comprises all objectives, tasks and further informations about the field campaign in 16.2 - 6.3.1998. This BASIS report 1998 is published at the BALTEX Secretariat as Publication No.14 and will distributed in the near future.

Process and modelling studies are not very well established, but this work will be forced in the future.

Jouko Launiainen described the BASIS activities in 1999. An experiment was carried out in 18 - 26 February 1999.

A collaboration with the MAGS experiment can be of interest, if they also perform Sea-Ice studies.

4.4 Coupled Modelling of the Baltic Sea

Wolfgang Krauß (IfM Kiel) pointed out that the presented report was made together with his colleagues from SMHI and FMI.

The main tasks at SMHI and FMI are Process Studies.

The IfM Kiel runs a coupled Atmospheric-Ocean-Model (with REMO) for the PIDCAP period.

Data will be soon available for a 10 years period to run the coupled model at IfM Kiel.

The model is able to simulate the inflow and outflow through the Kattegat and based on this to calculate a water balance for the Baltic Sea.

The Rossby Centre runs also a coupled model with a coarser resolution for a 14 years period.

Ehrhard Raschke asked whether there are model improvements (oceanographic models) on the basis of results of some field experiments. Wolfgang Krauß stressed out that it needs several years after a start of an experiment to get model improvements. E. g., the experiment phase takes 2 years (with measurements and data processing) and the data analysis phase takes another two years. Some model improvements based on field experiments will be published in autumn in a report about a EU project.

5 Report on NOPEX

Measurements will be carried out by NOPEX during the BRIDGE EOP's.

For WINTEX a final report is available.

Availability of NOPEX data:

The data of the 2 field campaigns CFE1 and CFE2 will be available free of charge on a CD-ROM after a publication of the results in a special issue of 'Journal of Agriculture and Forest Meteorology'.

The data of the anchor stations are also part of an EU project.

A new project starts in Norway named 'New Generation of Hydrological Models' as reported by **Lars Gottschalk**. This project focusses on hydrological processes in the winter season. The area of the test catchment comprises 4000 km^2 and borders the BALTEX area.

At a conference at the Federal Institute of Hydrology in Koblenz, Germany, it was decided to start a model intercomparison project under ACSYS. The Torne basin in Sweden, one of the BALTEX test catchments, has been chosen as a test catchment in this project. The co-ordinator for the project is **Phil Graham** from SMHI.

6 BALTEX Data Centres

6.1 BALTEX Meteorological Data Centre (BMDC)

Angela Lehmann from DWD in Offenbach, Germany, explained the different data sources and types available at the BMDC. This is summarized in the following table.

Data Source	Data Type	Time of Availability
BAMAR countries (GTS routine)	SYNOP, AERO	real time
BAMAR ships	SYNOP	not real time
BALTEX countries	Prec, Snow, Rad, Soil Temp, Soil Moist, Syn	not real time
DWD	DASS BM2	near real time
SMHI, FMI	DASS HIRLAM	near real time
IfM Kiel	Prec Ferries	not real time
SMHI	SST analysis	real time
VU Vienna	Prec corrected	not real time

The tasks of the BMDC are:

- Data acquisition
- Creation and operation of the bank and of access procedures
- Data idenfication, formal quality control and unification of formats
- Data visualisation for quality check purposes
- Data analysis and merging
- Documentation and statistics
- Data transfer to BALTEX data users
- Guarantee of data use only for research in BALTEX

The BMDC notes 33 registered BALTEX data users.

The BMDC may need more staff to provide a better service, e. g.

- better quality check,
- transfer of BMDC data to new DWD data bank.

In some more detail it has been reported, that

- no data (about 600 stations) after the PIDCAP period were delivered from Denmark,
- no data since October 1996 were delivered from Russia to BMDC,
- the Polish network has been reduced during the last years.

From some countries the weather services delivered all available data to the BMDC. To protect the commercial interests of the weather services the allowance of data policies should be done very carefully.

6.2 BALTEX Hydrological Data Centre (BHDC)

The head of the BHDC is Bengt Carlsson of SMHI. He spends 1/3 of his working hours for the BHDC. Beside the daily runoff data, also a monthly runoff data base, which is used from many oceanographers, and gridded meteorological data are available at the BHDC. In the future the HELCOM could help to get more runoff data.

The Global Runoff Data Centre (GRDC) asked to make the data of the BHDC available for the GRDC data bank. Because of the existing data policy within BALTEX the BHDC is not allowed to deliver these data for free use to the GRDC.

6.3 BALTEX Oceanographic Data Centre (BODC)

Pekka Alenius of FIMR reported that there was no request for data since the last SSG meeting. Several data sets are available in particular for a time period in 86/87 and 92/93.

6.4 BALTEX Radar Data Centre (BRDC)

Jarmo Koistinen of FMI pointed out that the BRDC works semi operational since 1.4.99, the Pilot Period of BRIDGE. The BRDC is located at the SMHI and the head of the data centre is Daniel Michelson. Also available since 1.4.99 is the BRDC webpage at SMHI (http://www.smhi.se/brdc/) or use the link on the BALTEX homepage. There is additional information about the BRDC and its data products given. Jarmo Koistinen decribed briefly the data flow in the BALTRAD network.

The size of the incoming data is about 60 GB/month in uncompressed form. The outcoming products are about 8 GB/month and will be distributed on CD-ROM. One of the products are wind profiles from Doppler Radars. An interesting topic is also the comparison between precipitation data from synoptical stations and Radar derived precipitation values.

Jarmo Koistinen explained, that also some commercial threats exists in NORDRAD. Because of this the Memorandum of Understanding (MoU) between the member states has to be renegociated. This can lead to limitations in the data availability and can be a big problem for BALTEX if the limitations will also be transferred to BALTRAD.

7 Report of the BALTEX SSG chairman

Lennart Bengtsson expressed his welcome to all participants of the SSG meeting especially the new SSG members. He apologize that he was not able to participate the first day of the SSG meeting but there was an unsolvable conflict with another important engagement.

He reported about an interesting result concerning the water budget over the Baltic catchment. A comparison between a 10 years simulation of REMO Echam 4 and T106 Echam 4 shows that the fluxes over the land surface are more intensive for the REMO Echam 4 model. Precipitation and evaporation is 10-15% higher compared to the T106 model.

He pointed out that BALTEX-BRIDGE is much more than the EU 5th Framework Programme can cover. So it is not possible to get money for all BRIDGE activities from the EU. This means that BRIDGE participants have also to look for alternative support, e.g. from national funding agencies.

The work of the Secretariat plays an important and vital role for the BRIDGE experiment. The SSG has to define a management structure for BRIDGE.

Lennart Bengtsson also mentioned that Prof. Paka from Kaliningrad wants to participate in the oceanographic part of BRIDGE.

8 Report of coordinators of BALTEX EU proposal

At this place only a brief overview about the EU proposals is given. The status of the EU projects may change in some way until 15 June. For detailed information about the projects please contact the coordinators.

8.1 Winter experiment

Coordinator: Sven Erik Gryning

This project follows the goal to study surface-air exchange processes over selected areas during the winter and early spring season and derive parameterization schemes for their numerical simulation.

WP 1: Improved parametrizations over land

WP 2: Improved parametrizations over sea

WP 3: Improved forecasting and simulations of winter conditions on a regional scale

WP 4: Analysis of frequency of extreme winter conditions for todays and future climate

WP 5: Benefit and consequences for the society

Participants: 11 institutions from 8 countries

8.2 Baltic Sea Water and Energy Budgets

Coordinator: Anders Omstedt

This project follows the goal to model and quantify of the Baltic Sea energy, water, salt and ice cycles during the BALTEX/BRIDGE period and compare it to observed long-term variability. The work is divided into four subprojects:

WP 1: Energy, salt and water budgets of the Baltic Sea

WP 2: Dynamics of wind-forced diapycnical mixing in the Baltic Sea

WP 3: Water and energy exchange measurements in the Danish Straits

WP 4: Measurements of stratification and currents in the Baltic Sea

Participants: 12 institutions from 6 countries

Anders Omstedt explained that a Russian institute is involved in the project but can not be supported through this project. The Russian institute has to propose his contribution in another programme, e. g. INTAS. This should be mentioned in the BRIDGE EU proposal so that people are aware of it. The first call for the INTAS programme is at 1 November 1999.

8.3 BALTEX Cloud Liquid Water Network

Coordinator: Andre van Lammeren

Objectives

The overall objectives of this project are:

- *by observations to*
  - contribute to the development and implementation of the Global Observing System with a focus on cloud observations.
  - develope an adequate observing system for the detection of icing conditions for aircraft.
  - demonstrate the possibility /potential of a cloud observing system based on integration of existing ground based observations and (operational) satellite remote sensing data.
  - obtain a consistent, validated, high quality, high resolution data set on integrated cloud liquid water fields and vertical structure of cloud water on a continental and regional scale.

- *by model evaluation/improvement to*
  - evaluate objectively and improve the present day state-of-the-art cloud parameterizations with a focus on integrated cloud liquid water and vertical structure of clouds with the aim to demonstrate the usefulness of the observations.
  - understand/describe better the role of clouds in the Earth's weather and climate system.

- *by implementation to*
  - improve the observational techniques for integrated cloud liquid water from both ground based and satellite remote sensing and develop "low cost" instrumentation for this in cooperation with small and medium-sized enterprises (SME's).

Participants: 14 institutes from 8 countries

Within this project several radiation and GPS datasets are needed. These data should be available for the project in the framework of BRIDGE.

Field campaigns will be carried out during EOP2 and EOP4.

8.4 Better exploitation of existing observation systems in BRIDGE

Coordinator: Carl Fortelius

This project emphasizes the analysis of already extisting data sets and studies the dependence of the climate in various parts of the BALTEX area with respect to their relation to global circulation anomalie.

WP 1: Preparation of special input data sets for assimilation using improved techniques

WP 2: Improvement and adaptation of data assimilation techniques

WP 3: Application of two dedicated assimilation systems during the BRIDGE period and for selected historical cases

WP 4: Validation of the data assimilation systems and products

WP 5: Demonstration of the utility of improved data assimilation systems for atmospheric pollution emergency modelling and marine ecosystem modelling

At the moment satellite data are not integrated in this project.

An important item is, that the BMDC has to store the assimilation data in his data bank, because the partners will have no capacity to achieve this.

8.5 Anchor Stations

Coordinator: Sven Halldin

Sven Halldin informed the BALTEX Secretariat before the meeting, that he is not able to come to Helsinki. So, instead of Sven Halldin, Ann-Sofi Smedman gave an brief overview about the EU proposal.

The scientific issues of the proposed project are:

- Analysis of temporal (seasonal) and spatial variability of the components of the energy and water cycles at different latitudes in the BALTEX area, special emphasis on energy partitioning between latent and sensible heat fluxes.

- Investigation of the influence of the typical landscape structures and scales (patchiness) in the different land areas of the BALTEX region on the energy and water-vapour fluxes, special emphasis on simultaneous flux measurements over open land and forest in the same climate region.

- Modelling of a spectrum of representative weather situations for each of the monitoring sites in order to test the validity of model parameterizations across the different climate regions.

Following sites are part of the project:

- Sodankylä
- Norunda-Marsta
- Lindenberg
- Cabauw
- Christiansø
- Östergarnsholm

Some of the sites have measurement towers for different landuse types.

The Polish colleagues suggested another site in Poland. This is the Wilga basin near Warsaw. The SSG expressed the opinion that this site can be essential for the project. Sven Halldin should check if the Polish site is appropriate for the objectives of the project and if a Polish group can contribute to the proposal.

8.6 Climate change and its impact on water resources for the BALTEX area - towards an integrated regional model system

Coordinator: Daniela Jacob

This project emphasizes the development of an (interactively) coupled model consisting of the atmophere, Baltic Sea and the land-surface hydrology.

WP 1: Development and validation of regional climate models

WP 2: Creation of regional climate change scenarios

WP 3: Development and validation of large scale hydrological models

WP 4: Studies of climate change impacts on water resouces

Participants: about 11 institutions and 3 subcontractors from 6 countries

In this project are also Russian institutes as subcontractors involved.

The availability of data for the Neva river basin can be a critical factor for the part of the project related to the Neva.

Sten Bergström pointed out that there will be an additional project with hydrological aspects coordinated by Jens Christian Refsgaard from DHI, Denmark, dealing with flood forecasting systems. The call for this project is in January 2000.

8.7 BALTEX Secretariat

Coordinator: Ehrhard Raschke

A proposal to support secretarial and coordinating work will be formulated for the coming announcement of opportunity.

9 Implementation Plan of BRIDGE

In an longer discussion it was mentioned that at the moment a detailed plan for BRIDGE can not be worked out, because the financial support in particular from the EU for BRIDGE activities is uncertain. So it makes no sense to spend too much time to develop a detailed implementation plan of BRIDGE. Rather 'things' have to grow more pragmatically following the BRIDGE objectives.

In consequence the first EOP in Jan/Feb 2000 will be cancelled because the probably start of the EU projects will be not earlier than the beginning of 2000.

It further was mentioned that the BALTEX community needs better information about BRIDGE activities. So every potential participant must be able to get an overview about the other

participants and their contribution to BRIDGE. As a first step the SSG asked the BALTEX Secretariat to put the IMoU on the BALTEX homepage.

But quite many BRIDGE activities will take place even without a EU support through the support of the institutes and services itself and also national fundings.

Ann-Sofi Smedman pointed out that the EOP's should be well defined, because additional radiosondes have to be organized during the EOP's.

Summary of actions:

- The BALTEX Secretariat should explore additional support possibilities for the field experiments.
- The BALTEX Secretariat should put the IMoU on the BALTEX homepage.

To implement BRIDGE, a team has been formed consisting of members from each 'discipline' and data centre. (The BALTEX Secretariat sent them immediately after the meeting with some terms of references. This letter is reproduced in **Appendix 4**.) Members of the BRIDGE team are listed below:

BALTEX - BRIDGE Office	N. N., Ehrhard Raschke	(GKSS)
Air-Sea interaction	Ann-Sofi Smedman	(Uppsala)
Land surface - atmosphere interaction	Sven-Erik Gryning	(Risø)
Baltic Sea - oceanography	Anders Omstedt	(SMHI)
Atmospheric modelling	Carl Fortelius	(FMI)
Hydrological modelling	N. N.	
Cloud - radiation interaction	Andre van Lammeren	(KNMI)
BMDC	Angela Lehmann	(DWD)
BHDC	Bengt Carlsson	(SMHI)
BODC	Pekka Alenius	(FIMR)
BRDC	Daniel Michelson	(SMHI)

10 Any other Items

10.1 TISON Prize of IAHS:

Dr. Dag Lohmann, formerly at GKSS and now at NOAA / NCEP in Camp Springs, MD, who developed the distributed model for runoff calculations, which is currently used and tested for the rivers Weser, Elbe, Odra and some American river basins receives the TISON Award of the IAHS 1999, for the quality of his publication. This is the first prize for a BALTEX related research product.

10.2 Third Study Conference on BALTEX in 2001

Mikko Alestalo offers the readiness of the FMI to organize the Third Study Conference on BALTEX in 2001. He proposed the island of Åland as a conference place and the first week in Juli as a conference date. All SSG members thanked Mikko Alestalo for the willingness to organize the next BALTEX conference. They are delighted about the possibility to join for a BALTEX conference on another beautiful island in the Baltic Sea and look forward to see first interesting results from BRIDGE.

10.3 Data policy

In connection with the distribution of NOPEX data, Sven-Erik Gryning pointed out that it has to be ensured the first use of the data for a principle investigator (PI). PI's are often PhD students, who spend a lot of time in the measurements and analysis of data. So in the most cases data are not available for about 18 month to protect the work of PhD students, that they have enough time to finish their work before other scientists use the data and publish on the same topic.

To become a NOPEX data user an agreement has to be signed. The procedure is similar to the BALTEX data policy.

As a rule data, which are delivered in possible EU projects, will be available for the BALTEX community. Some differences, but of no relevance for BALTEX, appear between data which have to be processed (e.g. flux data, energy, CO_2) with a considerable effort and simple measurements (e.g. temperature and precipitation).

10.4 Organizational structure in BALTEX

Some members of the SSG suggested to reconsider the organisational structure in BALTEX together with the beginning of BRIDGE. These are now three Working Groups (WG) and seven Networks, which need to be redefined.

The SSG asked the chairmen of the WG's to give a report about the work of the WG's and a possible redefinition of the WG's.

11 Date and Place of 10th SSG Meeting

Zdzislaw Kaczmarek pointed out, that he is willing to organize the next SSG meeting in **Warsaw**. The SSG thanked him and concluded to have the meeting on **7. - 9. February 2000**.

The SSG suggested to start the next SSG meeting with scientific symposium which should focus on **High Resolution Hydrological Models**, to be organized by Prof. Kaczmarek.

Appendix 1

9th BALTEX SSG Meeting

Helsinki, Finland
19 - 20 May 1999

Agenda

Wednesday, 19 May 1999

14.00	1	**Opening, Welcome** Hosting Organization
14.15	2	**Report of the BALTEX Secretariat** E. Raschke
	3	**Report of BALTEX Working Group chairmen** E. Ruprecht: WG Process Studies N. Gustafsson: WG Numerical Experimentation J. Koistinen: WG Radar
	4	**Report of BALTEX Network co-ordinators** A.-S. Smedman, J. Launiainen, A. Stigebrandt, W. Krauß
	5	**Report on NOPEX** L. Gottschalk
		- Coffee -
	6	**Report of BALTEX data centers** A. Lehmann, B. Carlsson, P. Alenius, J. Koistinen
18.30		**Closing of Wednesday's session**

Thursday, 20 May 1999

9.00	**7**	**Report of the BALTEX SSG chairman** L. Bengtsson
	8	**Report of co-ordinators of BALTEX EU proposals**
	8.1	**Winter conditions** A.-S. Smedman and S.-E. Gryning
	8.2	**Baltic Sea Water and Energy balance (BASEWEB)** A. Omstedt
	8.3	**BALTEX Cloud Liquid Water Network** A. van Lammeren
	8.4	**Data Assimilation** C. Fortelius
	8.5	**Anchor Stations** S. Halldin
12.30		**LUNCH**
14.00	**9.6**	**Climate Variability and Climate Change** D. Jacob and S. Bergström
	8.7	**BALTEX Secretariat** E. Raschke
	8.8	**Cover Letter** L. Bengtsson
16.30	**9**	**Implementation Plan of *BRIDGE***
	10	**Further Items**
	11	**Date and Place of 10th SSG Meeting**
18.30		**Closing of Thursday's session**

Appendix 2

List of Participants – Helsinki **19. - 20.5.1999**	
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Appendix 3

1. Numerical modeling of the atmosphere/continent system

Renate Hagedorn, Andreas Lehmann and Daniela Jacob:
A Coupled High Resolution Atmosphere – Ocean Model for the BALTEX Region.

Eric van Meijgaard, J.A. Konings, A.J. Feijt and A.C.A.P. van Lammeren:
Comparision of Model Predicted Cloud Cover Profiles with Observations from Ground and Satellite.

Anna Rutgersson:
A comparison between long term measured and modeled sensible heat and momentum flux using a High Resolution Limited Area Model (HIRLAM).

Geert Lenderink, E. van Meijgaard and A.A.M. Holtslag:
Evaluation of the ECHAM4 cloud-turbulence scheme for Stratocumulus.

L. Phil Graham and D. Jacob:
Using large–scale hydrologic modeling to review runoff generation processes in GCM climate models.

2. Water exchanges over the Baltic Sea

Anders Omstedt and A. Rutgersson:
Closing the water and heat cycles of the Baltic Sea.

Barbara Paplinska:
Case Study of Wave Dependent Drag Coefficient in the Baltic Sea.

3. Climatological studies with ground-based and satellite data

Michael Hantel and F. Hamelbeck:
Convection in PIDCAP – A Descriptive Approach.

Daniel B. Michelson, V.L. Foltescu, L. Häggmark and B. Lindgreen:
MESAN Mesoscale Analysis of Precipitation.

Heino Tooming and J. Kadaja:
Snow Cover and Surface Albedo in Estonia.

Ronald E. Steward, J.E. Burford and R.W. Crawford:
On the Characteristcs of the Water Cycle of the Mackenzie River Basin.

Karl-Göran Karlsson:
Satellite Sensing Techniques and Applications for the Purposes of BALTEX.

Ralf Lindau and E. Ruprecht:
SSM/I-Derived Total Water Vapour Content over the Baltic Sea Compared to Independent Data.

Dr. André van Lammeren, A. Feijt, J. Konings, E. van Meijgaard and A. van Ulden:
Combination of Ground Based and Satellite Cloud Observations on a Routine Basis.

Appendix 4

Parameterization of surface fluxes, atmospheric planetary boundary layer and ocean mixed layer turbulence for BRIDGE –

What can we learn from field experiments?

Workshop arranged by the BALTEX Working Group on Numerical Experimentation and the BALTEX Working Group on Process Studies

Abisko, Lapland, Sweden, 20–21, June 1999

Sunday 20 June, 1999

Session 1, 09:00 – 10:30

Surface flux and turbulence parameterization – A review for BALTEX.
Bert Holtslag, KNMI

What have we learned from field experiments so far?
Ann-Sofi Smedman, Uppsala University

Modelling activities and model intercomparisons within BALTEX
Daniela Jacob, MPI

Coffee 10:30 – 11:00

Session 2, 11:00 – 12:30

WINTEX and modelling of winter conditions –
Hannu Savijärvi, Helsinki University

What can we learn from NOPEX with regard to modelling of surface fluxes?
Sven-Erik Gryning, Risö Laboratory

Validation of HIRLAM with NOPEX data.
Björn Bringfelt, SMHI

What can we learn from LITFASS with regard to modelling of surface fluxes?
Frank Beyrich, DWD

Lunch 12:30 – 14:00

Session 3, 14:00 – 15:30

Parameterization of surface and soil processes in SWECLIM.
Michael Tjernström, Stockholm University

Hydrological aspects of surface and soil parameterizations.
Lars Gottschalk (?), Oslo University

Modelling runoff for BALTEX.
Bart van der Hurk, KNMI

Coffee, 15:30 – 16:00

Session 4, 16:00 – 17:30

BASIS- and air-ice coupling.
Jouko Launiainen, Finnish Marine Research Institute

Observation and modelling of surface fluxes over sea.
Anna Rutgersson, SMHI

Coupling of atmosphere and ocean models.
Renate Hagedorn, Kiel University

Choices for parameterization of turbulence in the ocean.
Marcus Meier, SMHI

- Everybody should bring abstracts of their talks to Abisko.

- The presentations will be followed on Monday 21 June by group discussion on three subjects related to the need of model developments for BRIDGE and drafting of recommendations for the BRIDGE modelling community.

International BALTEX Secretariat Publication Series

No. 1 : Minutes of First Meeting of the BALTEX Science Steering Group
at GKSS Research Center in Geesthacht, Germany, May 16-17, 1994.
August 1994.

No. 2 : Baltic Sea Experiment BALTEX – Initial Implementation Plan.
March 1995, 84 pages.

No. 3 : First Study Conference on BALTEX, Visby, Sweden,
August 28 – September 1, 1995. Conference Proceedings.
Editor: A. Omstedt, SMHI Norrköping, Sweden. August 1995, 190 pages.

No. 4 : Minutes of Second Meeting of the BALTEX Science Steering Group
at Finnish Institute of Marine Research in Helsinki, Finland, January 25-27, 1995.
October 1995.

No. 5 : Minutes of Third Meeting of the BALTEX Science Steering Group
at Strand Hotel in Visby, Sweden, September 2, 1995.
March 1996.

No. 6 : BALTEX Radar Research – A Plan for Future Action.
October 1996, 46 pages.

No. 7 : Minutes of Fourth Meeting of the BALTEX Science Steering Group
at Institute of Oceanology PAS in Sopot, Poland, June 3-5, 1996.
February 1997.

No. 8 : Hydrological, Oceanic and Atmospheric Experience from BALTEX.
Extended Abstracts of the XXII EGS Assembly, Vienna, Austria, April 21-25, 1997.
Editors: M. Alestalo and H.-J. Isemer.
August 1997, 172 pages.

International BALTEX Secretariat Publication Series (continued)

No. 9 : The Main BALTEX Experiment 1999-2001 – BRIDGE. Strategic Plan.
October 1997, 78 pages.

No. 10: Minutes of Fifth Meeting of the BALTEX Science Steering Group
at Latvian Hydrometeorological Agency in Riga, Latvia, April 14-16, 1997.
January 1998.

No. 11: Second Study Conference on BALTEX, Juliusruh, Island of Rügen, Germany,
25-29 May 1998. Conference Proceedings. Editors: E. Raschke and H.-J. Isemer.
May 1998, 251 pages.

No. 12: Minutes of 7th Meeting of the BALTEX Science Steering Group
at Hotel Aquamaris in Juliusruh, Island of RÜGEN, Germany, 26 May 1998.
November 1998.

No. 13: Minutes of 6th Meeting of the BALTEX Science Steering Group at
Danish Meteorological Institute in Copenhagen, Denmark, 2 to 4 March 1998.
January 1999.

No. 14: BALTEX – BASIS Data Report 1998. Editor: Jouko Launiainen
March 1999, 96 pages.

No. 15: Minutes of 8th Meeting of the Science Steering Group at Stockholm University
in Stockholm, Sweden, 8 to 10 December 1998.
May 1999.

No. 16: Minutes of 9th Meeting of the BALTEX Science Steering Group at Finnish
Meteorological Institute in Helsinki, Finland. 19 to 20 May 1999

Copies are available upon request at the International BALTEX Secretariat.