Minutes of

18th Meeting of the BALTEX Science Steering Group

held at

at
Meteorological Observatory Lindenberg
Richard Aßmann Observatory
Lindenberg, Germany

18 – 20 October 2005

edited by
Marcus Reckermann
and Hans-Jörg Isemer

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Participants at the 18th BALTEX Science Steering Group Meeting

From left to right:
J. Piechura, P. Bauer-Gottwein, J. Nilsson, M. Kepinska-Kasprzak, F. Berger, A. Omstedt, T. Vihma, O. Bøssing Christensen, V. Vuglinsky A. Lehmann, M. Reckermann, H.-J. Isemer, D. Jacob.
Missing on the photo: S.-E. Gryning

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Summary of Action items

Actions to be addressed as soon as possible or preferably in 2005:

Action #1: Hans-Jörg Isemer to provide access to the draft BACC (BALTEX Assessment of climate change for the Baltic Sea basin) material for BALTEX SSG members, and request comments prior to 15 November 2005, as part of the ongoing external review process of BACC.

Action #2: All BSSG members to review the draft GEWEX roadmap 2006 to 2012 and send comments to the BALTEX Secretariat prior to **5 November 2005**.

Action #3: All BSSG members and participants at the 17th BSSG meeting held in Poznan, Poland, November 2005, to review the draft minutes of that meeting and comment back to the BALTEX Secretariat before or on **17 November 2005**.

Action #4: Sven-Erik Gryning to review and revise the draft chapter 4 "Gradual Extension to Air and Water Quality Studies" of the BALTEX Phase II implementation document and provide a revised draft version of this chapter to both Andreas Lehmann and Hans-Jörg Isemer before or on **21 November 2005**.

Action #5: All BSSG members to comment on the proposed title "Science Framework and Implementation Strategy for BALTEX Phase II" of the BALTEX Phase II implementation document to both Andreas Lehmann and Hans-Jörg Isemer before or on **21 November 2005**.

Action #6: Andreas Lehmann and Hans-Jörg Isemer to integrate aspects of the draft GEWEX Roadmap 2006-2012 into the BALTEX Phase II implementation document, as appropriate, upon completion of action item #2.

Action #7: Andreas Lehmann, the Implementation Plan Writing Team and the BALTEX Secretariat, upon completion of action items #4 to #6, see above, to finalise the draft implementation plan document for BALTEX Phase II and publish the final version preferably **in 2005**.

Action #8: the BALTEX Secretariat and Sirje Keevallik to start the concrete planning and preparation for the 5th Study Conference on BALTEX scheduled to take place on the island of Saaremaa, Estonia, in 2007, following directions proposed at the BSSG meeting, still **in 2005**.

Action #9: Hans-Jörg Isemer to establish communication with the organisation team of the forthcoming Baltic Sea Science Conference (planned also for 2007) in order to avoid date conflicts with the 5th BALTEX Study Conference, **as soon as possible**.

Action #10: Hans-Jörg Isemer to establish a draft list of BALTEX data sets and products to be offered as BALTEX data contributions to meet GEWEX phase I objectives, secondly to receive approval of these data sets' authors and other relevant persons having relevant intellectual property rights, thirdly organise the proper inclusion of these BALTEX data sets and products at the GEWEX data management website, **preferably in 2005**.

Action #11: Hans-Jörg Isemer to brief the GEWEX IGPO and GHP chair on BSSG's concern regarding NEESPI (The Northern Eurasia Earth Science Partnership Initiative) request to become an approved GEWEX CSE, as soon as possible, and, together with **Hartmut Graßl and Valery Vuglinsky**, establish contact to the management level of NEESPI in order to clarify relevant issues of concern raised at the 18th BSSG meeting, **preferably in 2005**.

Action #12: Hartmut Graßl, Anders Omstedt (BSSG co-chairs) and Hans-Jörg Isemer to initiate closer contact between the BALTEX programme and the BONUS ERA-NET at the leadership level of both programmes with the particular aim to offer input from BALTEX to the planned FP7 BONUS-169 funding programme, still **in 2005**.

Action #13: Jörgen Nilsson to revise the proposed BALTEX Phase II Data Policy Document following the suggestions voiced at this BSSG meeting.

Action #14: the BALTEX Secretariat with the support of all BSSG members to establish presentation material (in particular a set of presentation slides (PowerPoint files)) on i) major BALTEX Phase I achievements and results, and ii) BALTEX Phase II objectives and plans, preferably still **in 2005**.

Action #15: the BSSG co-chairs Hartmut Graßl and Anders Omstedt, with support by Hans-Jörg Isemer, to contact those BSSG members with an apparent low activity profile concerning BALTEX SSG meetings individually and discuss individual BSSG membership terms, still **in 2005**.

Actions to be addressed prior to the forthcoming BALTEX SSG meeting:

Action #16: Daniela Jacob to dissolve the BALTEX Working Group on Energy and Water Cycles.

Action #17: Daniela Jacob to establish draft terms of reference for the new BALTEX Working Group on Energy and Water Budgets (draft name as well to be confirmed) and suggest members of this new BALTEX WG. Both, the draft terms of reference and membership shall be reported to BSSG at its forthcoming meeting for final approval.

Action #18: Anders Omstedt to elaborate the importance of the carbon cycle in the climate system and its relevance for BALTEX Phase II research, establish relevant implementation strategies and project outlines for BALTEX Phase II, and report to the BSSG at its forthcoming meeting.

Action #19: Daniela Jacob to review existing Ph.D. schools and programmes (such as the International Max Planck Research School on Earth System Modelling) and possibilities to submit BALTEX-related Ph.D. proposals to these programmes, and report accordingly to BSSG at its forthcoming meeting.

Action #20: Daniela Jacob to establish closer relations between BALTEX and the COSMOS (Community Earth System Models[1]) project and integrate BALTEX initiatives and projects

[1] See http://cosmos.enes.org

into COSMOS, and/or vice versa, to the extent beneficial for both programmes, and report to BSSG at its forthcoming meeting for final approval.

Action #21: Andreas Lehmann to establish a draft plan for, draft terms of reference for and suggest membership of a BALTEX Working Group for coordination of the Baltic Grid initiative, and report to BSSG at its forthcoming meeting for approval.

Action #22: Jarmo Koistinen to provide an overview on how weather radar activities and research is expected to contribute to BALTEX Phase II objectives, in particular how the recently established cooperation of the BALTEX WG on Radar with NORDMET R&D activities contribute to these objectives, and report to BSSG at its forthcoming meeting accordingly.

Action #23: Marcus Reckermann to establish draft terms of reference for the suggested Working Group BALTEX Public Website (name is also draft so far), propose this WG's membership, initiate technical preparations for a BALTEX Internet portal or new website as appropriate, and report accordingly to BSSG at its forthcoming meeting for approval.

Action #24: the BSSG co-chairs Hartmut Graßl and Anders Omstedt, and Hans-Jörg Isemer to establish revised BSSG terms of reference and membership, and report accordingly to BSSG at its forthcoming meeting for approval.

Action #25: the BALTEX Secretariat and Anders Omstedt to prepare for the forthcoming BSSG#19 meeting (one day meeting) in conjunction with the planned BACC conference in Göteborg, Sweden, in the first half of 2006.

Action #26: the BALTEX Secretariat and Valery Vuglinsky to prepare for the 20th BSSG meeting (BSSG#20) to be held within the time period 4 to 8 December 2006 in St. Petersburg, Russia.

Introduction

The 18th meeting of the BALTEX Science Steering Group (BSSG) was held in conjunction with the workshop „German Climate Research Programme DEKLIM and BALTEX: Selected Results and Future Plans“. Both the BSSG meeting and the preceding workshop were hosted by the German Weather Service (DWD) at the Meteorological Observatory Lindenberg – Richard-Aßmann Observatory in Lindenberg. The workshop was held in the afternoon of 18 October and summarized the activities of the BALTEX-related German research project clusters under the DEKLIM umbrella: EVA-GRIPS, BOBA, BASEWECS and BALTIMOS. An outlook to the forthcoming period of research of BALTEX Phase II with the proposal of the new activity BALTEX GRID was also provided. The workshop terminated at 18:00. See the workshop agenda in Appendix 1.

The steering group meeting was scheduled as a 1½ days meeting. Anders Omstedt chaired the meeting, deputizing for Hartmut Graßl, who regrettably was not able to attend the meeting. A large number of topics was dealt with at the meeting, with an emphasis on the strategy, implementation and documentation of BALTEX Phase II, as well as on organisational issues concerning the BSSG and BALTEX Working Groups.

The 18th BSSG meeting was opened by Anders Omstedt at 9:30 on Wednesday 19 October, and was closed at 13:30 on Thursday 20 October 2005. The meeting agenda and list of participants can be found in Appendix 2 and 3, respectively. Action items are numbered according to their urgency, not to their sequence in the agenda. The BSSG meeting agenda can be found in Appendix 2.

Item 1: Welcome by the host and the chairman

On behalf of the DWD, Franz Berger welcomed the BSSG members at the Lindenberg Obervatorium in his capacity as the observatory’s director. F. Berger had given a presentation on the Lindenberg Observatorium and its history at the workshop the previous day. He recalled that the Lindenberg Observatory had just passed a celebration week on the occasion of its 100th anniversary, when the observatory was officially re-named to “Meteorological Observatory Lindenberg – Richard-Aßmann Observatory” in honour of its founding director Richard Aßmann. The chairman of the steering group meeting, Anders Omstedt, thanked Franz Berger and the DWD for the invitation to this historic venue.

Item 2: Introduction of participants including summary of their BALTEX-related projects and/or initiatives

All participants (see Appendix 3) introduced themselves and gave a short summary of their BALTEX-related activities. Hans-Jörg Isemer informed the participants that the BSSG chairman Hartmut Graßl was unable to attend the meeting due to illness and delivered Hartmut Graßl´s best regards to the BSSG members and participants of the meeting. BSSG voiced regret and concern and expressed hope for Hartmut Graßl to quickly regain his health.

Anders Omstedt took on the responsibility to act as Chairman of this meeting.

Item 3: Amendment and approval of the agenda

The agenda to the 18th BSSG meeting was approved with the following amendment:

1. Marcus Reckermann to present ideas on a new BALTEX web site (to be discussed under Item 15)

Item 4: Approval of the previous BALTEX SSG meeting minutes

Hans-Jörg Isemer shortly presented the draft minutes of the 17th BSSG meeting held 24-26 November 2004 in Poznan. As the draft minutes had been made available to BSSG members only on short notice prior to this meeting, it was suggested that **all BSSG members and participants** at the 17th BSSG shall review the draft minutes of that meeting and comment back to the BALTEX Secretariat before or on **17 November 2005 (Action #3)**.

Concerning the action items of the 17th BSSG meeting, it was confirmed that all items, except for one, were addressed and settled. The still open action item concerns the implementation plan for BALTEX Phase II, see item 9 below.

Item 5: New staff member at the International BALTEX Secretariat

Marcus Reckermann was introduced by Hans Jörg Isemer as the new full time staff member at the International BALTEX Secretariat (IBS) established at and supported by the GKSS Research Centre Geesthacht, Germany. H.-J. Isemer pointed out that, with M. Reckermann's full time position, and the part-time positions of both the IBS secretary, Silke Köppen, and his own position as the IBS's head, the support of GKSS for the IBS, and thus BALTEX, has significantly been increased. M. Reckermann outlined his scientific background, see Appendix 4.

This additional engagement of GKSS for BALTEX was greatly acknowledged by the BSSG members.

Item 6: GEWEX and other global activities

6.1 GEWEX and GEWEX Hydrometeorology Panel (GHP) developments

Hans-Jörg Isemer gave a brief summary of the findings of the recently conducted GHP #11 meeting in Melbourne, Australia. He particularly referred to those GHP #11 action items with relevance for BALTEX, see Appendix 5. Several of these items were discussed in some detail by BSSG and resulted in action items, as follows:

At GHP #11, the International GEWEX Project Office (IGPO) presented a draft **GEWEX Phase II roadmap for 2006 to 2012**, and all CSEs were asked to comment on the draft prior to 10 November 2005. The roadmap is built around the revised GEWEX Phase II objectives (see Appendix 6) and outlines steps and a related timeline to meet these objectives. As a general reaction, the BSSG welcomed the establishment of the roadmap. It was considered a useful document and guideline, in particular to adjust the objectives and timelines of those GEWEX CSEs which are currently establishing their own Phase II plans such as BALTEX. The IGPO was commended for drafting this roadmap. It was suggested that the

implementation plan draft for BALTEX Phase II be carefully checked against the draft GEWEX roadmap and that adjustments to the BALTEX plans be performed as appropriate. **Action #2** is for **all BSSG members** to review the draft GEWEX roadmap 2006 to 2012 and send comments to the BALTEX Secretariat prior to **5 November 2005**. Further to this, **Action #6** was given to **Andreas Lehmann** and **Hans-Jörg Isemer** to integrate aspects of the draft GEWEX Roadmap 2006-2012 into the BALTEX Phase II implementation document, as appropriate, upon completion of action item #2.

H.-J. Isemer continued explaining the revised reporting requirements for GEWEX projects and CSEs for GHP. The new **GHP reporting template** was introduced and was discussed in the context of a more stringent and closer commitment of individual CSEs to GHP activities and goals. The BALTEX Secretariat was asked to follow-up with all reporting requirements towards GHP and GEWEX.

The BALTEX presentation given at GHP #11 by H.-J. Isemer had alluded to the BALTEX Phase II State-of-the-art Report (see Item 8 below) and GHP suggested to receive a **BALTEX synthesis presentation and report** for BALTEX Phase I at the forthcoming GHP #12 meeting. The BALTEX Secretariat will initiate necessary steps in due time.

Hans-Jörg Isemer continued to note, that at GHP #11, all CSEs were again reminded to provide information and/or access to specific CSE data sets which are qualified as key CSE contributions to meet GEWEX Phase I objectives. These shall be made public via the GEWEX website. Several CSEs have already contributed to offering specific data sets via the GEWEX website (see http://www.gewex.org/datasets.html), and BALTEX is expected to contribute. BSSG members noted that several candidate data sets may be available for this purpose. BSSG supported this request, however, noted also that relevant intellectual property rights issues may have to be considered thoroughly (Action #10).

Action #10: Hans-Jörg Isemer to establish a draft list of BALTEX data sets and products to be offered as BALTEX data contributions to meet GEWEX phase I objectives, secondly to receive approval of these data sets' authors and other relevant persons having relevant intellectual property rights, thirdly organise the proper inclusion of these BALTEX data sets and products at the GEWEX data management website, **preferably in 2005**.

Referring to the GHP#11 action item C.6 (see Appendix 5), BSSG then discussed whether a letter to be written by WCRP officials addressed to some Hydro-met Services with the intention to ask for better collaboration in terms of free data exchange would be appropriate at the time being. See also item 14.1 of these minutes. Different opinions were voiced. General agreement was finally obtained that such a letter could be viewed as a "top-down" approach by the Services concerned and may therefore create even adverse effects. Instead, the chair of the new BALTEX Working Group on Data Management was asked to contact the responsible officials in the relevant Services on an individual and personal base to discuss options for the future data delivery for BALTEX. Hans-Jörg Isemer was asked to contact the GHP leaders accordingly with respect to the GHP #11action item.

Using parts of a PowerPoint presentation given by IGPO at GHP #11, Hans-Jörg Isemer briefed the BSSG on **NEESPI, the Northern Eurasia Earth Science Partnership Initiative**, and noted that he had raised preliminary concern at GHP #11 on the NEESPI request to become an accepted GEWEX CSE. This concern was mainly based on the fact that 1) NEESPI's objectives apparently overlap with those of BALTEX, 2) the target region of NEESPI includes much of the Baltic Sea basin. With NEESPI accepted as a GEWEX CSE,

GEWEX would be the home of at least two CSEs (BALTEX and NEESPI) with at least partly the same objectives for the same target region, which would constitute an unprecedented GEWEX and GHP situation, with the danger of causing conflicts for example related to funding issues. Similar concern was also voiced at GHP #11 by representatives of the proposed MAHASRI project, which is currently being prepared as a follow-up project to GAME (GEWEX Asian Monsoon Experiment). Action D.3 of GHP #11 (Appendix 5) is therefore now for BALTEX and MAHASRI.

BSSG confirmed the above concern. It was particularly added that some of the main characteristics of the NEESPI target region (including the Baltic Sea basin, as suggested by NEESPI) given in the NEESPI overview do not hold true in particular for the Baltic Sea basin (*e.g.* "limited data sets and inadequate data systems", ecosystems whose highly integrated nature is poorly understood", "minimal scientific collaboration across national boundaries", "need for the development of indigenous expertise"). Several options were discussed how to react on the NEESPI request. One particular suggestion, which emerged from the discussion, was to discuss with NEESPI leaders the option to exclude the Baltic Sea basin from the NEESPI target region, which, in relation to NEESPI's entire target region and objectives, would apparently not mean a significant limitation to the overall objectives and plans of NEESPI. **Action #11** is for **Hans-Jörg Isemer** to brief the GEWEX IGPO and GHP chair on BSSG's concern regarding the NEESPI request to become an approved GEWEX CSE, as soon as possible, and, together with **Hartmut Graßl and Valery Vuglinsky**, establish contact to the management level of NEESPI in order to clarify relevant issues of concern raised at the 18th BSSG meeting, **preferably in 2005**.

6.2 The Global Terrestrial Network - Rivers (GTN-R) Initiative

Valery Vuglinsky reported on the Global Terrestrial Network for River Discharge (GTN-R), which represents the river discharge component of the Global Terrestrial Network – Hydrology (GTM-H). The idea of GTN-R is to bring together the available heterogeneous information on near-real time river discharge data from the National Hydrological Services (NHS) and redistribute the data in a harmonized way. A priority network of around 380 river discharge reference stations has been identified. The heterogeneous data from the different NHS will be standardized to a common format by specialized software. The first phase of the project will concentrate on NHS who already publish near-real time data on the internet or already have some kind of automated procedure. The overall goal of the project is to provide runoff data for the Global Runoff Data Centre (GRDC) and its future product „Long term mean annual freshwater river fluxes into the World Ocean".

The BSSG welcomed the initiative as a contribution towards a standardization and facilitation of data availability and exchange. A detailed description of the GTN-R project is provided in Appendix 7.

Item 7: BONUS for the Baltic Sea Science – Network of Funding Agencies: Towards an Article 169 project in FP7

The BONUS programme was presented by Dr. Ulrich Wolf in his capacity as the representative of the German contractor to BONUS, the "Projektträger Jülich (PTJ)", which acts on behalf of the German Federal Ministry of Education and Research (BMBF).

BONUS is an EU 6th Framework Programme ERA-NET project with a total funding of 3 Million Euro for the years 2004-2007. The project is a network and partnership of key funding agencies of all EU member states around the Baltic Sea and Russia. The objective of BONUS is to deepen the understanding of conditions for science-based management of environmental issues, and to gradually and systematically create conditions for a joint Baltic Sea research programme including programme management, evaluation schemes, research infrastructure, agreements on administrative and legal issues and postgraduate training.

BONUS is currently preparing conditions for creating a joint Baltic Sea research programme under Article 169 of the Treaty of the European Community to be implemented in the 7th Framework Programme (FP7). The present draft of this future BONUS-169 programme is clustered into eight work packages which strive to cover all areas of marine Baltic Sea research, with an emphasis on environmental and management issues. U. Wolf pointed out that the funding mechanism through BONUS-169 is not expected to start before 2008 and is scheduled at present to run for 5 years. The ”common pot” for all projects to be funded by the national partners is roughly estimated to amount up to 100 Million Euro, which will be allocated through the partner countries; the same amount may be provided by the European Commission. BONUS-169 is planned to offer common calls for proposals and a common evaluation procedure; however, administrative details and the exact time frame are still to be settled. Russia as the only non-EU member would not be able to participate directly; however, this may be feasible through the establishment of transnational groups.

In October 2005, a draft science plan for BONUS-169 was published on the BONUS web site (www.bonusportal.org). It describes the research fields which the BONUS-169 programme intends to support. This science plan is still in an early phase and is currently under debate in all countries contributing to BONUS. U. Wolf emphasized that input and comments by the BALTEX community is most welcome. The science plan is the umbrella to cover all generic issues; calls for proposals will be much more specific. The final draft of the BONUS science plan is expected to be completed by early 2006, major revisions are currently underway. In this respect it is important for the BALTEX community to define their possible role in the BONUS-169 programme and to explore and evaluate the opportunities for BALTEX-related research to be funded under the BONUS umbrella. It was noted that – in case of a successful implementation of BONUS-169 - there may be no additional funding available at neither the EU nor at the national level for those research areas covered by BONUS-169.

Although the focus of BONUS issues is strictly maritime, research issues related to the entire water catchment of the Baltic Sea – and even beyond – such as hydrology, atmosphere, land surface, and others are expected to be included in the BONUS-169 programme. A particular potential candidate for the above is work package 1 in the present BONUS-169 draft programme, entitled “Natural forcing and climate change”.

BONUS-169 and the possible options for BALTEX were discussed in detail. BSSG agreed that a strategic consultation with the BONUS leadership is necessary for BALTEX issues to be well represented in the BONUS-169 science plan and in later calls. **Action # 12** was given to **Hartmut Graßl, Anders Omstedt (BSSG co-chairs) and Hans-Jörg Isemer** to initiate closer contact between the BALTEX programme and the BONUS ERA-NET at the leadership level of both programmes with the particular aim to offer input from BALTEX to the planned FP7 BONUS-169 funding programme, still in 2005.

BSSG thanked Ulrich Wolf for his participation at this BSSG meeting and expressed again the BALTEX interest for a close cooperation with BONUS in particular related to the development process of BONUS-169.

Item 8: State-of-the-art Report for BALTEX Phase I: What have we learned from BALTEX Phase I ?

The report, edited by Daniela Jacob and Anders Omstedt, was presented in its final printed version by Daniela Jacob. All participants of the meeting received a printed copy of the report. Daniela Jacob thanked all the contributors and remarked that the report clearly documents the activities in BALTEX Phase I and the major achievements. The extensive list of BALTEX related publications is available in the back of the report and also reflects the spectrum of research activities in BALTEX Phase I. The report was edited and printed with the financial support of the GKSS Research Centre in Geesthacht and the Max Planck Institute for Meteorology in Hamburg. The report will be widely distributed by the BALTEX Secretariat. BSSG members were encouraged to contribute to making the report available to the wider science community and beyond, as appropriate.

Item 9: Science Framework and Implementation Strategy

Andreas Lehmann shortly summarized the development and the status of the document. The document (so far called *Implementation Plan*) had been authored and edited by the writing team lead by Andreas Lehmann and went through an external review in early summer 2005. This review resulted in several critical comments, especially on Chapter 4 (*Gradual extension to air and water quality*), which were considered to require substantial revisions. The revision process is not finished and still ongoing, and the implementation plan for BALTEX Phase II is therefore not published at the time of this meeting, as was anticipated at the previous BSSG meeting. In particular Chapter 4 was revised with the additional help of Bernd Schneider (Institute of Baltic Sea Research, Warnemünde, Germany, expert particularly in marine biogeochemistry) and Gerhard Petersen (GKSS Research Centre Geesthacht, Germany, expert particularly in atmospheric modelling and atmospheric chemistry). The draft version of the revised Chapter 4 had been circulated prior to this BSSG meeting and was open for final discussion.

The following two issues were discussed in detail by the members of the BSSG.

1. Some BSSG members voiced concern that the revised draft Chapter 4 on *"Gradual Extension to air and water quality"* now has a different focus than the earlier version which had principally been agreed upon at the previous BSSG meeting. Sven-Erik Gryning pointed out that a specific content-related change, apparent in the new version, is the pronounced focus on the carbon cycle, nutrients and eutrophication of the Baltic Sea, whereas other research areas such as air-sea exchange, application of remote sensing techniques and the emphasis on experimental work regrettably seem to have lower priority. The head of the implementation writing team, Andreas Lehmann, together with Hans-Jörg Isemer, responded that, as a reaction on the strong comments obtained in the course of the external review process, the inclusion and contributions of additional experts seemed appropriate, which finally led to the present draft version with somehow changed priorities and emphasis. It was also noted that parts of the earlier version of Chapter 4 were considered too vague by external reviewers in order to be considered as a real implementation plan, and, therefore, these parts

were removed from the foreground of this chapter, in line with the reviewers' comments. It was finally noted that earlier attempts to agree with members of the writing team on these issues failed because of communication problems.

BSSG concluded that a finally revised version be established where the present version shall be taken and aspects of the first version be integrated taking into account the critical comments received during the external review. **Sven-Erik Gryning** accepted **Action Item #4** to review and revise the version of draft Chapter 4 "Gradual Extension to Air and Water Quality Studies" as presented at this BSSG meeting and provide a revised draft version of this chapter to both Andreas Lehmann and Hans-Jörg Isemer before or on **21 November 2005.**

2. The overall concept and status of the entire document were discussed. Critical comments were raised by some BSSG members that the document does not entirely fulfil all requirements of a detailed implementation plan for BALTEX Phase II. It was however also noted that a more detailed planning is difficult to achieve at present in light of the current unsure financial background of the entire BALTEX programme. It was then discussed whether or not the document should be published in its present general form, or not, and if so, whether the new suggested title "Science framework and implementation strategy" would be the appropriate solution. As a general consensus, BSSG agreed that the document represents an improvement in terms of implementation aspects compared to the Science plan published earlier and that it gives sufficiently concrete guidelines for future research to meet BALTEX Phase II objectives, although it may not constitute an ideal implementation plan. **Action #5 was given to all BSSG members** to comment on the proposed title "Science Framework and Implementation Strategy for BALTEX Phase II" of the BALTEX Phase II implementation document to both Andreas Lehmann and Hans-Jörg Isemer before or on **21 November 2005**. BSSG agreed that the writing process should come to conclusion soon. Andreas Lehmann as the head of the implementation plan writing team was asked to incorporate the comments by the BSSG members and the revised Chapter 4 into the document and finalise the document to be published by the end of 2005 (**Action # 7**).

Action #7: Andreas Lehmann, the Implementation Plan Writing Team and the BALTEX Secretariat, upon completion of action items #4 to #6, to finalise the draft implementation plan document for BALTEX Phase II and publish the final version preferably **in 2005**.

Item 10: The BALTEX Assessment of Climate Change for the Baltic Sea Basin (BACC): Status and towards formulation of the major findings

A. Omstedt briefed the BSSG meeting participants on achievements and the actual status of the BACC initiative. He recalled that the BACC chair, Hans von Storch, had welcomed the external review guided by the BALTEX SSG, as was suggested at the previous BSSG meeting, and that therefore BACC is now considered as an approved BALTEX initiative. The planned BACC book will consist of 5 main chapters and additional annexes. More than 80 authors have so far contributed to the book and the compiled draft material comprises several hundreds of pages. See Appendix 8 for the present structure of the planned BACC book. A dedicated BACC website is available at www.gkss.de/BACC. The following major milestones were achieved since the preceding BSSG meeting:

January 2005: Joint BALTEX/HELCOM workshop in Copenhagen, Denmark: The major objectives of the BALTEX/BACC/HELCOM cooperation were outlined. Management support for the joint project will be through the International BALTEX Secretariat.

March 2005: The HELCOM cooperation with BALTEX was approved by the general HELCOM assembly.

May 2005: 1st major BACC workshop in Helsinki, Finland: Objectives, structure and contents of the planned BACC book were discussed in detail.

October 2005: The draft material for Chapters 2 to 5 of the planned BACC book is ready for review. An external review panel, consisting of 8 distinguished experts, was nominated and is currently performing an evaluation of the draft BACC material. The external review had been organised under the guidance of the BALTEX SSG chair Hartmut Graßl.

A. Omstedt concluded that BACC is on schedule as planned. Future planned BACC events include the 2nd BACC workshop to be held on 8 and 9 December 2005 in Warsaw, and an international open BACC Conference to be jointly organized by BALTEX and HELCOM and to be held at the University of Göteborg, 22 - 23 May 2006.

BSSG commended the BACC community, and in particular Hans von Storch, for the progress of the BACC initiative. It was suggested that all BSSG members should have access to the draft BACC material in order to be able to comment on the draft material. **Action #1** was given to **Hans-Jörg Isemer** to provide access to the draft BACC material for BALTEX SSG members, and request **comments prior to 15 November 2005**, as part of the ongoing external review process of BACC.

Item 11: BALTIC GRID - Status and Plans for a Pilot Study for BALTEX Phase II

In his presentation during the workshop on 18 October, Andreas Lehmann specified details on the BALTIC GRID Pilot Study, both in terms of research topics (subprojects) and potentially participating scientists. The presentation is available in Appendix 9. The study aims at a duration of two years and should cover the target period 1999 – 2004, which includes in particular both the BALTEX-BRIDGE period as well as the CEOP (Coordinated Enhanced Observing Period) Phase 1 observational period. Data requirements include model (process models, coupled atmosphere-land-ocean models) and observational data (*in situ* measurements in the atmosphere, on land and in water, flux measurements, remote sensing data). General objectives involve the quantification of the energy and water cycles and fluxes with the associated uncertainties, the study of extreme events and sea ice evolution, and the quantification of water mass exchanges and upwelling.

Four subprojects were presently proposed within the BALTIC GRID Pilot Study: 1) A **subproject on BRIDGE** (inventory of observational and satellite data and extended synthesis, uncertainties, climate change and variability); 2) a **subproject on coastal regions** (coastal meteorology, atmospheric boundary layers and fluxes, budgets of the coastal zone (COBALT), sea ice dynamics); 3) a **subproject on wind, water vapour and cloud properties**; and 4) **a subproject on "Großwetterlagen" and extreme events** (classification and probability).

The BSSG welcomed and approved the BALTIC GRID Pilot Study initiative. The opinion was voiced that the present proposal for a pilot study may be seen as a candidate for the core of a later major implementation measure of BALTEX Phase II. It was also suggested in this context that BALTIC GRID is an open initiative with the possibility of more subprojects to be included. BALTEX invested much in BRIDGE, and more scientific output based on BRIDGE data is desirable.

Much of the following discussion was on technical and organisational aspects of BALTIC GRID and the Pilot Study. There is an enormous amount of atmospheric and oceanographic data available which can be shared among different groups participating at BALTIC GRID. Model simulations originating from different model runs, in particular the BALTIMOS project, are readily available for the latter period. Interested groups could start their own projects with the available data. Additional model simulations could be offered for addressing specific science questions upon request. Cooperation between scientists within the BALTIC GRID network should be to the mutual benefit; e.g. data as well as results and publications should be shared. With respect to the Water Framework Directive of the EU, it was suggested to put a special emphasis on coastal areas. BSSG members further suggested strengthening the collaboration with the COSMOS (Community Earth System Models[2]) project.

It was common sense among BSSG members that there should be some formality concerning the structure and procedures of the data exchange process, and the cooperation rules within BALTIC GRID in general. Andreas Lehmann was therefore asked to establish a BALTEX Working Group on BALTIC GRID (working title so far). **Action #21 is for Andreas Lehmann** to establish a draft plan for, draft terms of reference, including a name, for and suggest membership of a BALTEX Working Group for the coordination of the BALTIC GRID initiative, and report to BSSG at its forthcoming meeting for approval. A close collaboration with the new BALTEX Working Group on Data Management was suggested (see also Item 14.1).

Item 12: BALTEX Phase II Implementation Update and Plan

The BSSG discussed both ongoing BALTEX Phase II activities and options for future initiatives which may be started in the next 12 months. Ongoing activities such as BALTIC GRID, BACC and the "Ocean Climate" Ph.D. programme (http://www.oceanclimate.se/) running at Göteborg University were briefly reviewed. Anders Omstedt further noted that within the latter Ph.D. programme, future projects addressing the carbon cycle in the climate system of the Baltic Sea are being planned in cooperation with the Baltic Sea Research Institute Warnemünde (IOW). Such projects are expected to be of importance in the context of the revised Chapter 4 of the BALTEX Phase II Implementation Document (see Item 9). **Action #18** was accepted by **Anders Omstedt** to elaborate the importance of the carbon cycle in the climate system and its relevance for BALTEX Phase II research, to establish relevant implementation strategies and project outlines for BALTEX Phase II, and report to the BSSG at its forthcoming meeting.

The general potential of Ph.D. schools and programmes as a means to implement BALTEX projects was highlighted. Daniela Jacob mentioned the specific International Max Planck Research School on Earth System Modelling (www.earthsystemschool.de) as a potential candidate to host BALTEX-relevant studies. Others with a similar potential may be existing

[2] See http://cosmos.enes.org

and may need to be promoted in the context of BALTEX research. The BSSG therefore asked **Daniela Jacob (Action #19)** to review existing Ph.D. schools and programmes (such as the International Max Planck Research School on Earth System Modelling) and possibilities to submit BALTEX-related Ph.D. proposals to these programmes, and report accordingly to BSSG at its forthcoming meeting.

Finally, taking up discussions at the previous BSSG meeting (see the minutes of the BSSG #17 meeting), the potential of the COSMOS (Community Earth System Models[1]) project was briefly reviewed, and **Action #20** was given to **Daniela Jacob** to establish closer relations between BALTEX and the COSMOS and integrate BALTEX initiatives and projects into COSMOS, and/or vice versa, to the extent beneficial for both programmes, and report to BSSG at its forthcoming meeting for final approval.

Action #18: Anders Omstedt to elaborate the importance of the carbon cycle in the climate system and its relevance for BALTEX Phase II research, establish relevant implementation strategies and project outlines for BALTEX Phase II, and report to the BSSG at its forthcoming meeting.

Action #19: Daniela Jacob to review existing Ph.D. schools and programmes (such as the International Max Planck Research School on Earth System Modelling) and possibilities to submit BALTEX-related Ph.D. proposals to these programmes, and report accordingly to BSSG at its forthcoming meeting.

Action #20: Daniela Jacob to establish closer relations between BALTEX and the COSMOS (Community Earth System Models[1]) project and integrate BALTEX initiatives and projects into COSMOS, and/or vice versa, to the extent beneficial for both programmes, and report to BSSG at its forthcoming meeting for final approval.

Item 13: The BALTEX Science Steering Group: Role, function, activities and membership

13.1. New BSSG members

Since the 17th BSSG meeting, one suggestion for BSSG membership changes was officially brought to the attention of the BSSG co-chairs. Anders Omstedt read out a letter addressed to both BSSG co-chairs, in which the directors of the GKSS Research Centre Geesthacht had offered GKSS's additional support to the steering process of BALTEX by suggesting **Professor Hans von Storch, head of the Institute for Coastal Research (IfK) at GKSS,** to become new member of the BSSG. The letter mentioned the increased research interest of GKSS IfK at particularly the new BALTEX Phase II objectives related to climate issues and alluded to Hans von Storch's BALTEX activities, in particular his leadership in BACC.

BSSG **unanimously approved Hans von Storch as new BALTEX Steering Group member**.

Timo Vihma suggested **Daniela Jacob** as new BSSG member. Andreas Lehmann supported this suggestion because D. Jacob has been active in past BALTEX activities e.g. as chair of the BALTEX Working Group on Energy and Water Cycles and as speaker of the German BALTEX-related DEKLIM project clusters, and because she will be actively contributing to two new BALTEX Working Groups with an even increased commitment to BALTEX. The

suggestion was unanimously approved and **Daniela Jacobs was accepted as new BALTEX SSG member**.

13.2. The general role of the BALTEX SSG

This was discussed, in particular in view of the extended objectives of BALTEX Phase II. It included a discussion on the terms of the BSSG membership, both in general and individually, and options for the implementation of a **BALTEX Task Force**, as suggested at an earlier BSSG meeting.

It was recalled, that the original founding strategy for BSSG membership was built around two basic requirements: 1) to cover the BALTEX science disciplines and areas by distinguished science leadership, and 2) to have all important national Hydro-met Services in the Baltic Sea basin as major stakeholders represented in the BSSG. So far, there is no time limitation for the term of individual BSSG members, and therefore, the BSSG has increased in size to – with the new approved members of this meeting considered - 24 members, which is a relatively large group for a GEWEX CSE such as BALTEX. It was also noted that the new extended objectives of BALTEX Phase II may create additional needs for new members with distinguished leadership potential in areas addressed by BALTEX Phase II objectives. The principle to have all major National Hydro-Met services represented in the BSSG was considered to be of high importance, and recent apparent "problem cases", where national Services have not been as supportive to BALTEX as anticipated, or have not been in contact with the BSSG at all (ad-hoc examples mentioned include the national Services in Estonia, Latvia, Lithuania and Belarus) should be clarified on an individual base in due time. It was finally noted that several actual BSSG members tend to show low profile in the steering process of BALTEX. In this context the BSSG meeting participation statistic of the recent years was discussed as one indication for BSSG members' interest and activity related to BALTEX, and an earlier concluded BSSG rule (the only one related to the possible termination of BSSG membership), which requested the BSSG chairs' actions in cases where BSSG members had not shown up at three BSSG meetings in a row, was recalled.

In order to improve the organisation and efficiency of the BSSG, Anders Omstedt proposed as a general rule that the chairpersons of the BSSG should contact individual BSSG members with an apparent low activity profile concerning BALTEX SSG meetings. The BSSG ascertained that, as BALTEX is currently in a very sensitive transition period from Phase I to Phase II, it is very important that all BSSG members wholeheartedly promote the programme and contribute actively to implementing BALTEX Phase II research. Members with low activity profiles shall be contacted and the substitution by new enthusiastic scientists shall be discussed as an option. Also important is to consider inviting new members whose scientific expertise is in areas of the new objectives of BALTEX Phase II. **Action #15** was given to the **BSSG co-chairs Hartmut Graßl and Anders Omstedt,** with support by Hans-Jörg Isemer, to contact those BSSG members with an apparent low activity profile concerning BALTEX SSG meetings individually and discuss individual BSSG membership terms, still **in 2005**.

Action #24 is for the **BSSG co-chairs Hartmut Graßl and Anders Omstedt, and Hans-Jörg Isemer** to establish revised BSSG terms of reference and membership, and report accordingly to BSSG at its forthcoming meeting for approval. As a preliminary suggestion in this context, a term limited to a period of three to five years was suggested by Anders Omstedt, with the option of prolongation to be approved by the entire BSSG.

The BALTEX programme should be communicated and promoted offensively, e.g. at conferences and other public events. The BALTEX Secretariat will prepare a "standard" PowerPoint presentation about the achievements (Phase I) and prospects (Phase II) of BALTEX. All BSSG members are encouraged to give this presentation at whatever venue appropriate for this purpose. **Action #14: the BALTEX Secretariat with the support of all BSSG members** to establish presentation material (in particular a set of presentation slides (PowerPoint files)) on i) major BALTEX Phase I achievements and results, and ii) BALTEX Phase II objectives and plans, preferably still **in 2005**.

Item 14: BALTEX Working Groups

14.1 The Working Group on Data Management: Terms, Membership and Data Policy Issues.

As a follow-up of an action item of the previous BSSG meeting, Jörgen Nilsson presented the draft Terms of Reference for the new BALTEX Working Group on Data Management (BWGD) as well as a draft BALTEX Data Policy. He also suggested four initial members of the new BWGD, namely Franz Berger, Andreas Lehmann, Timo Vihma and Valery Vuglinsky (see Appendices 10 and 11 for details).

In the discussion, it was suggested that all BALTEX data should be "labelled" as such, so that all users must make reference to BALTEX in all publications. For that purpose, an amendment to Article 4 in the Data Policy document was suggested, stating that in particular in case of publications, reference must be made to BALTEX, respectively to the data producer within BALTEX, as well as an additional clarification to the definition of BALTEX data. (**Action # 13**, see below). With the above suggestions included, the Terms of Reference for BWGD as well as the initial BWGD membership, and the data policy document were approved by the BSSG.

Action #13: Jörgen Nilsson to revise the proposed (draft) BALTEX Phase II Data Policy document, following the suggestions voiced at this BSSG meeting.

Baltic Directors Meeting, March 2005
J. Nilsson and Hans-Jörg Isemer informed the BSSG on the *Baltic Directors Meeting* (BDM) held 14 and 15 March 2005 at SMHI, Norrköping, Sweden. The directors of several national weather services, including those of Sweden, Finland, Estonia, Latvia and Lithuania, met to discuss issues relevant for these services. A comprehensive BALTEX presentation, given at BDM by Hartmut Graßl, Markku Rummukainen, Phil Graham, and Berit Arheimer, introduced the BALTEX Phase II objectives and highlighted in particular the data needs for BALTEX Phase II and the importance of a continued data delivery of the national weather services in support of the BALTEX Data Centres. The latter point was in particular highlighted during the presentation to address the Services of the Baltic States (Estonia, Latvia and Lithuania), which continue to request financial support for even basic data delivery, and have therefore discontinued any data delivery to BALTEX Data Centres in the recent past. J. Nilsson and H.-J. Isemer reported that the response in particular of the Baltic States Services representatives at the BDM meeting was disappointing. The representative of the Latvian Hydro-meteorological Agency (LHA) pointed out that the BALTEX programme has at present little priority at LHA and that a free delivery of even basic data in support of the BALTEX Data Centres will not be provided by LHA. The minutes of that BDM meeting,

which are available at the BALTEX Secretariat, do not include any encouraging positive note on future data delivery for BALTEX by the Services of Latvia, Estonia and Lithuania.

BSSG members voiced their disappointment on the above report. It was however also mentioned that similar developments are evident also in other Services, in particular in some new EU member states. Due to the difficult economic situation of the Services in some of these countries, the Services tend to sell basic data even for the purposes of research programmes such as BALTEX. Malgorzata Kepinska-Kaspzak, representing the Poznan branch of the Institute for Meteorology and Water Management (the Polish Hydro-met Service) at this BSSG meeting confirmed that this is a common attitude nowadays also in Poland. Scientists must pay the service for data they wish to use, due to the restricted financial situation of the Polish Service.

It was further noted that researchers, which need access to such data available only at national Services, may increasingly be in a dilemma with the above situation in mind, because funding agencies would in general not provide any financial support for the purchase of observational basic data.

A short review revealed that, since 2002, no free data exchange could be realized between the BALTEX Data Centres and the Services of in particular Estonia, Latvia, Lithuania, Poland, Belarus and Russia.

Taking up again the discussion and conclusion under item 6.1, the chair of the new BALTEX Working Group on Data Management was asked to contact responsible officials in the relevant Services on an individual and personal basis to discuss options for the future data delivery for BALTEX.

14.2 The BALTEX Working Group on Radar: Status

Jarmo Koistinen, chair of the BALTEX Working Group on Radar (BWGR), had submitted a short report on the BWGR status to the BALTEX Secretariat. This report was presented by Hans-Jörg Isemer and Anders Omstedt. The report and status of the group was well recognized. In view of the new objectives of BALTEX Phase II, the BWGR was asked to provide an overview on how weather radar activities are expected to contribute to these objectives. Furthermore, the recently established cooperation between the BWGR and NORDMET R&D activities should be described at the next BSSG meeting (**Action # 22**).

Action #22: Jarmo Koistinen to provide an overview on how weather radar activities and research is expected to contribute to BALTEX Phase II objectives, in particular how the recently established cooperation of the BALTEX WG on Radar with NORDMET R&D activities contribute to these objectives, and report to BSSG at its forthcoming meeting accordingly.

14.3 The BALTEX Working Group on Energy and Water Cycles: Terms and membership

The tasks of this WG were considered to be terminated with the delivery of the BALTEX State-of-the-art-Report (Item 8). Daniela Jacobs and Anders Omstedt thanked all WG members and contributors for their work over the past years. The official termination of the WG was approved by the BSSG. Daniela Jacobs was asked to formally dissolve the group and communicate this to the WG members (**Action # 16**).

Action #16: Daniela Jacob to dissolve the BALTEX Working Group on Energy and Water Cycles.

14.4 A new Working Group on Budgets: Terms and membership

In view of the new challenges of BALTEX Phase II, the establishment of a new Working Group on Budgets was proposed by Daniela Jacobs. She was asked by the BSSG to form such a WG, define terms of references and suggest members. Special notice should be taken regarding new developments in GEWEX Phase II and how these can be incorporated in BALTEX Phase II (**Action # 17**).

Action #17: Daniela Jacob to establish draft terms of reference for the new BALTEX Working Group on Energy and Water Budgets (draft name as well to be confirmed) and suggest members of this new BALTEX WG. Both, the draft terms of reference and membership shall be reported to BSSG at its forthcoming meeting for final approval.

14.5 A new Working Group on BALTIC GRID: Terms and membership

With reference to Item 11, Andreas Lehmann was asked to form a new WG for the coordination of BALTIC GRID, prepare terms of references and recruit members until the next BSSG meeting (**Action # 21**). A. Lehmann suggested that the group should have up to 10 members. Furthermore, Daniela Jacob was asked to act as co-chair of the WG. One task of the group would be the exploration of new funding possibilities for BALTIC GRID, e.g. in the context of BONUS (Item 7).

Action #21: Andreas Lehmann to establish a draft plan for, draft terms of reference for and suggest membership of a BALTEX Working Group for coordination of the BALTIC GRID initiative, and report to BSSG at its forthcoming meeting for approval.

14.6 A new Working Group on BALTEX Web Content: Terms and membership

With reference to Item 15.3 (concept of a revised and extended BALTEX web site), it was agreed that Marcus Reckermann should establish a Working Group for coordinating the technical, formal and content specific aspects of a new BALTEX web site. A draft of the new web site with the suggested new structure shall be presented at the next BSSG meeting, along with terms of references and membership of the new BALTEX Working Group **(Action # 23).**

Action #23: Marcus Reckermann to establish draft terms of reference for the suggested BALTEX Working Group on Web Content (name is draft so far), propose this WG's membership, initiate technical preparations for a BALTEX Internet portal or new website as appropriate, and report accordingly to BSSG at its forthcoming meeting for approval.

Item 15: Other issues

15.1 Special BALTEX issue in Nordic Hydrology

A list of papers from the 4th BALTEX Conference in Bornholm, May 2004, was presented which are to be published in a special issue of Nordic Hydrology, to appear November 2005. See Appendix 12 for a list of the special issue publications.

15.2 Date and Place of the 5th BALTEX Study Conference in 2007

The 5th BALTEX Study Conference will be held on the Estonian island of Saaremaa. The main topic of this conference should be BALTEX Phase II: visions, implementation and first results. Local organizer will be Sirje Keevallik from the Estonian Maritime Academy in Tallinn. The exact time and venue of the conference is still to be specified. There are various international meetings and conferences of interest to the BALTEX community in September 2007, so a conflict with these events should be avoided. The BALTEX Secretariat was asked to communicate with the organizers of the Baltic Sea Science Conference 2007 to avoid overlap (**Action # 9**), and to start preparations for the conference in cooperation with Sirje Keevallik and the local organizing committee (**Action # 8**). A scientific committee should be established soon; Hans von Storch was suggested to be on that committee. Topics have to be identified and speakers invited; calls for papers must be formulated and distributed, announcement leaflets must be produced and distributed, and all information concerning the conference should be easily accessible on the BALTEX web site (e.g. online registration).

Action #8: the BALTEX Secretariat and Sirje Keevallik to start the concrete planning and preparation for the 5th Study Conference on BALTEX scheduled to take place on the island of Saaremaa, Estonia, in 2007, following directions proposed at the BSSG meeting, still **in 2005**.

Action #9: Hans-Jörg Isemer to establish communication with the organisation team of the forthcoming Baltic Sea Science Conference (planned also for 2007) in order to avoid date conflicts with the 5th BALTEX Study Conference, **as soon as possible**.

15.3 BALTEX Web Site

Marcus Reckermann presented ideas about a revised BALTEX web site which should contain BALTEX-related information tailored and prepared for both the scientific community and the general public. Chapter 7.1 of the BALTEX II Science Plan states that *"the BALTEX web site will be complemented by a particular dissemination part dedicated to the general public, which will need specific amendments to the present web site content and language. This initiative will contribute to the general concept of e-learning."*

M. Reckermann suggested the revised BALTEX web site should thus contain two separate sections: 1) one for the scientific community, and 2) another section for the general public. The former would involve service-oriented science and organisational information, as is principally made already available at the present BALTEX web site, where the target user group is principally the science community. The new section should be specifically designed to contribute to dissemination of BALTEX results to the general public. It shall therefore be in particular adapted for the interested laymen. An additional special section, e.g. for teachers, could provide material for download such as special presentations and clips to be used in school. The basic language shall be English, but a desirable option could be to offer this web site section also in other languages, preferably those of the countries located in the Baltic Sea

basin. For this purpose, one representative in each country would have to be responsible for the translation and update of the web site in the specific countries. However, it was noted that this may not be feasible in light of the difficult task. It was decided that Marcus Reckermann should pursue with the preparation of the concept of the new web site and form a Working Group for coordinating the technical, formal and content specific aspects. A draft of the new web site with the suggested new structure will be presented at the next BSSG meeting, along with terms of references and membership of the new BALTEX Working Group **(Action # 23).**

Action #23: Marcus Reckermann to establish draft terms of reference for the suggested Working Group BALTEX Public Website (name is also draft so far), propose this WG's membership, initiate technical preparations for a BALTEX Internet portal or new website as appropriate, and report accordingly to BSSG at its forthcoming meeting for approval.

Date and Place of the next BSSG meeting

The next BSSG meeting will be held on Wednesday, 24 May 2006, following the BACC Conference at the University of Göteborg. This will be a one day meeting with a limited number of topics (**Action # 25**)[3]

Action #25: the BALTEX Secretariat and Anders Omstedt to prepare for the forthcoming BSSG#19 meeting (one day meeting) in conjunction with the planned BACC conference in Göteborg, Sweden, in 2006.

The next full BSSG meeting will take place in St. Petersburg in the first week of December 2006 (week #49). Further information about date and venue will be communicated once they have been fixed (**Action # 26**).

Action #26: the BALTEX Secretariat and Valeri Vuglinsky to prepare for the 20th BSSG meeting (BSSG#20) to be held within the time period 4 to 8 December 2006 in St. Petersburg, Russia.

Any other business

None.

Closing of the BSSG meeting

The Chairman thanked the participants for lively and constructive discussions and the BALTEX Secretariat for all arrangements made for this meeting. Franz Berger and the DWD were thanked for the hospitality at the meeting venue in the Lindenberg Observatory of the DWD.

[3] The original planned date (first week in June 2006) was changed shortly after this BSSG meeting because the BACC conference would have been in serious conflict with another major event.

Acronyms and Abbreviations

BACC	BALTEX Assessment of Climate Change for the Baltic Sea Basin
BALTEX	Baltic Sea Experiment
BALTIMOS	Development and Validation of a Coupled Model System in the Baltic Region
BASEWECS	Baltic Sea Water and Energy Cycle Study
BDM	Baltic Director´s Meeting
BMBF	Bundesministerium für Bildung und Forschung (Federal Ministery of Education and Research)
BOBA	Soil frost and snow metamorphism simulations for the BALTEX-region with a complex hydro-thermodynamic soil-vegetation scheme
BONUS	Baltic Sea Science – Network of Funding Agencies
BRIDGE	The Main BALTEX Experiment 1999 - 2001
BSSG	BALTEX Science Steering Group
CEOP	Coordinated Enhanced Observing Period
COSMOS	International project to develop a Community Global Earth System Model
CSE	Continental Scale Experiment
DEKLIM	Deutsches Klimaforschungsprogramm (German Climate Research Programme)
DWD	Deutscher Wetterdienst (German Meteorological Service)
ERA-NET	European Research Area - Network
EU	European Union
EVA-GRIPS	Regional Evaporation at Grid/Pixel Scale over Heterogeneous Land Surfaces
GAME	GEWEX Asian Monsoon Experiment
GEWEX	Global Energy and Water Cycle Experiment
GHP	GEWEX Hydrometeorological Panel
GKSS	GKSS Research Centre, Geesthacht / Germany
GRDC	Global Runoff Data Centre
GTN-R	Global Terrestrial Network - Rivers
HELCOM	Helsinki Commission
IGPO	International GEWEX Project Office
LHA	Latvian Hydrometeorological Agency
MAHASRI	Monsoon Asian Hydro-Atmosphere Scientific Research and Prediction Initiative
NEESPI	Northern Eurasia Earth Science Partnership Initiative
NHS	National Hydrological Service
NORDMET R&D	Nordic Cooperation in Meteorology; Research and Development
PTJ	Projektträger Jülich (Project Management Organisation Jülich of the BMBF)
SSG	Science Steering Group
WCRP	World Climate Research Programme
WG	Working Group
WMO	World Meteorological Organization

List of Appendices

Appendix 1: Workshop Agenda

German Climate Research Programme DEKLIM and BALTEX: Selected Results and Future Plans

A workshop prior to the 18th BALTEX SSG Meeting
Meteorological Observatory Lindenberg
Lindenberg, Germany

Tuesday, 18 October 2005

The workshop will take place at the facilities of the Lindenberg Observatory in Am Observatorium 12, D-15848 Tauche/Lindenberg, Germany "Klubhaus des Observatoriums, Meeting Room II"

Chair: Hans-Jörg Isemer

14:00	***The Meteorological Observatory Lindenberg of DWD: Research Profile*** Franz Berger, *Meteorological Observatory Lindenberg*, Germany
14:30	***BALTEX-related projects in DEKLIM: An overview*** Daniela Jacob, *Max-Planck-Institute for Meteorology*, Hamburg, Germany
14:40	***Regional evaporation at grid/pixel scale (EVA-GRIPS)*** Frank Beyrich, *Meteorological Observatory Lindenberg*, Germany
15:10	***Soil frost and snow metamorphism simulations for the BALTEX region (BOBA-DEKLIM)*** Henrik Elbern, *Cologne University, Institute for Environmental Research,* Cologne, Germany
15:40	*Break*
16:10	***Baltic Sea Water and Energy Cycle Study (BASEWECS)*** Andreas Lehmann, *Leibniz Institute of Marine Sciences*, Kiel, Germany
16:40	***BALTEX Integrated Model System (BALTIMOS)*** Daniela Jacob, *Max-Planck-Institute for Meteorology*, Hamburg, Germany
17:10	***Plans for BALTEX Phase II: BALTEX-GRID*** Andreas Lehmann, *Leibniz Institute of Marine Sciences*, Kiel, Germany
17:40	Discussion on BALTEX-GRID
18:00	Conclusion and closing of the workshop

Appendix 2: BSSG Meeting Agenda

18th BALTEX SSG Meeting

at

Meteorological Observatory Lindenberg

Lindenberg, Germany

18 – 20 October 2005

The workshop and the BSSG meeting will take place at the facilities of the Lindenberg Observatory in Am Observatorium 12, D-15848 Tauche / Lindenberg, Germany "Klubhaus des Observatoriums, Meeting room II"

PROVISIONAL AGENDA AND EXPLANATORY MEMORANDUM

Tuesday, 18 October 2005

14.00 „**German Climate Research Programme DEKLIM and BALTEX: Selected results and future plans** "
The workshop prior to the official BSSG meeting aims at summarizing main results of BALTEX-related projects which were funded through the German Climate Research programme DEKLIM. It will also describe and open the discussion of the BALTEX-GRID project, which is one implementation within BALTEX Phase II and offers to constitute a Pilot project for BALTEX Phase II. See the separate workshop agenda for details.

18.00 Closing of the workshop

Wednesday, 19 October 2005

9.30 **Item 1: Welcome by the host and the Chairman** (F. Berger, A. Omstedt)

Item 2: Introduction of participants including summary of their BALTEX-related projects and/or initiatives

Item 3: Amendment and approval of the agenda

Item 4: Approval of the previous BALTEX SSG meeting minutes

Item 5: New staff member at the International BALTEX Secretariat
Introduction of Dr. Marcus Reckermann

Item 6: GEWEX and other global activities

6.1 GEWEX and GEWEX Hydrometeorology Panel (GHP) developments (H.-J. Isemer): This will in particular include a brief update and discussion on:

- GEWEX Phase II objectives
- GEWEX Phase II roadmap 2006 to 2012
- Role of and revised criteria for GEWEX Continental-scale Experiments
- NEESPI (The Northern Eurasia Earth Science Partnership Initiative)

10.30 **Item 7: BONUS for the Baltic Sea Science – Network of Funding Agencies: Towards an Article 169 project in FP7.**

BONUS will be introduced by Dr. Ulrich Wolf, in his capacity as the representative of the German contractor to BONUS, the "Projektträger Jülich (PTJ)", which acts on behalf of the German Federal Ministry of Education and Research (BMBF). The present status of BONUS will be reviewed and funding options for BALTEX projects in the frame of the planned BONUS-169 will be discussed.

12.30 *Lunch break*

13.30 **Item 6 cont.:** 6.2 The Global Terrestrial Network - Rivers (GTN-R) Initiative (V. Vuglinsky)

Item 8: State-of-the-art Report for BALTEX Phase I: What have we learned from BALTEX Phase I ? (D. Jacob and A. Omstedt)
The report is near to completion and a copy of the report is expected to be available at the meeting. Major achievements of BALTEX Phase I will be summarized.

Item 9: Science Framework and Implementation Strategy Document
(A. Lehmann and H.-J. Isemer)
The document (so far called *Implementation Plan*) went through an external review which resulted in several critical comments. The latter required some substantial revisions which are expected to be completed – or will be near to

completion - at the time of the meeting. Revisions will shortly be summarized and the final document be presented.

14.30 **Item 10: The BALTEX Assessment of Climate Change for the Baltic Sea Basin (BACC): Status and towards formulation of the major findings.** (A. Omstedt and H.-J. Isemer)
The planned BACC book will consist of 5 main chapters and additional annexes. More than 80 authors have so far contributed to the book and the compiled material comprises several hundreds of pages. The external review of the BACC material has been organised under guidance of the BALTEX SSG. The structure of the book, some major findings and future steps including the cooperation with HELCOM will be highlighted and are open for discussion.

Item 11: BALTEX GRID - Status and Plans for a Pilot Study for BALTEX Phase II (A. Lehmann and D. Jacob)
This item will open up a discussion on options for a pilot study for BALTEX Phase II. A more detailed presentation on BALTEX GRID is subject of the science workshop on 18 October, see the attached workshop agenda.

Item 12: BALTEX Phase II Implementation Update and Plan (All)
A summary shall be established on ongoing and planned implementation measures for BALTEX Phase II relevant in particular for the next one-year period.

15.30 *Break*

16.00 **Item 13: The BALTEX Science Steering Group: Role, function, activities and membership**

1. Since the 17th BSSG meeting, one suggestion for BSSG membership changes were brought to the attention of the BSSG Chair. Changes in BSSG membership need to be approved by the BSSG. The suggested change is:
Hans von Storch, director at the Institute for Coastal Research, GKSS Research Centre Geesthacht, Germany, to become new member of the BALTEX SSG.

2. The general role of the BALTEX SSG in view of the extended objectives of BALTEX Phase II will come up for discussion. This will include a discussion on the term of BSSG members, both in general and individually, and options for the implementation of a **BALTEX Task Force**, as suggested at an earlier BSSG meeting.

17.30 **Closing of Day 1 of the BSSG meeting**
Bus transfer to hotels

Thursday, 20 October 2005

9.00 **Item 14: BALTEX Working Groups**

- The new Working Group on Data Management: Terms and membership (J. Nilsson)

- The BALTEX Working Group on Radar: Status

- The BALTEX Working Group on Energy and Water Cycles: Terms and membership (D. Jacob and A. Omstedt)

10.30 *Break*

11.00 **Item 15: Other issues**

- Special BALTEX issue in Nordic Hydrology
- Date and Place of the 5th BALTEX Study Conference in 2007
- others

11.30 **Summary and Conclusions**

12.30 **Date and Place of the next BSSG meeting**

Any other business

13.00 **Closing of the BSSG meeting**

Appendix 3: Participants of the 18th BSSG meeting

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Poznan, Poland

Guest:

Dr. Ulrich **Wolf** u.wolf@fz-juelich.de
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Speakers at the Workshop:

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Appendix 4: New International BALTEX Secretariat staff member

As of 15 September 2005, the International BALTEX Secretariat has been reinforced by Dr. Marcus Reckermann as a new full-time staff member. Marcus is a Biological Oceanographer by education. He worked in various research projects and participated in research cruises in the North Sea, the Baltic Sea, the North Atlantic and the Indian Ocean. His primary field of research has been the microbial food web dynamics in the sea.

Marcus received his Diploma at the Institut für Meereskunde Kiel in 1991 ("On the production and release of organic substances by phytoplankton in the Baltic Sea") in the research group of Prof. Bernt Zeitzschel. During 1991 to 1993, he was affiliated with the Royal Netherlands Institute for Sea Research (NIOZ), where he worked in an EU-project dedicated to the foam-building alga *Phaeocystis*, and participated in the "Netherland´s Indian Ocean Programme", a JGOFS pilot study on food web dynamics in response to the monsoonal circulation in the Arabian Sea. He joined two Dutch research cruises to the Indian Ocean to carry out specific food web experiments on phytoplankton that flourishes primarily in oligotrophic oceans.

In 1996, Marcus received his Ph.D. at the Institut für Ostseeforschung Warnemünde (IOW) supervised by Prof. Bodo von Bodungen. In his thesis, he compared food web dynamics in the different ecosystems of the Baltic Sea and the Indian Ocean ("Ultraphytoplankton and protozoan communities and their interactions in different marine pelagic ecosystems: Arabian Sea and Baltic Sea"). Afterwards, he worked in Prof. Franciscus Colijn´s group at the Research and Technology Centre Westcoast of Kiel University (FTZ), where he was responsible for a large flow cytometer, an instrument to count and characterize phytoplankton cells in sea water by their optical characteristics. While at FTZ, he also contributed to the EU project BEQUALM (Biological Effects Quality Assurance in Monitoring Programmes), which was dedicated to an intercalibration of biological monitoring methods across Europe. During the last 2 years, Marcus coordinated a Master of Science programme on "Coastal Geosciences and Engineering" at Kiel University.

The International BALTEX Secretariat (IBS) is entirely financed by GKSS Research Centre Geesthacht GmbH. With Dr. Reckermann's full-time employment, in addition to the continued support for both Silke Köppen and myself, the engagement of GKSS for the BALTEX Secretariat is significantly increased, and I am particularly grateful for this support. The BALTEX programme is in an important transition period towards Phase II. Marcus will add important background knowledge to aspects of the new BALTEX Phase II objectives.

Dr. Hans-Jörg Isemer, Head International BALTEX Secretariat

Appendix 5: GHP Actions with relevance for BALTEX

GEWEX Hydrometeorology Panel (GHP) Meeting #11
September 2005, Melbourne, Australia

GHP ACTIONS WITH RELEVANCE FOR BALTEX

A.4. GHP to provide recommendations for the **GEWEX roadmap milestones by November 10.** These updates will include milestones on transferability, etc. (ACTION: Roads, others)

A.5. The CSE and Global project reports will be submitted by October 31, 2005 following the report template provided by P. van Oevelen. (ACTION: all CSE contacts and WG and global PROJECT leaders)

C.5 A **BALTEX Phase I synthesis report** will be developed and presented at next GHP meeting (ACTION: Isemer)

C.6 A **support letter** will be prepared for BALTEX (letter proposal from WMO) to request national services to deliver basic data required for WCRP research free of charge (ACTION: Isemer, Sommeria)

D.3. GHP (with special input from BALTEX and MAHASRI) will submit **guidance to NEESPI** on what they would need to do to become a CSE (ACTION: Roads, Isemer, Matsumoto IGPO)

H.2. Consideration will be given to a GEWEX News issue in 2006 on GHP with results from Phase I for LBA, BALTEX, GCIP, CEOP and results from GAME, MAGS and WRAP (ACTION: John Roads, IGPO)

Appendix 6: GEWEX Phase II Objectives

GEWEX Phase II Objectives
(September 23, 2005)

Objective 1:
Produce consistent research quality data sets complete with error descriptions of the Earth's energy budget and water cycle and their variability and trends on interannual to decadal time scales, for use in climate system analysis and model development and validation.

Objective 2:
Enhance the understanding of how energy and water cycle processes function and quantify their contribution to climate feedbacks.

Objective 3:
Determine the geographical and seasonal characteristics of the predictability of key water and energy cycle variables over land areas and through collaborations with the wider WCRP community and determine the predictability of energy and water cycles on a global basis.

Objective 4:
Develop better seasonal predictions of water and energy cycle variability through improved parameterisations encapsulating hydro-meteorological processes and feedbacks for atmospheric circulation models.

Objective 5:
Undertake joint activities with operational hydro-meteorological services and hydrological research programmes to demonstrate the value of new GEWEX prediction capabilities, data sets and tools for assessing the consequences of climate predictions and global change.

Appendix 7: The Global Terrestrial Network for River Discharge (GTN-R)

Presentation by Valery Vuglinsky

The Global Terrestrial Network for River Discharge (GTN-R)

(Near Real-Time Data Acquisition and Dissemination Tool for Online River Discharge and Water Level Information)

GTN-R will represent the river discharge component of the Global Terrestrial Network – Hydrology (GTN-H)

Introduction

• Today, many countries operate national near-real-time water level or river discharge transmission schemes. Increasingly, countries also publish this data online, typically by way of web sites of their NHS. Though, this is a major step forward, from a global perspective the delivery the data sources and their management is still quite heterogeneous.

• It still remains a tedious fact to draw together all information needed for global assessments and models

• The GRDC is the digital world-wide repository of river discharge data and associated metadata, maintained by the WMO. The GRDC can provide an additional service for water level or river discharge data acquisition and dissemination in near-real-time mode.

The basic idea of GTN-R project is to draw together the already available heterogeneous information on near-real time river discharge data provided by individual National Hydrological Services (NHS) and redistribute it in a harmonized way

Beneficiaries

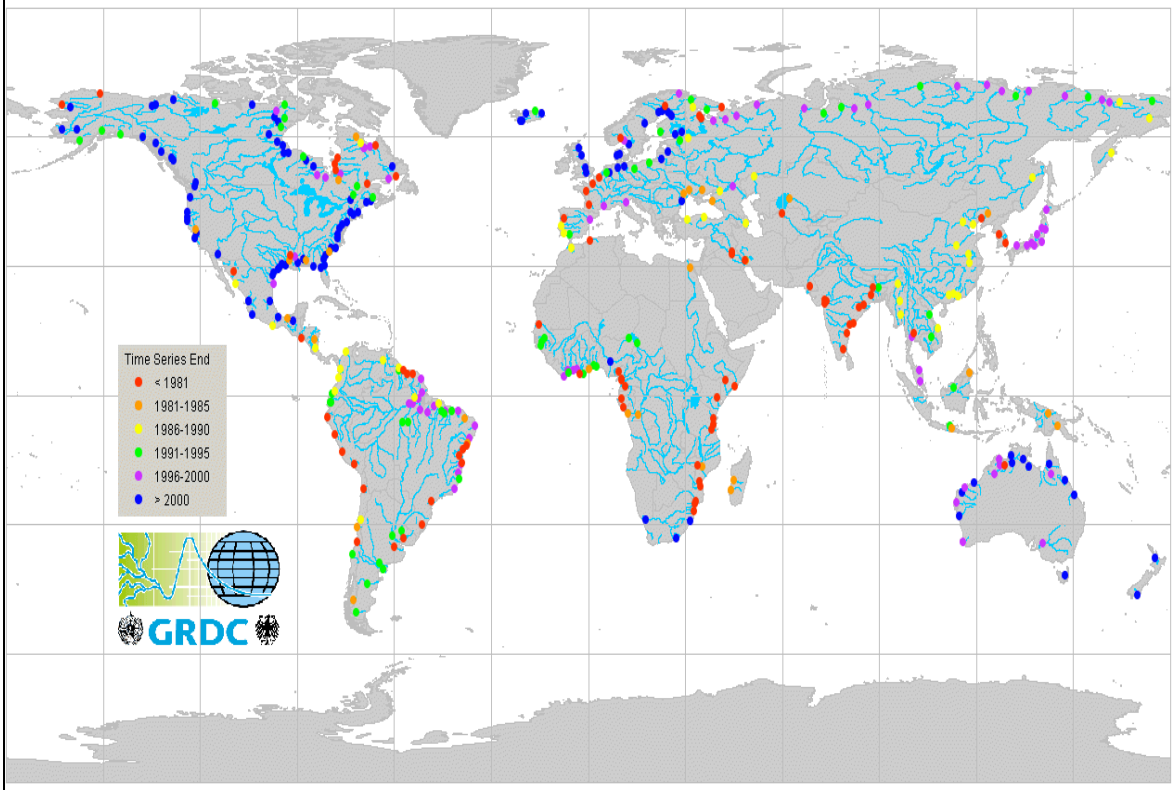
GTN-R is an infrastructure , in general suitable for managing arbitrary networks of near-real-time gauging stations.
Currently, GRDC has identified a priority network of around 380 river discharge reference stations which is called the "GCOS Baseline River Discharge Network" (first phase of GTN-R). It is serve as a basis for future versions of GRDC product "Long Term Mean Annual Freshwater River Fluxes into the World Ocean".

Basic concept

By application of an automated procedure (software), regularly draw together heterogeneously available information on near-real-time river discharge data provided by the world's NHS, harmonize and store the information in a database, and regularly redistribute the harmonized data in a standard format. The realization of this scheme will depend on the level of NHS development.

1. NHS that already provide ready to read data in near-real-time via internet (though possibly in their proprietary form).
2. NHS that already publish some kind of near-real-time river information via internet (but not ready to read).
3. NHS that have to create a new interface to their digital and automated national networks.
4. NHS that to automate their inland data transfer schemes of already digitally recording gauging stations
5. NHS that have to upgrade their non-digital gauging stations.

Within the first stage of the GTN-R project, concentration is on NHS of levels 1-3.



GCOS Baseline River Discharge Network

Main steps in the realization of the first stage of GTN-R

1. Letters to the NHS's from WMO General Secretary
2. Lists of the proposed GTN-R stations in different countries
3. Request for the basic information for each station (station, river, country names, coordinates, altitude, catchment area etc.)
4. Request for the basic information on electronic online data source for each stations

The duration of the first stage of GTN-R 2006-2009

Appendix 8: Proposed structure of the BACC publication

CHAPTER 1: INTRODUCTION AND SUMMARY POLICY ADVISE
Lead author: Hans von Storch

- **1.1 THE BACC APPROACH**
- **1.2 THE BALTIC SEA – HISTORY AND SPECIFICS**
- **1.3 DETECTION AND ATTRIBUTION: TRENDS, CYCLES AND JUMPS**
- **1.4 SCENARIOS OF FUTURE CLIMATE CHANGE**
- **1.5 ONGOING CHANGE AND PROJECTIONS FOR THE BALTIC SEA – A SUMMARY**
- **1.6 OVERVIEW OF CHAPTERS AND ANNEXES**

CHAPTER 2: PAST AND CURRENT CLIMATE CHANGE, DETECTION AND ATTRIBUTION
Lead authors: Raino Heino, Heikki Tuomenvirta

- **2.1 SUMMARY OF OBSERVED CLIMATIC CHANGES**
- **2.2 ATMOSPHERIC CHANGES**
- **2.3. HYDROLOGICAL CHANGES**
- **2.4 THE BALTIC SEA**

CHAPTER 3: PROJECTIONS OF FUTURE CLIMATE CHANGE
Lead Author: L. Phil Graham

- **3.1 INTRODUCTION TO FUTURE CLIMATE CHANGE PROJECTIONS**
- **3.2 GLOBAL CLIMATE CHANGE**
- **3.3 CLIMATE CHANGE IN THE BALTIC SEA DRAINAGE BASIN: PROJECTIONS FROM GLOBAL CLIMATE MODELS**
- **3.4 CLIMATE CHANGE IN THE BALTIC SEA DRAINAGE BASIN: PROJECTIONS FROM STATISTICAL DOWNSCALING**
- **3.5 CLIMATE CHANGE IN THE BALTIC SEA DRAINAGE BASIN: PROJECTIONS FROM REGIONAL CLIMATE MODELS**
- **3.6 PROJECTIONS OF FUTURE CHANGES IN CLIMATE VARIABILITY AND EXTREMES**
- **3.7 PROJECTIONS OF FUTURE CHANGES IN HYDROLOGY**
- **3.8 PROJECTIONS OF FUTURE CHANGES IN THE BALTIC SEA**
- **3.9 FUTURE DEVELOPMENT IN PROJECTING CLIMATE CHANGES**
- **3.10 SUMMARY OF FUTURE CLIMATE CHANGE PROJECTIONS**

CHAPTER 4: CLIMATE-RELATED CHANGE IN TERRESTRIAL AND FRESHWATER ECOSYSTEMS
Lead Author: Ben Smith

- **4.1 INTRODUCTION**
- **4.2 NON-CLIMATIC DRIVERS OF ECOSYSTEM CHANGES**
- **4.3 TERRESTRIAL ECOSYSTEMS**
- **4.4 FRESHWATER ECOSYSTEMS**
- **4.5 AGRICULTURE AND EUTROPHICATION**
- **4.6 NUTRIENT FLUXES IN RUNOFF FROM BOREAL AND SUBARCTIC CATCHMENTS**

CHAPTER 5: CLIMATE-RELATED CHANGE IN MARINE ECOSYSTEMS
Lead authors: Bodo von Bodungen, Joachim W. Dippner, Ilppo Vuorinen

- **5.1 INTRODUCTION**
- **5.2 HUMAN RELATED ECOSYSTEM CHANGE**
- **5.3 CLIMATE RELATED ECOSYSTEM CHANGE**
- **5.4 SUMMARY**

ANNEXES

ANNEX 1: PHYSICAL SYSTEM DESCRIPTION (Jüri Elken,Wolfgang Matthäus, Hans-Jörg Isemer, Heikki Tuomenvirta, Esko Kuusisto)
ANNEX 2: THE LATE QUATERNARY DEVELOPMENT OF THE BALTIC SEA (Svante Björck)
ANNEX 3: ECOSYSTEM DESCRIPTION (Maiju Lehtiniemi Benjamin Smith, Thorsten Blenckner, Christoph Humborg, Seppo Kellomäki, Tiina Nõges, Peeter Nõges)
ANNEX 4: OBSERVATIONAL DATA USED (Øyvind Nordli, Philip Axe, Göran Lindström, Juha Flinkman)
ANNEX 5: DATA HOMOGENEITY ISSUES (Raino Heino)
ANNEX 6: CLIMATE MODELS AND SCENARIOS (Burkhardt Rockel)
ANNEX 7: NAO AND AO (Joanna Wibig)
ANNEX 8: STATISTICAL BACKGROUND: TESTING FOR TRENDS AND CHANGE POINTS (JUMPS) (Hans von Storch, Anders Omstedt)

Appendix 9: BALTIC GRID – Presentation by Andreas Lehmann

BALTEX Phase II: BALTIC GRID

Plans for BALTEX Phase II: BALTIC GRID

Grid technology will allow scientific communities to develope new ways to share and analyse very large data sets, to benefit of both quality and quantify of scientific output. BALTIC GRID should take advantage of the BALTEX communication network.

- **December 2004: Kickoff Meeting BALTIC GRID pilot study**
- **June 2005: Sending around the plan for a pilot study BALTIC Grid and asking for contributions**
- **October 2005: BALTEX SSG Meeting, setting up the organizational structure of the Pilot Study (BALTEX Working Group)**

BALTEX Phase II: BALTIC GRID Pilot Study

Plans for BALTEX Phase II: BALTIC GRID

BALTIC GRID Pilot Study

- **taking advantage of the BALTEX communication network**
- **setting up international collaborations**
- **initiating interdisciplinary research within BALTEX Phase II**
- **initiating research based on the scientific objectives of BALTEX Phase II**
- **initiating resources sharing (expertise, observations including satellite and model data)**
- **promote scientific core groups to initiate scientific applications and proposals for the EU or national funding agencies**

Plans for BALTEX Phase II: BALTIC GRID

BALTEX Phase II: BALTIC GRID Pilot Study

BALTIC GRID Pilot Study (details)

- **target period: 1999-2004**
- **duration: about 2 years**
- **data needs: model data (process models, coupled atmosphere-land-ocean models), observations (measurements of atmosphere, land and ocean,flux-measurements, satellite data)**
- **general objectives:**
  - **quantification of the energy and water cycle**
  - **quantification of uncertainties**
  - **study of extreme events**
  - **study of sea ice evolution**
  - **quantification and comparision of fluxes (atmosphere-land, atmosphere-ocean, atmosphere-sea ice, P-E)**
  - **quantification of water mass exchange**
  - **quantification of upwelling**

Plans for BALTEX Phase II: BALTIC GRID

BALTEX Phase II: BALTIC GRID Pilot Study

BALTIC GRID Pilot Study (subprojects)

SP BRIDGE (quantification of the energy and water cycle)
- **Inventory of observations and satellite data**
- **Budgets and uncertainties**
- **Climate variability**

SP Coastal Regions
- **Atmospheric boundary layer and fluxes**
- **Coastal seas**
- **Sea ice**

SP Wind, water vapour and cloud properties
- **Wind over water**
- **Clouds and water vapour**

SP Großwetterlagen and extreme events
- **Classification, probability and extreme events**
- **Convective Großwetterlagen and precipitation**

BALTEX Phase II: BALTIC GRID Pilot Study

Plans for BALTEX Phase II: BALTIC GRID

BALTIC GRID Pilot Study (subprojects)

SP BRIDGE (quantification of the energy and water cycle)
- **Extended BRIDGE synthesis (Omstedt/Lehmann...)**
- **DETECTIVE – Detection of climate change and climate variability (Rummukainen/Meier, ...)**

SP Coastal Regions
- **Coastal Meteorology (Vihma, ...)**
- **COBALT-Budgets of the coastal zone (Elken/Lehmann, Nilsson, Myrberg,...)**
- **Sea Ice Dynamics (Haapala,...)**

SP Wind, water vapour and cloud properties
- **Wind over water (Bennartz,...)**
- **Clouds and water vapour (Fischer,...)**

SP Großwetterlagen and extreme events
- **Classification, probability and extreme events (Keevalik/Reimer)**
- **Convective Großwetterlagen and precipitation (Reimer/Bennartz)**

Appendix 10: BALTEX Working Group on Data Management

BALTEX Phase II, 2003 - 2012

BALTEX Working Group on Data Management (BWGD)

Background
Meeting the scientific goals of BALTEX Phase II (see both the BALTEX Phase II Science and Implementation Plans) will require access to and exploration of data resources and products, which have so far not been dealt with in Phase I of the programme. This may include observational and model data, as well as derived products including model output. The BALTEX SSG, at its 17th meeting held 24 to 26 November 2004 in Poznan, Poland, suggested to re-establish the BALTEX Working Group on Data Management (BWGD). Jörgen Nilsson[4], member of the BSSG, accepted to act as the Chairman of the BWGD. He was in particular given the term to

1) determine draft terms of reference for the BWGD,
2) establish the BWGD membership,
3) suggest final agreed terms of reference for the BWGD to be approved by the BSSG,
4) implement actions along the lines of the BWGD terms of reference.

Mission
The BALTEX Working Group on Data Management (BWGD) is established by and reports to the BALTEX Science Steering Group (BSSG). The primary objective of the BWGD is to assist the BSSG in the coordination and facilitation of all data management activities and issues between data providers, data centres and data users, relevant for the BALTEX programme. BWGD membership is envisaged to consist of representatives of data providers, data centres and data users in a balanced manner, and is at the same time expected to reflect the science disciplines contributing to BALTEX Phase II, as appropriate. The BWGD will normally conduct its activities by correspondence (in particular electronic mail); however, it will meet when required, at least annually.

Membership
The Chairman of the BWGD is Jörgen Nilsson. Among the first tasks of the Chairman is the establishment of the BWGD membership. The normal term for BWGD members will be three years and can be prolonged.

Members of the BWGD, as proposed and approved at the BSSG meeting #18, are Franz Berger, Andreas Lehmann, Timo Vihma and Valery Vuglinsky.

[4] Jörgen Nilsson is Deputy Director at the Swedish Meteorological and Hydrological Institute (SMHI), Sweden.

Terms of Reference of the BALTEX Working Group on Data Management (BWGD), as approved at the BSSG meeting #18, 20 October 2005

- to serve as the principal advisory group in all matters pertaining to BALTEX data management activities and issues and the coordination and exchange of BALTEX data among data providers, data centres and data users;
- to establish and periodically review both the terms of reference and the membership of the BWGD, to be finally approved by the BSSG;
- to revise and propose updates of the BALTEX data policy including individual data exchange restrictions and access procedures, to be finally approved by the BSSG. Such propositions should be in compliance with regulations of major international relevant organisations such as WMO,[5] ECOMET[6], and the EU directives.
- to undertake appropriate action for the implementation and continuous monitoring of the BALTEX data policy;
- to establish and maintain an inventory of BALTEX data requirements for BALTEX research;
- to facilitate the access to data for BALTEX researchers by
    a. getting the BALTEX data policy known and accepted by data owners,
    b. establishing and maintaining an inventory of available and new data archives and data sources,
    c. developing ideas for specific data sets;
    d. monitoring the performance of the BALTEX Data Centres;
- to develop and draft a BALTEX Data Management Plan, as a detailed extension to the BALTEX Phase II Implementation Plan, to be finally approved by the BSSG;
- to initiate the establishment of and continuously review a BALTEX data management WWW website, preferably linked to the BALTEX "homepage" on WWW. This website is expected to inform on relevant data management issues for BALTEX data providers, BALTEX Data Centres and archives, as well as BALTEX data users.

[5] World Meteorological Organisation
[6] The Economic Interest Grouping of the Meteorological Services of the European Economic Area

Appendix 11: BALTEX II Data Policy

BALTEX Phase II Data Policy (as proposed at the BSSG meeting #18)

Meeting BALTEX Phase II objectives will require access for research to a large variety of data. Data providers are generally all organisations which create and have property rights for data relevant for the programme. Data users include all organisations or individuals who wish to have access data for BALTEX research. To facilitate data exchange between data providers and data users, dedicated BALTEX Data Centres have been established for specific, frequently required data necessary to meet BALTEX objectives as detailed in the BALTEX Science and Initial Implementation Plans.

CONSIDERING the need for free and unrestricted exchange of information for research between the participants of BALTEX as a condition for success and for the possibility to achieve the objectives of the Programme,

NOTING that the majority of the participants of the BALTEX Programme are situated in member countries of the European Union, that all the participant are situated in countries that are members of the World Meteorological Organisation (WMO), and, Denmark, Finland, Germany and Sweden are members of the European Cooperation in Meteorology (ECOMET),

NOTING ALSO that BALTEX and GEWEX belong to the WCRP project family, with WCRP being sponsored by the World Meteorological Organization (WMO), the International Council for Science (ICSU) and UNESCO's Intergovernmental Oceanographic Commission (IOC),

NOTING FURTHER the WMO Data Policy, practice and guidelines for the exchange of meteorological, hydrological, and related data and products, as embodied in Resolution 40 of the Twelfth WMO Congress 1995 (CG-XII), and Resolution 25 of the Thirteenth WMO Congress 1999 (CG-XIII),

NOTING FURTHER the IOC Oceanographic Data Exchange Policy, in particular Resolution IOC-XXII-6 of the 22nd session of the IOC assembly held 2003,

RECOGNIZING the UN/ECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, dated 25 of June 1998, (the Aarhus Convention), and the Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC,

RECOGNIZING ALSO that the definitions of Environmental Information established by both the Aarhus Convention and by the Directive 2003/4/EC on public access to environmental information includes all information handled within the BALTEX Programme,

BEARING IN MIND the Directive 2003/98/EC of the European Parliament and of the Council of 17 November 2003 on the re-use of public sector information encouraging the member states to make available more publicly held information for re-use, and

EMPHASIZING the principle of free and unrestricted exchange of information as paramount for all research and education;

THUS, THE EXCHANGE OF INFORMATION BETWEEN DATA PROVIDERS, BALTEX DATA CENTRES AND BALTEX DATA USERS SHALL BE UNDER THE FOLLOWING CONDITIONS:

ARTICLE 1: Definitions

For the purposes of this Data Policy,

1.1 *BALTEX Data* means any information in written, visual, oral, electronic or any other form:

- On the state of the elements of the environment, such as air and atmosphere, water, soil, land, diversity and its components, including chemical substances, and the interaction among these elements;
- From the Baltic Sea, it's drainage basin or an area large enough to run regional Climate models covering the Baltic Sea Basin,
- Necessary for research purposes to meet BALTEX objectives as detailed in the BALTEX Phase II Science and Initial Implementation Plans.

BALTEX data comprise observed *in situ* and remote sensing data, model output, and any product of the latter.

BALTEX Data also include all additional metadata information.

1.2 *Data Providers* are organisations or individuals who create, have property rights for and agree to share *BALTEX Data* by delivering *BALTEX Data* either to *BALTEX Data Centres* or directly to *BALTEX Data Users*.

1.3 *BALTEX Data Users* are organisations or individuals who wish to have access to *BALTEX Data* for their own BALTEX research purposes, which has been qualified as an official BALTEX project. The certification as a *BALTEX Data User* follows a specific procedure outlined in Appendix 1.

1.4 To facilitate data exchange between *Data Providers* and *BALTEX Data Users*, a limited number of dedicated *BALTEX Data Centres* have been established for specific, frequently required *BALTEX Data*. By definition, *BALTEX Data Centres* may either redistribute *BALTEX Data* to *BALTEX Data Users* or identify *Data Providers* for direct data exchange between the latter and *BALTEX Data Users*.

ARTICLE 2: Exchange of Information

Any *Data Provider* and *BALTEX Data Centre* receiving a request from a *BALTEX Data User* to provide *BALTEX Data* to be used for research purposes within the BALTEX programme shall execute such a request without undue delay.

BALTEX Data Centres may redistribute *BALTEX Data* only to *BALTEX Data Users*.

ARTICLE 3: Charges

Concerning data delivery to *BALTEX Data Centres*: No financial reimbursement may be charged for the delivery.

Concerning data delivery and re-distribution to *BALTEX Data Users*: No financial reimbursement other than delivery costs may be charged for the delivery.

ARTICLE 4: Restrictions

4.1 It is understood that *BALTEX data* shall be delivered to *BALTEX Data Centres* and re-distributed to *BALTEX data users* only for scientific studies designed to meet BALTEX objectives. Commercial use and exploitation of *BALTEX data* by either the *data users* or the *BALTEX Data Centres* is prohibited, unless specific permission has been obtained from the *data providers* concerned in writing.

4.2 The re-export or transfer of *BALTEX data* (as received from either *data providers* and/or *BALTEX Data Centres*) between a *BALTEX data user* and any third party is prohibited.

4.3 *BALTEX data user* shall properly acknowledge and make reference to the origin of *BALTEX data*, whenever the latter are used for publication of scientific results. A minimum requirement is to reference the BALTEX programme and the respective *BALTEX Data Centre*, or *BATEX Data Centres.*

APPENDIX 1

BALTEX Data User identification

An important restriction is that *BALTEX data* will be passed only to registered *BALTEX Data Users.* Identification of *BALTEX Data Users* will be done by members of the BALTEX SSG only, as was decided at the 4th meeting of the BALTEX SSG (June 1996, Sopot, Poland). A list of registered *BALTEX Data Users* will be stored at the BALTEX Secretariat and at the *BALTEX Data Centres*. Registration as a *BALTEX Data User* is performed upon request of the user and is subject to the following procedure.

Identification of *BALTEX Data Users* must be on the department level and has to include the name of the Principle Investigator, his/her complete address, the participants at the BALTEX project in question who will work directly with *BALTEX data*, and a short description of the project the *BALTEX data* are needed for. A specific *BALTEX data user* identification form has been established which is mandatory to be used for the identification process. The project description should be short; the entire completed form must not be longer than one page. The request has to be approved by at least one member of the BALTEX SSG preferably from the same country as the potential *BALTEX data user*. In the course of the project any change of the research group membership has to be notified to the BALTEX Secretariat.

Appendix 12: BALTEX Special Issue of Nordic Hydrology – List of papers

NORDIC HYDROLOGY – *An International Journal*

c/o E&R, Technical University of Denmark, Bldg. 115, DK-2800, Kgs. Lyngby, Denmark
Telephone: +45 4525 1450, Telefax: +45 4593 2850, E-mail: mom@er.dtu.dk

NORDIC HYDROLOGY VOL. 36(4)05

Selected papers from 4th BALTEX Study Conference Bornholm, Denmark, May 2004

International BALTEX Secretariat Publication Series

ISSN 1681-6471

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

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