



Minutes of
2nd Meeting
of the Baltic Earth
Interim Science Steering Group

held at

**Institute of Oceanology PAN
Sopot, Poland**

12 November 2013

Edited by

Marcus Reckermann



Participants in the 2nd Baltic Earth Interim Science Steering Group meeting. Left to right: Hans von Storch, Sergey Zhuravlev, Irina Partasenok, Piia Post, Karol Kulinski, Marcus Reckermann, Anna Rutgersson, Markus Meier, Andreas Lehmann, Juri Aigars, Jari Haapala, Eduardo Zorita, Gregor Rehder

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Decisions

1. Baltic Earth SSG members to briefly report on any news and activities in their home countries, with relevance for Baltic Earth.
2. A Baltic Earth poster to be produced for submission at the EGU2014 (deadline 16 January 2014)
3. A Baltic Earth flyer to be produced based on and accompanying the launch of the Baltic Earth Science Plan, in June 2014
4. The Baltic Earth Newsletter shall be produced and published once a year.
5. To invite a new member to the ISSG: Dr. Agnieszka Herman
6. Terms of Reference for the BE ISSG approved (see Annex 3).
7. Terms of Reference for the BE SAB approved (see Annex 4).
8. Shortlist of potential members for the BE SAB approved (see Annex 5)
9. Markus Meier and Anna Rutgersson to head the writing team for the Baltic Earth Science Plan
10. First draft of the Baltic Earth Science Plan due end of February 2014
11. Final draft of the Baltic Earth Science Plan due in June 2014
12. The regular 5-day conference series of Baltic Earth, the “Baltic Earth Conference”, shall be carried out every two years, starting with 2016.
13. The Baltic Earth Conferences may have a topical focus on a Baltic Earth Grand Challenge or related topic; this may take up to 2 of the 5 days. For the first Baltic Earth Conference in 2016, the topical focus shall be on “The role of multiple drivers in the observed and projected changes in the Baltic Sea region” (draft working title).
14. Due to the high complexity and importance of the issue of multiple drivers, an additional Baltic Sea Workshop on the topic will to be held in winter 2014/2015.
15. An international embedment in GEWEX is desirable for Baltic Earth, and steps should be taken to approach GHP to discuss the further procedure to this end, subject to a later additional embedment in other international frameworks such as Future Earth.

Action Items

1. A Baltic Earth poster to be produced and made available to BE-ISSG members via the Baltic Earth website, to be shown at any relevant upcoming event (Action Item to MR with input and approval from all; abstract submission to EGU before 16 January 2014; for the Delta Conference 15 March 2014)
2. Prepare and provide for download on the BE website 3 pptx slides on Baltic Earth (Action Item to MR)
3. Produce a Baltic Earth flyer before June 2014 (Action Item to MR)
4. Invite a potential new member to the ISSG: Dr. Agnieszka Herman (Action Item to MM, with support by MR).
5. Prepare a short description of WG scope, tasks and terms of reference for the respective WGs (Action Item to all WG chairs, and MR to place on BE website), before Christmas.
6. Identify names of potential suitable stakeholder representatives for the Senior Advisory Board (SAB) and draft an invitation letter, see Annex 5 (Action Item to BE-ISSG chairs, with input from the Secretariat).

7. Markus Meier and Anna Rutgersson to prepare an article for publication in EOS.
8. To investigate potential funding options for different projects within Baltic Earth (see TOP 6).
9. To prepare steps towards a Baltic Earth initiative to propose the BACC approach for regional climate assessments to IPCC (Action Item to BE-ISSG Chairs with Hans von Storch, preferably before the Lund Workshop in June 2014)

List of Annexes

- Annex 1: 2nd Baltic Earth Interim Science Steering Group Meeting Agenda
- Annex 2: Participants of the meeting
- Annex 3: Terms of References for BE-ISSG
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- Annex 5: Shortlist of potential BE-SAB members
- Annex 6: Agenda for the Baltic Earth Workshop on “Challenges for biogeochemical research in the Baltic Sea region”
- Annex 7: Announcement for the Baltic Earth Workshop on “Natural hazards and extreme events in the Baltic Sea region”

Introduction

This was the 2nd meeting of the Baltic Earth Interim Science Steering Group (BE-ISSG). The meeting was hosted by Karol Kulinski at the Institute of Oceanology PAN in Sopot, Poland. Prof. Janusz Pempkowiak, Director of the IO-PAN, welcomed the group on behalf of the institute, and gave a short overview over the infrastructure, mission and activities of the IO-PAN.

Markus Meier chaired the meeting. All meeting participants gave a short self-presentation.

TOP 1: Organisational Issues

1.1. Approval of the agenda

The agenda for the 1st BE-ISSG meeting (Annex 1) was approved, with the following amendments: Under TOP 6 and 8, additional topics were discussed. Furthermore, an additional agenda item was proposed for future BE-ISSG meetings: a short report by members on activities and news from their home countries, with relevance for Baltic Earth.

1.2. Approval of the previous Baltic Earth ISSG meeting minutes

The minutes of the 1st Baltic Earth ISSG meeting were unanimously approved.

1.3. Review of the previous Baltic Earth ISSG meeting action items

The following action items of the previous meeting are completed or pending:

1. **Draft of the Baltic Earth Science Plan (PENDING, see TOP 4)**
2. Terms of Reference for BE-ISSG to be drafted. COMPLETED, see 1.4 and Annex 3.
3. **Terms of Reference and goals for BE Working Groups (PENDING, see 1.4)**
4. Suggestions for potential members of the BE Senior Advisory Board, and Terms of Reference for the BE-SAB to be drafted (COMPLETED, see 1.5 and Annex 4)
5. **Funding options for BE research (EU JPIs, Horizon 2020, Marie Curie Networks, others...).** PENDING, see TOP 8.
6. **An article on Baltic Earth to be written for publication in EOS (Markus Meier, Anna Rutgersson and the ISSG).** PENDING, see xxx
7. Article on Baltic Earth in GEWEX Newsletter (COMPLETED, see minutes of 1st BE-ISSG meeting)
8. Prepare the BE Workshop on "Challenges for biogeochemical research in the Baltic Sea region". COMPLETED, see Top 3 and 5, and Annex xc.
9. Options for a BE workshop or conference on competing drivers of regional changes in the Baltic Sea region, COMPLETED; see TOP 5.
10. Identify possibilities for presenting Baltic Earth at international events (partly completed, see TOP 5, but ongoing)
11. Propose articles for the combined BALTEX/Baltic Earth Newsletter (COMPLETED)

1.4. Baltic Earth ISSG and WG terms and membership

a. ISSG Terms of Reference were unanimously approved (see Annex 3, and the BE website).

b. It was suggested to add a second scientist from Poland to the ISSG to improve the country and gender balance. Karol Kulinski suggested inviting Dr Agnieszka Herman of the Institute of

Oceanography, University of Gdańsk to the ISSG. Ms. Herman is part of the EU project "SatBaltic: Satellite monitoring of the Baltic Sea environment", with interesting implications for Baltic Earth research. For a CV and an overview over the research interests of Ms. Herman, see ocean.ug.edu.pl/~herman/en_projekty.html.

c. WG chairs are asked to draft tasks and terms for their respective WG, and to send them to BE-ISSG chairs and the Secretariat, preferably before Christmas. They should be on the Baltic Earth website, along with a short description of the GC.

1.5. Baltic Earth SAB terms and memberships

The Draft Terms of Reference for the Baltic Earth Senior Advisory Board (BE-SAB) were discussed and approved (see Annex 4, and the BE website). Furthermore, a list of potential members was discussed. Different aspects regarding the tasks and function of the SAB were discussed. The representation of relevant stakeholders for Baltic Earth was considered most important, e.g. HELCOM, BONUS, ICES, GEWEX, Future Earth, BOOS, EUMETNET. Potential names were discussed, and the approved shortlist of potential members to be approached can be found in Annex 5. For the stakeholder organisations in question, suitable names still need to be identified.

TOP 2: Report by the International Baltic Earth Secretariat

Marcus Reckermann reported on the past and envisaged activities of the IBES. The Baltic Earth website is currently still embedded in the BALTEX website, since a re-launch is a major task. It is envisaged to have the Baltic Earth website launched under the new design by June 2014. Until then, it will be established as interim website under the BALTEX design and can be reached under the URL www.baltic-earth.eu. An additional URL baltic.earth is applied for. The BALTEX website will remain to be fully operational under www.baltex-research.eu.

There will be a new publication series, similar to the existing International BALTEX Secretariat Publication Series, which had 53 issues (see www.baltex-research.eu/publications). The new International Baltic Earth Publication Series will have a new corporate Baltic Earth design (logo and font), and a new ISSN number.

The BALTEX Publication Database currently contains 11 books, 676 peer-reviewed journal articles, 65 reports and 811 Study Conference presentations with reference to BALTEX. It will also be searchable from the Baltic Earth website. It is envisaged to continue the database under the new Baltic Earth label.

It is planned to publish a joint BALTEX/Baltic Earth Newsletter, preferably before Christmas. It will be the final BALTEX Newsletter (#16), and the first Baltic Earth Newsletter. There will be some retrospective articles from BALTEX "veterans", looking back to 20 years of BALTEX, and also some prospective articles on envisaged Baltic Earth activities.

A short status report on BACC II was given. All Chapters have been reviewed and revised, and are currently being checked for contradictions and inconsistencies which need to be discussed between authors. The editing phase including professional language proof reading, figure quality and permissions, references, is still ongoing. Open Access was negotiated with Springer. It was noted that the costs for producing the BACC II book will be significantly higher than for the first BACC book, due to the Open Access fee and the professional proof reading service. It will be necessary to evaluate how the costs can be shared to a certain degree; for the time being, Helmholtz-Zentrum Geesthacht pays this completely. A publication date cannot be given yet, but spring 2014 is envisaged.

TOP 3: Reports by Baltic Earth Working Groups (BE-WGs)

WG chairs shortly reported on their activities in the months since the last meeting, as well as the plans for the following months. Presenters are named, WG names are abbreviated here; for full names, see www.baltic-earth.eu.

3.1. WG on Salinity (Andreas Lehmann and Kai Myrberg)

An assessment about salinity dynamics of the Baltic Sea is envisaged to be available in a draft version by June 2014 (Lund Workshop), starting with an assessment of the Major Baltic Inflows. This topic, and Baltic Earth research in general, shall be presented and discussed at the EGU meeting 2014 in Vienna, 27 April – 02 May. At least a poster on Baltic Earth should be shown at the EGU (abstract deadline: 16 January). Andreas Lehmann is co-convenor of an Open Session on “Coastal and Shelf Seas”. Potential subjects are the ability to model future salinity, and in general, the identification of knowledge gaps and a better integration of the research community. Piia Post was welcomed as new member of the WG.

3.2. WG on Biogeochemistry (Gregor Rehder and Karol Kulinski)

The WG has organized a Workshop on “Challenges for Biogeochemistry research in the Baltic Sea region”, which took place after the ISSG meeting in Sopot, 13 November 2013. The organizers were pleased and surprised by the positive response from the biogeochemistry research community of the Baltic Sea. A scope of the workshop is to identify and discuss current issues which could be tackled by Baltic Earth, and to recruit new WG members. The workshop agenda (see Annex 6) gives a good overview over some important research fields currently discussed. After the workshop, there was an open discussion on current challenges. The outcomes of the workshop will be documented on the Baltic Earth website.

3.3. WG on Natural Hazards (Jari Haapala and Anna Rutgersson)

The WG is in the process of organizing a workshop on “Natural Hazards and extreme events in the Baltic Sea region” in Helsinki, 30-31 January 2014. Scope of the workshop will be to review the understanding of extreme events in the past, present and future, and to identify knowledge gaps and research needs. The announcement is in Annex 7. The abstract deadline for oral or poster contributions is 5 January 2014; the registration deadline is 10 January 2014. Detailed information on the workshop is available on the workshop website at www.baltic-earth.eu/hazards.

3.4. WG on Sea Level (Eduardo Zorita)

The emphasis of the WG was discussed; whether it should be on the new technology of remote sensing and satellite altimetry, GPS, or also the traditional methods. It was agreed that all methods should be taken into account which help to arrive at a better understanding of sea level dynamics in the Baltic Sea. Nevertheless, a focus would be to raise the awareness of available satellite data and their potentials. In this respect, a workshop on satellite data for sea level research in the Baltic Sea in conjunction with the Conference in Szczecin, Poland, 16-19 May 2014 was mentioned. Further planning on this is pending.

3.5. WG on Water and Energy Cycles (Sergej Zhuravlev and Irina Partaseok)

The knowledge gaps were briefly outlined. Runoff estimates have large error margins of up to 30-50%; uncertainties are still considerably high. To improve the situation, satellite observations may be included to a larger extent, and hydrological models should be improved. It was suggested to start an inter-comparison project between different available hydrological models, which may be unrealistic at this point. Still, an assessment of available hydrological models for the Baltic Sea region seemed feasible. Furthermore it was discussed whether it may be reasonable and beneficial to merge the WGs on Salinity with the WG on Water and Energy cycles, as salinity in the Baltic Sea is intrinsically interwoven with energy and water processes. This idea was postponed, no further action was

suggested. Still, it was suggested to actively recruit new members for the WG. Franz Berger as WG chair has been absent due to illness; it is hoped that he will be able to return as soon as possible.

3.6. WG on Outreach and Communication (Hans von Storch)

Carin Nilsson had announced to step back from the position of WG chair. Hans von Storch acts as chairman, but a new co-chair should be identified. One major task of the WG will be to organize the processing of the BACC II material for non-scientists in the languages of the Baltic Sea countries. In each language, a summary booklet shall be produced which will summarize the BACC II material in an understandable way. In addition to that, the national short versions should focus on the region- and country-specific conditions related to climate change and its impacts, as far as possible. Furthermore the idea was discussed to translate the complete BACC book to Russian. It will have to be investigated how this would be possible.

Another idea was to propose the BACC example as an option for future IPCC activities. It was proposed to approach the IPCC and suggest installing regional groups of local scientists to produce regional assessments which can be much more precise and credible than the currently ongoing rather limited assessments on the regional scale which are generally produced by non-regional scientists. The ISSG should decide whether an official letter should be sent to the IPCC Secretariat by Baltic Earth, suggesting regional assessments following the BACC example.

3.7. WG on Education (Piia Post and Marcus Reckermann)

Irina Partasenok was welcomed to the WG on Education. The primary issue of organizing a summer school in 2014 was discussed. Potential places mentioned were Pärnu/Estonia, and Askö/Finland. Earth System Modelling was proposed as tentative topic. More importantly, the funding issue remained open. Several possibilities for partial funding should be evaluated, such as the Bolin Centre, Nordforsk, BONUS and others. Individual institutions may also be approached for a contribution. The option to postpone the first Baltic Earth summer school to 2015 was also discussed, as many potential lecturers may already now have plans for the summer 2014, and the time to look for funding and prepare the school may run short. In addition to that, it was decided to have the first large Baltic Earth Conference in 2016, leaving two conferences co-organized by Baltic Earth (Szczecin and Lund) and three potential Baltic Earth Workshops (on Natural Hazards in January in Helsinki, on Satellite Altimetry in May in Szczecin, and on Multiple Drivers in December) in 2014. Thus, 2015 could be a good year to have a Baltic Earth Summer School as major event.

3.8. WG on RCMs (Markus Meier)

This WG will produce a review paper as outcome, preferably prior to the Lund Workshop in June 2014. Topic will be the assessment of coupled regional climate models, to be presented at the Lund Workshop in June 2014.

3.9. WG on BSAP scenarios (Markus Meier)

Topic of this WG is the assessment of the available scenarios for the Baltic Sea Action Plan (BSAP) for the period 1960-2100.

A subject which was vividly discussed and relates to all WGs and Grand Challenges is the question who the main stakeholders are, for which reason. It would be a task to define this in the Terms of References. All WG chairs are asked to draft Terms of References for their respective WG, preferably before Christmas.

The Baltic Earth Science Plan is intended to be a “light” document, which can be easily adjusted. It was suggested to have it based partly on the revised BALTEX Phase II Implementation Plan of 2009. The core of the document will be the descriptions of the GCs and WGs, with clear definitions of the tasks and outcomes. The final draft of the BESC should be finalized by 16 June 2014, to be presented at the Lund Workshop. A first version draft should be available internally for revision by the end of February. Markus Meier and Anna Rutgersson will head the writing team; they will mainly draw from the material provided to them by WG chairs.

TOP 5. Events

An overview on past, planned and envisaged events:

1. **Workshop on “Challenges for Biogeochemistry research in the Baltic Sea region”**, organized by WG on Biogeochemistry. This workshop was held on 13 November 2013 at the IO-PAN in Sopot. A scope of the workshop is to identify and discuss current issues which could be tackled by Baltic Earth, and to recruit new WG members. The agenda is in Annex 6.
2. **Workshop on “Natural Hazards and extreme events in the Baltic Sea region”** in Helsinki, 30-31 January 2014. Some people have been approached already as speakers, and more speakers will be identified in early January. The announcement for the event is in Annex 7, see also www.baltic-earth.eu/hazards
3. **Conference on “Climate Change in the Southern Baltic region”**, Szczecin, 12-15 May 2014 (co-organized by Baltic Earth). The second Announcement has been circulated in December 2013, see also www.baltic-earth.eu/SZC2014. It was suggested by Eduardo Zorita to have a Baltic Earth Workshop on Satellite Altimetry in conjunction with the conference; this needs to be evaluated.
4. **Workshop on “21st Century Challenges in Regional Climate Modelling”**, Lund, 16-19 June 2014 (co-organized by Baltic Earth). The second Announcement has been circulated in December 2013, see also www.baltic-earth.eu/RCM2014. The 3rd Baltic Earth Interim Science Steering Group meeting will be held in conjunction with the conference. This is an important Baltic Earth event as at this meeting, the Baltic Earth Science Plan shall be presented, and the permanent Baltic Earth Science Steering Group as well as the Baltic Earth Senior Advisory Board shall in office as of this meeting. Also, at the Lund Workshop, the assessment of the WG on RCM shall be presented.
5. **Baltic Earth Summer School**. Due to the unsolved funding issue and the little time for preparing a school in 2014 it was considered unrealistic to have a proper Baltic Earth Summer School in 2014. A possibility may be to join an already a planned summer school which is funded and may benefit from lecturers the Baltic Earth community. This remains to be checked. Also funding options need to be identified (see 3.6.). Realistically, a Baltic Earth Summer School can be planned for 2015 (see also below).
6. **Regular Baltic Earth Conferences**. The format of future regular Baltic Earth Conferences, following the example of the BALTEX Study Conferences, was discussed. Considering the time frame, it was considered unfortunate to hold the conference in the same year as the Baltic Sea Science Congress, which is held every two years in uneven years. Therefore, it was suggested to change the 3 yearly rhythm of the BALTEX conferences to a 2 yearly rhythm, starting in 2016. Also the format was discussed: a general topic for the entire conference was not deemed desirable, but a considerable fraction could be dedicated to one grand challenge, ore related topic, e.g. 2 or 3 days out of the 5-days conference. Thus, it was decided to hold

the first Baltic Earth Conference in 2016, with a topical focus on “The role of multiple drivers in the observed and projected changes in the Baltic Sea region” (draft working title). 2 days of the 5-day conference shall be dedicated to this special focus. Due to the high complexity and importance of this topic, an additional Baltic Sea Workshop on the topic was proposed to be held in December 2014 (place and date tbd). This topic had been discussed to be a Grand Challenge in the beginning, but was postponed. Both the workshop and the special focus session at the Baltic Earth Conference may act as initial events to initiate new WG and GC by 2016.

7. **Baltic Earth sessions at other conferences.** At the ASLO Open Science Conference in Honolulu in February 2014, there will be a session with relevance to regional network, where the Baltic Earth idea will be presented together with the BACC and BALTEX achievements. The EGU General Assembly in April/May 2014 may also be a good opportunity to present the Baltic Earth idea (deadline for abstracts: 16 January 2014). Furthermore, the conference on “Deltas in times of Climate Change II” which will be held in Rotterdam, the Netherlands, September 2014, could be a good platform to present Baltic Earth research, e.g. from the Odra estuary. This needs to be checked (Abstract Deadline: 15 March 2014).

TOP 6. Other Baltic Earth issues

- 6.1. The GEWEX Hydroclimatology Panel (GHP) at their recent meeting in Rio de Janeiro, Brazil, stated: “The Panel was encouraged that Baltic Earth seems to be aligning well with WCRP/GEWEX challenges and science questions, noting that all of the Baltic Earth GCs, except for GC2, are associated with topics of direct interest to GEWEX at both the regional and global scales. Nonetheless, IGPO accepted the Action (A7) to contact Baltic Earth representatives of record to ensure that they are aware of the GSQs and that they factor those into their implementation processes”. It was decided that an international embedment in GEWEX would be desirable for Baltic Earth and that steps should be taken to approach GHP to discuss the further procedure to this end, subject to a later additional embedment in other international frameworks such as Future Earth.
- 6.2. In order to facilitate and support the dissemination of the Baltic Earth idea, ISSG members are encouraged to make a short reference to Baltic Earth in whichever presentation this may fit. For this purpose, 3 slides will be uploaded on the Baltic Earth website for anybody to download and use.
- 6.3. A Baltic Earth flyer shall be produced for the Lund Workshop in June 2014 at the latest.
- 6.4. Markus Meier and Anna Rutgersson will prepare an article for publication in EOS.
- 6.5. Funding possibilities for Baltic Earth activities (conferences, workshops, summer schools, publications etc.): HZG is currently funding the International Baltic Earth Secretariat including an infrastructure for publications and the web site. In order to achieve the envisaged activities (conferences, workshops, summer schools, publications), Baltic Earth is dependent on additional external funding. In the past (in BALTEX Phase I and II) this was provided by a. successful national or EU funding (e.g. DEKLIM, BONUS), or b. through flexible contributions for specific occasions, by dedicated participating institutions.

It will be an important task for the ISSG to identify potential funding from the EU and other sources, in the next months.

TOP 7. Place and Time of the next BE-ISSG Meeting

The next ISSG meeting shall take place in the Elite Hotel Ideon Lund, Sweden, on 19 June 2014, in conjunction with the 3rd International Lund Regional-scale Climate Modelling Workshop.

TOP 8. Any other business

- 8.1. All planned events and activities should be communicated among the whole group as early as possible.
- 8.2. An online calendar on any Baltic Earth events shall be placed on the website.

Draft minutes by Marcus Reckermann, 29 Nov 2013

Comments by Markus Meier, 29 Nov 2014

Version 18 Dec 2013

Abbreviations and Acronyms

ASLO	Association for the Sciences of Limnology and Oceanography
BACC	BALTEX Assessment of Climate Change for the Baltic Sea basin
BALTEX	The Baltic Sea Experiment
BE-ISSG	Baltic Earth Interim Science Steering Group
BE-SAB	Baltic Earth Senior Advisory Board
BONUS	Joint Baltic Sea research and development programme
BOOS	Baltic Operational Oceanographic System
BSAP	Baltic Sea Action Plan
DEKLIM	German Climate Research Programme (ended 2005)
EGU	European Geosciences Union
EUMETNET	Consortium of 31 European National Meteorological Services
GC	Grand Challenge
GEWEX	Global Energy and Water Cycle Experiment
GHP	GEWEX Hydroclimatology Panel
GSQ	Grand Science Questions
HELCOM	Helsinki Commission for the protection of the Baltic Sea
HZG	Helmholtz-Zentrum Geesthacht
IBES	International BALTEX Baltic Earth Secretariat
ICES	International Council for the Exploration of the Sea
IGPO	International GEWEX Project Office
IO-PAN	Institute of Oceanology – Polish Academy of Science
IPCC	International Panel on Climate Change
ISSN	International Standard Serial Number
JPI	Joint Programme Initiative
RCM2014	Regional Climate Modelling Workshop in Lund, Sweden, 16-19 June 2014
SZC2014	Regional Climate Change Conference in Szczecin, Poland, 12-15 May 2014

Annex 1: Baltic Earth 2nd Interim Science Steering Group Meeting Agenda



2nd Meeting of the Baltic Earth Interim Science Steering Group (ISSG)

12 November 2013

Institute of Oceanology

PROVISIONAL AGENDA

(As of 21 October 2013)

- 09:00** **Welcome by the Host of the Meeting**
Karol Kulinski, Institute of Oceanography PAS, Sopot, Poland
Janusz Pempkowiak, Director of IO-PAS, Sopot, Poland
- 09:15** **Introduction to the meeting by the Baltic Earth ISSG Chairman**
Markus Meier, SMHI, Sweden
- 09:20** **TOP 1: Organisational issues**
- 1.1 Approval of the agenda
 - 1.2 Approval of the previous Baltic Earth ISSG meeting minutes
 - 1.3 Review of previous Baltic Earth ISSG meeting action items
 - 1.4 Baltic Earth ISSG and WG membership and terms
 - 1.5 Baltic Earth SAB membership and terms
- 10:20** **Health Break**
- 10:40** **TOP 2: Report by the International Baltic Earth Secretariat**
- 2.1 Website
 - 2.2 Baltic Earth Publication Series
 - 2.3 BALTEX Publication database
 - 2.4 BALTEX and Baltic Earth Newsletter
 - 2.5 BACC II status
- 11:10** **TOP 3: Report by Baltic Earth Working Groups**
- 3.1 WG on Salinity dynamics in the Baltic Sea
(Andreas Lehmann, Kai Myrberg)
 - 3.2 WG on Land-Sea biogeochemical feedbacks in the Baltic Sea region
(Gregor Rehder, Karol Kulinski, Benjamin Smith)
 - 3.3 WG on Natural hazards and extreme events in the Baltic Sea region
(Anna Rutgersson, Jari Haapala, Martin Stendel)

- 3.4 WG on Understanding sea level dynamics using remote sensing
(*Eduardo Zorita, Anders Omstedt, Birgit Hünicke*)
- 3.5 WG on Understanding regional variability of water and energy exchange
(*Franz Berger, Sergej Zhuravlev, Irina Partasenok*)
- 3.6 WG on Outreach and communication
(*Carin Nilsson, Hans von Storch, Marcus Reckermann, Joanna Wibig, Heikki Tuomenvirta, Dennis Bray, Insa Meinke, Markus Meier*)
- 3.7 WG on Education
(*Piia Post, Markus Meier, Marcus Reckermann*)
- 3.8 WG on the Utility of Regional Climate Models
(*Markus Meier*)
- 3.9 WG on the Assessment of Scenario Simulations for the Baltic Sea 1960-2100
(*Markus Meier*)

12:30 Lunch Break

13:30 TOP 4: Baltic Earth Science Plan

- 4.1 Structure and writing strategy
- 4.2 Writing team
- 4.3 Deadlines

15:00 TOP 5: Baltic Earth events currently in preparation and envisaged

- 5.1 Baltic Earth Workshop on “Challenges for biogeochemistry in the Baltic Sea Region”, Sopot, 13 October 2013
- 5.2 Baltic Earth Workshop on “Natural hazards and extreme events in the Baltic Sea region”, Helsinki, 30-31 January 2014
- 5.3 Conference on “Climate Change in the Southern Baltic region”, Szczecin, 12-15 May 2014 (co-organized by Baltic Earth)
- 5.4 Workshop on “21st Century Challenges in Regional Climate Modelling”, Lund, 16-19 June 2014 (co-organized by Baltic Earth)
- 5.5 Baltic Earth Summer School
- 5.6 Baltic Earth Workshop/Conference on “Competing drivers for changes in the Earth system of the Baltic Sea region”
- 5.7 First ideas for the 1st Baltic Earth Conference (scope, time window)
- 5.8 Other events with Baltic Earth contributions (ASLO, ...)

15:30 Health Break

15:50 TOP 5 continued

16:20 TOP 6: Other Baltic Earth issues

- 6.1 International strategy: GEWEX, Future Earth
- 6.2 EOS Article on Baltic Earth
- 6.3 Flyer, presentation, promotion tour ...
- 6.4 Any other topic

17:20 TOP 7: Place and time of next BSSG meeting

TOP 8: Any other business

17:30 Closing of the meeting

Annex 2: List of participants

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Sergey Zhuravlev, Saint-Petersburg State University, Russia, hydromod@gmail.com

Members of the BE-ISSG, but not present at this meeting:

Franz Berger, German Weather Service, Lindenberg, Germany, franz.berger@dwd.de

Inga Dailidienė, Department of Geophysical Sciences, Klaipeda University, Lithuania, inga.dailidienne@ku.lt

Kay Myrberg, Finnish Environment Institute, SYKE, Helsinki, Finland, kai.myrberg@ymparisto.fi

Carin Nilsson, Lund University, Sweden, carin.nilsson@cec.lu.se

Anders Omstedt, University of Gothenburg, Sweden, Anders.Omstedt@gvc.gu.se

Benjamin Smith, Lund University, Sweden, ben.smith.lu@gmail.com

Martin Stendel, Danish Meteorological Institute, Copenhagen, Denmark, mas@dmi.dk

Annex 3: Terms of References of the Interim Science Steering Group (ISSG) of Baltic Earth

Approved by ISSG, 12 November 2013

1. Tasks of the ISSG are to

- undertake the overall planning, monitoring and coordination of Baltic Earth,
- regularly review and update the science plan including the Grand Challenges, and to assess Baltic Earth actions and achievements against the provisions of the science and implementation plans,
- suggest and approve members and chairs of Baltic Earth panels, including the ISSG and the External Advisory Board, with qualified majority,
- suggest and approve chairs of Baltic Earth Working Groups , with qualified majority,
- initiate, supervise and review the work of Baltic Earth Working Groups,
- review developments relevant for Baltic Earth at international levels, suggest related actions for Baltic Earth, and report, or organize the reporting, to the relevant panels at international levels,
- interact with the various national and international authorities important for Baltic Earth,
- establish and maintain links to other relevant projects and programmes and assure cooperation whenever possible and adequate,
- establish and maintain links to stakeholders, policy-makers and the public in order to i) create awareness of Baltic Earth, ii) make Baltic Earth results available for use, iii) exchange advise concerning Baltic Earth results, related requirements, and their application for the benefit of society,
- undertake suitable steps to both promote funding possibilities at national and international levels,
- actively initiate or support related funding proposals in support of the Baltic Earth,
- initiate and prepare Study Conferences on Baltic Earth on a regular basis (every 4 years)
- initiate and prepare Baltic Earth symposia and workshops on relevant topics
- meet at least annually, with E-Mail communication between meetings.

2. Term

- for chairpersons: 1 year (June 2013-June 2014)
- for members: 1 year (June 2013-June 2014)

3. Election and approval

- criteria for a membership in the ISSG are scientific excellence, an active contribution to ISSG meetings, conferences, workshops, summer schools, working groups and projects, as well as gender, country, institutional and scientific discipline balance,
- new members need to be identified and suggested by at least one member,
- suggestion of a candidate needs to be communicated to all members at least 4 weeks prior to election and approval by a qualified majority of the ISSG,
- approval by ISSG is normally done at a regular ISSG meeting, in important cases approval and election may be by E-mail between ISSG meetings,
- final official approval by the ISSG chair.

4. Decisions

- the “qualified majority” is 2/3 of the elective ISSG members present at a meeting,
- a minimum of ½ of all ISSG members must be present at a meeting in order to take decisions, this may include votes submitted prior to the meeting to the ISSG chair

Annex 4: Terms of Reference for the Baltic Earth Senior Advisory Board

(approved as of 2nd Baltic Earth ISSG Meeting, Sopot, 12 November 2013)

Tasks

- to provide advice to the Baltic Earth Science Steering Group (BESSG) in terms of strategy and overall directions;
- to provide insight and contacts to relevant stakeholders, international boards and funding organizations;
- to assist in acquiring financial support for specific Baltic Earth activities which require additional funding;
- to meet at least annually, either on site or via telephone conference call;
- to strictly give advice, no decisions are taken by the SAB.

Term

- For chairs and members: 2 years (June 2013-June 2014), with possibility for renewal

Election and approval

- Criteria for membership: extensive international experience in a specific field of Baltic Earth, scientifically and in preferably in research management;
- As far as possible, gender, country, institutional and scientific discipline balance to be considered,
- Chairperson and new members to be suggested by BESSG and approved with qualified majority,
- Suggestion of a candidate to be communicated to all members at least 4 weeks prior to election and approval by a qualified majority of the BESSG,
- Approval of membership changes by BESSG normally at a regular ISSG meeting, in important cases approval and election may be by E-mail between ISSG meetings,
- Final official approval by the BESSG chair.

Annex 5: Potential members of the Senior Advisory Board (SAB) for Baltic Earth

(approved shortlist list as of 2nd Baltic Earth ISSG Meeting, Sopot, 12 November 2013)

- **Jüri Elken**, Marine Systems Institute, Tallinn University of Technology, Estonia (suggested as Chair)
- **Kay Emeis**, Institute of Coastal Research, Helmholtz-Zentrum Geesthacht, Germany
- **Stanislaw Massel**, IO-PAN, Sopot, Poland
- **Andris Andrusaitis**, BONUS EEIG, Helsinki, Finland
- **Hans-Jörg Isemer**, former International BALTEX Secretariat
- HELCOM representative
- ICES (International Council for the Exploration of the Seas) representative
- GEWEX (Global Energy and Water Exchanges) representative
- Future Earth representative
- BOOS (Baltic Operational Oceanographic System) representative
- EUMetNet representative

Annex 6: Agenda for the Baltic Earth Workshop on “Challenges for biogeochemical research in the Baltic Sea region”

Baltic Earth workshop on “Challenges for biogeochemistry research in the Baltic Sea Region”



13 November 2013

Institute of Oceanology
Polish Academy of Sciences (IO PAN) ul.
Powstancow Warszawy 55
81-712 Sopot
Poland



Agenda

- 09:00 Welcome by the Host of the Meeting** *Janusz Pempkowiak, Director of IO PAN* *Karol Kulinski*
- 09:10 Introduction to Baltic Earth**
Markus Meier, Baltic Earth ISSG Chairman
- 09:20 Introduction and scope of the workshop**
Gregor Rehder
- 09:35 Biogeochemical Transformations across the Land-Sea Interface**
Daniel Conley
- 09:55 Biogeochemical transformation processes along lateral gradients**
Christoph Humborg
- 10:15 Understanding the Baltic Sea nutrient cycling**
Kari Eilola
- 10:35 Coffee break**
- 11:00 Dissolved organic matter – a missing component in the acid-base system**
Karol Kulinski
- 11:20 Experimental evidence for biogeochemical process parameterizations**
Bernd Schneider
- 11:40 Ecosystem model ERGOM - strengths and weaknesses**
Thomas Neumann
- 12:00 Towards an improved benthic biogeochemistry description in ecosystem modelling: challenges and potential solutions**
Andy Dale
- 12:20 Challenges for biogeochemical modeling on centennial time scales**
Markus Meier
- 12:40 Lunch**
- 13:40 Open discussion and brainstorming**
moderated by Gregor Rehder
- 16:00 End of the meeting**

Annex 7: Announcement for the Baltic Earth Workshop on “Natural hazards and extreme events in the Baltic Sea region”



FINNISH METEOROLOGICAL INSTITUTE



Baltic Earth

Baltic Earth Workshop on

Natural hazards and extreme events in the Baltic Sea region

Finnish Meteorological Institute, Dynamicum, Helsinki

30-31 January 2014

One of the grand challenges of Baltic Earth, the new Earth System Science programme for the Baltic Sea region and successor to BALTEX, focuses on natural hazards and extreme events in the Baltic Sea region. Many natural hazards - storms, flooding, droughts, blizzards – are of hydrometeorological origin and can potentially be better understood and forecasted. The most devastating natural hazards are often caused by a combination of several factors. Extreme flooding in a coastal city for instance could be caused by a combined effect of storm surge and river flooding, with additional effects on the water storage in the Baltic Sea. Presently, prediction capabilities as well as knowledge of potential future changes in the occurrence of extreme events are very limited.

In addition to the large scale extreme events, extremes of weather types on monthly to seasonal time scales are also key interest for society, and further research on processes like atmospheric blocking is needed for the development of monthly to seasonal forecast models.

The overarching aim of this Baltic Earth workshop is to review our understanding of extreme events in the past, present and future, and to identify research needs. Furthermore, workshop goals are

- to establish links between research groups focusing on observations, statistical analysis and predictions,
- to identify gaps in knowledge and weaknesses in our ability to observe, understand and statistically calculate extreme events, and
- to review modeling capabilities in order to estimate the occurrence of extreme events.

Projected outcomes of the workshop are

- to establish a review of the current state-of-the-art research, gaps and advances in observations, analysis, modeling and prediction (focusing on the scientific understanding),
- to identify partners and establish action items concerning the coordination of overlapping interests, the closure of gaps in knowledge, and the enhancement of networking between groups, and
- to contribute to the planning of future Baltic Earth research in this area.

There is no fee, but registration via the website is compulsory. Oral and poster contributions on the above outlined topics are welcome. Further information at the workshop website at: www.baltic-earth.eu/hazards

Abstract Deadline: 5 January 2014

Registration deadline: 10 January 2014

Organizing Committee: Jari Haapala, Finnish Meteorological Institute, Helsinki, Finland (jari.haapala@fmi.fi), Anna Rutgersson, Uppsala University, Sweden (anna.rutgersson@met.uu.se), Martin Stendel, Danish Meteorological Institute, Copenhagen, Denmark (mas@dmi.dk), Marcus Reckermann, International Baltic Earth Secretariat at Helmholtz-Zentrum Geesthacht, Germany (marcus.reckermann@hzg.de)