



Minutes of
3rd Meeting
of the Baltic Earth
Interim Science Steering Group

held at

**Elite Hotel Ideon
Lund, Sweden**

18 June 2014

Edited by

Marcus Reckermann



Participants at the 3rd Baltic Earth Interim Science Steering Group meeting. Left to right: Andreas Lehmann, Kai Myrberg, Piia Post, Hans von Storch, Jüri Elken (Baltic Earth Senior Advisory Board), Hans-Jörg Isemer (Baltic Earth Senior Advisory Board), Sergey Zhuravlev, Irina Partasenok, Jari Haapala, Carin Nilsson, Karol Kulinski, Benjamin Smith, Anna Rutgersson. Present but not on the photo: Inga Dailidienė, Markus Meier and Marcus Reckermann.

Contents

	Page
Decisions	4
Action Items	4
Introduction.....	5
TOP 1: Organizational Issues	5
TOP 2: Report on activities during the first year of Baltic Earth	6
TOP 3: Future Baltic Earth organisation	9
TOP 4: Upcoming activities.....	10
TOP 5. Miscellaneous	12
Abbreviations and Acronyms	13
Annex 1: Baltic Earth 3 rd Interim Science Steering Group Meeting Agenda	14
Annex 2: List of participants	16
Annex 3: Terms of References for the Baltic Earth Science Steering Group (BESSG)	17
Annex 4: Terms of Reference for the Baltic Earth Working Groups	19
Annex 5: Terms of Reference for the Baltic Earth Senior Advisory Board	20
Annex 6: Confirmed members of the Baltic Earth Senior Advisory Board (SAB)	21

Decisions

1. The new Baltic Earth Science Steering Group, consisting of members of the BEISSG is active and operational as of this meeting.
2. SAB to be asked to advice in the issue of BESSG membership changes and group extension, and maximum term. Issue will be discussed and decided at the next BESSG meeting.
3. The Terms of References for the Baltic Earth Science Steering Group (BESSG) were unanimously accepted.
4. Memberships in the Baltic Earth WGs shall continue.
5. The Terms of References for the Baltic Earth Working Groups (BEWG) were unanimously accepted.
6. Markus Meier was elected as BESSG chair and Anna Rutgersson was elected as BESSG vice chair for a 2-year term, e.g. until the BESSG meeting which will be held in conjunction with the 1st Baltic Earth Conference in early summer 2016.
7. MM, AR and MR to prepare a draft Baltic Earth Science Plan by 4th BESSG Meeting in February 2015.
8. SAB to be asked to advice in a potential international embedment of Baltic Earth.
9. A Baltic Earth Workshop on the Gulf of Finland to be held in Helsinki.
10. Full BESSG meetings (1.5 days) shall take place every winter; short half day meetings can be attached to either Baltic Earth Conferences (even years, starting from 2016, in June or early summer before the summer break), or to the Baltic Sea Science Congress (odd years, starting from 2015, in late August)
11. Place and time of the next BESSG Meeting: Hamburg, Germany, February 2015 (Morning to lunch next day).

Action Items

1. *Action Item to MR: Send a sample WG description to all WG chairs, asking for response by 1 November.*
2. *Action Item to Piia Post and all: To investigate alternative funding options for a Baltic Earth Summer School in 2015.*
3. *Action Item to MM: Invite Valery Vuglinsky*
4. *Action Item to MM and AR with MR: Draft a welcome letter to the SAB.*
5. *Action Item: To KM and MR to prepare the Baltic Earth Gulf of Finland Workshop.*
6. *Action Item to ID, MR, SK, MM, AR to investigate a possible venue for the 1st Baltic Earth Conference on or near the Curonian Spit.*
7. *Action Item to HvS, MM, AR with all to investigate possibilities for a joint Baltic Earth proposal in a JPI.*

Introduction

This 3rd Baltic Earth Interim Science Steering Group Meeting took place in conjunction with the 3rd Lund Workshop on Regional Climate Modelling (RCM2014). At this half day meeting, the transition of the “Baltic Earth Interim Science Steering Group” (BEISSG) to the permanent “Baltic Earth Science Steering Group” (BESSG) was implemented. The meeting focused on this transition including decisions on member- and chairmanship, but also discussed previous activities as well as activities foreseen for the next months.

BISSG chairman Markus Meier chaired the meeting. At the beginning, all meeting participants gave a short self-presentation.

TOP 1: Organizational Issues

1.1. Approval of the agenda

The agenda for the 3rd BEISSG meeting (Annex 1) was unanimously approved.

1.2. Approval of the previous Baltic Earth ISSG meeting minutes

The minutes of the 2nd Baltic Earth ISSG meeting were unanimously approved.

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

The following open action items of the previous meeting were discussed:

1. Produce a Baltic Earth flyer before June 2014 (Action Item to MR)
Pending, will be done before the next BESSG meeting in February.
2. Invite a potential new member to the ISSG: Dr. Agnieszka Herman (Action Item to MM, with support by MR).
Invited by E-Mail but no response. No further action.
3. 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.
Pending for most WGs.

Action Item to MR: Send a sample WG description to all WG chairs, asking for response by 1 November.
4. To investigate potential funding options for different projects within Baltic Earth (see TOP 6).
Investigated, ongoing effort. Marie Curie proposal by Anna Rutgersson et al. If successful, this would allow various educational and outreach activities. Other options to be investigated.

Action Item to Piia Post and all: To investigate alternative funding options for a Baltic Earth Summer School in 2015.
5. 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)
Pending, in work.

TOP 2: Report on activities during the first year of Baltic Earth

2.1 Baltic Earth Extremes Workshop in Helsinki, January 2014 and resulting Marie Curie application

Jari Haapala and Anna Rutgersson reported on the 1st Baltic Earth Workshop which was dedicated to the Baltic Earth Grand Challenge "Natural hazards and extreme events in the Baltic Sea region" and was held at the Finnish Meteorological Institute in Helsinki, 30-31 January 2014.

The overarching aim of this Baltic Earth Workshop was to review our understanding of extreme events in the past, present and future and to identify research needs. A concrete goal was to gather a group of researchers who could form a community to collaborate in this field in the future.

The first day was dedicated to oral presentations which spanned a range of extreme events in the Baltic Sea region. The day was opened by Yrjö Viisanen, Research Director of the Finnish Meteorological Institute, who gave an overview over the FMI's research activities. The presentations were of very high quality and mostly were of review character. The second day was dedicated to working group breakout session. The participants were divided into three groups: temperature extremes, precipitation events, and storm surges/sea level. Each group was given a template of questions as guidelines for discussion, and the outcomes were presented by the group rapporteurs in plenary, followed by an open discussion. A summary of the discussion and the notes presented by the rapporteurs, as well as the presentations given can be found at the workshop webpage (www.baltic-earth.eu/hazards/aftermath.html).

A main outcome of the workshop was the gathering of a group of scientists who participated in the writing of the EU Marie Curie proposal under Horizon 2020 "ExtremeBaltic", aiming at the question whether more frequent and more severe high impact events could occur in the Baltic Sea region under a changing climate. The proposal was coordinated by Anna Rutgersson of Uppsala University, Sweden.

2.2 The SZC2014 Conference in Szczecin, May 2014

On 12-15 May 2015, a conference on "Climate change – The environmental and socio-economic response in the southern Baltic region" was held in Szczecin, Poland. This was after 2009 the second conference of this type. This conference highlighted the following topics:

- Session A: Reconstruction of paleo-environmental change: Geological proxies and numerical modelling
- Session B: Modelling of climate change: How reliable are future projections?
- Session C: Natural dynamics of the coastal zone and the socio-economic response from prehistoric to recent times
- Session D: Climate change and regional planning
- Session E: Changing Baltic Sea coasts and their sustainable protection

More than 70 scientists participated in the conference, which was jointly organised by the University of Szczecin and the International Baltic Earth Secretariat at the Helmholtz Zentrum Geesthacht, Germany. The participants came from countries around the Baltic Sea (Belarus, Estonia, Germany, Latvia, Lithuania, Norway, Poland, Russia, Sweden), but also from China. The conference was held in a productive and open-minded atmosphere. In the final discussion, the participants confirmed the concept of regional conferences on climate change and its socio-economic effects. The organizers were encouraged by the participants to continue and to prepare a 3rd conference in Szczecin in 3 years. For this next conference, it is suggested to widen the scope by including general aspects of

marine and terrestrial environmental change and to continue the discussion of modelling the land-sea-atmospheric interaction, driven by natural and anthropogenic forcing. A more thorough summary of the conference and presentations given are available at www.baltic-earth.eu/SZC2014/after.html.

2.3 The RCM2014 Workshop in Lund, June 2014

The workshop was a follow-up to the regional climate modelling workshops held in Lund, Sweden in 2004 and 2009. Research on regional climate modelling has remarkably expanded during the last few years, so the aim of the workshop was to review the overall and specific developments and progress in regional climate modelling over the last five years, to discuss pertinent open issues and challenges, and to provide input for new developments on the field. The meeting covered a wide range of regional climate related topics, from basic modelling research on numerics, resolution and parameterisation to model evaluation and relevant observations, ensembles and applications. The workshop also provided opportunities for working meetings for networks and projects. The workshop was jointly organised by Lund University, SMHI, DMI, HZG and the International Baltic Earth Secretariat at Helmholtz Zentrum Geesthacht. A scientific summary is being prepared to be provided at the workshop website, together with presentations given at the workshop (www.baltic-earth.eu/RCM2014/after.html)

2.4 BACC II status and beyond BACC II

The BACC II chapters are currently in language editing with a professional English language scientific proof reader. The material is expected to be submitted to Springer in August or September 2014. The material will be published as Open Access.

In 2015, the material shall be summarized and published in the specific languages of the Baltic Sea region as easy-to-read brochures. The material of the book shall be summarized in a comprehensible language to reach the non-scientific public. In addition to that, the scientific statements shall be specified for the region (i.e. country) in which the booklet is being published.

A translation of the complete book to Russian can be coordinated by Russian colleagues through the mediation of BESSG members Sergey Zhuravlov and Irina Partasenok. The work could be edited by Valery Vuglinsky and two colleagues. It is envisaged that approximately one year will be needed for translating, editing and publishing the work. The related cost may be shared among interested institutions.

2.5 Brief reports from the Working Groups

The reports by WG chairs were kept very short due to the lack of time.

2.5.1. WG on Salinity

Andreas Lehmann gave an overview over the current activities. Draft Terms of Reference were presented to the WG. Baltic Earth and the WG on Salinity were presented at the EGU Conference in Vienna, 27 April-2 May. Furthermore, a paper on Major Baltic Inflows (MBIs), atmospheric circulation patterns and related salinity dynamics is envisaged, and scientific sessions on this topic are planned at forthcoming conferences (BSSC 2015, ICES Annual Conference). See Annex 7 for more details.

2.5.2. WG on Biogeochemistry

Karol Kulinsky reported that the short workshop in Sopot on “Challenges for biogeochemistry research in the Baltic Sea Region” was successful in bringing together interested people. Diverse

topics were discussed and a review paper is envisaged. Also, dedicated sessions on this Baltic Earth GC are envisaged at forthcoming related conferences.

2.5.3. WG on Extremes

Anna Rutgersson referred to the workshop in Helsinki in January 2014 and the related EU proposal (see 2.1).

2.5.4. WG on Sea Level

Eduardo Zorita was not able to participate in the meeting but sent a short note on possible Baltic Earth participations at international workshops on regional sea level (see 4.5).

2.5.5. WG on Water and Energy Exchanges

Sergej Zhuravlev proposed a synopsis of current hydrological models used in the Baltic Sea region. He suggested that a questionnaire could be designed to account for the basic properties of the models. A subsequent joint Baltic Earth workshop of all hydrological model producers and users is envisaged. Nevertheless, it was noted that this effort had been done in BALTEX, and following this experience, a clear benefit for the participating institutions should be evident and communicated.

2.5.6. WG on Education

Piia Post noted that the EC Marie Curie proposal would be a major funding opportunity for a series of Baltic Earth workshops. The outcome of the proposal will be communicated in late summer. In the case of a rejection, other funding options must be identified.

2.5.7. WG on Outreach

Hans von Storch alluded to the activities following the publication of the BACC II book (see 2.4.). Carin Nilsson is back to participate in the WG. She proposed to draft a paper on climate services in the different countries.

2.5.8. WG on Scenarios

Markus Meier invited the Baltic-Earth working group on scenario simulations on 6 March 2014 to meet at SMHI, Norrköping, Sweden. 17 participants discussed the various existing scenarios simulations for the Baltic Sea and agreed to write a synthesis paper on uncertainties (preliminary title: Assessment of scenario simulations for biogeochemical and carbon cycles in the Baltic Sea 1960-2100). Agenda, participant list, minutes and ppt presentations are available at www.baltic-earth.eu/WG-scenarios).

2.5.9. WG on Coupled Models

Markus Meier reported that the Baltic Earth Working Group on Regional Climate System Modeling met on Tuesday, 17 June 2014, at the RCM meeting in Lund to discuss briefly strategies how to proceed with the work of the group. It was concluded to prepare a working group homepage at www.baltic-earth.eu with both an external and internal part (the latter meant as a discussion forum). Matthias Gröger will disseminate a list of relatively short perturbation experiments and all participants are encouraged to perform these interesting simulations. It was proposed to organize a common Baltic Earth-HyMeX workshop in 2015 on regional coupled atmosphere-ocean-ice-land surface models.

2.6 Brief reports from institutions and countries on Baltic Earth relevant activities

Members briefly reported on relevant activities and events. **Andreas Lehmann** referred to his short presentation (Annex 7); **Kai Myrberg** mentioned the ongoing effort to publish a paper on BALTEX Phase II achievements in oceanography (together with Andreas Lehmann and Anders Omstedt), and

reported on the activities in the Gulf of Finland Year (see also 4.4. and Annex 8); **Inga Dailiniene** reported on the Baltic Sea Science Congress with more than 300 participants, which took place in Klaipeda and was organized by the University of Klaipeda; **Jüri Elken** reported on the IEEE/OES Baltic Symposium 2014 with 150 participants which took place in Tallinn on 26-29 May, Baltic Earth was presented as poster; **Hans-Jörg Isemer** drew attention on the Horizon 2020 calls which provide may provide funding possibilities for Baltic Earth and should be checked; **Jari Haapala** reported on the installation of Finnish Argo floats in the Gotland deep, providing profiles every 5 days, which represents a major improvement in monitoring resolution; **Carin Nilsson** mentioned a Workshop on Climate Services related to the EuroScience Open Forum Conference in Copenhagen, 21-26 June in Copenhagen; also in Copenhagen, the Third Nordic International Conference on Climate Change Adaptation will take place, 25-27 August 2014; **Karol Kulinsky** related to the SZC2014 Conference (see 2.2.) and mentioned the COST Conference on “The Predictive Power of Marine Science in a Changing Climate” in Sopot, 7-8 April 2014, where the Baltic Earth poster was presented; Karol also reported on the BONUS project PINBAL (Development of a spectrophotometric pH measurement system for monitoring in the Baltic Sea) which is coordinated by IOW in Germany (Gregor Rehder) and with the Polish IO-PAN (Karol Kulinsky) and the University of Gothenburg, Sweden, as partners; **Benjamin Smith** related to the RCM2014 Workshop in Lund and shortly reported on the Earth System Model used at Lund University, RCA-GUESS (land-sea biogeochemical links, runoff from land, CO₂ fluxes); **Markus Meier** reported that SMHI is now making all data freely available; also he mentioned new transient simulations with KLIWAS 1960-2100 and reconstructions of biogeochemistry and physics in the Baltic Sea from 1850.

TOP 3: Future Baltic Earth organisation

3.1. Baltic Earth SAB membership

The following members of the SAB had accepted the invitation to the group by the ISSG chairman (in alphabetic order, see also Annex 6): Andris Andrusaitis, Jüri Elken (Chair), Kay Emeis, Hans-Jörg Isemer, Fritz Köster, Stanislaw Massel, Jan Polcher and Ulla Li Zweifel. Only Jüri Elken and Hans-Jörg Isemer were present at the meeting.

It was criticized that there is only one female in the group, and that the countries of the Eastern Baltic Sea countris are underrepresented. It was suggested to invite Valery Vuglinsky of the State Hydrological Institute in St. Petersburg, Russia, to the panel.

Action Item to MM: Invite Valery Vuglinsky.

The role of the SAB is defined in the Terms of Reference (Annex 5). A welcome letter shall be written to all confirmed members of the SAB, stating the names of all members, the Terms of Reference, the conditions (no financial support) and procedures during joint BESSG-SAB meetings. The letter will be drafted by the BESSG chair and vice chair with support of the IBES, and be sent out after the summer break.

Action Item to MM and AR with MR: Draft a welcome letter to the SAB

3.2. Baltic Earth SSG and WG membership: Discussion and conversion from ISSG to SSG

ISSG Members responded to the questions on their intentions to remain in the Steering Group either by e-mail or orally during the meeting. The following members of the ISSG confirmed their intention to be a BESSG member for another 2 years term (alphabetically): Juris Aigars, Inga Dailidienė, Jari Haapala, Sirje Keevallik, Karol Kulinski, Andreas Lehmann, Markus Meier, Kai Myrberg, Carin Nilsson,

Anders Omstedt, Irina Partasenok, Piia Post, Marcus Reckermann, Gregor Rehder, Anna Rutgersson, Benjamin Smith, Martin Stendel, Hans von Storch, Sergey Zhuravlev and Eduardo Zorita. Chantal Donnelly had indicated to return after her leave, and Franz Berger will be asked later in the year.

Thus, the Baltic Earth Interim Science Steering Group (BEISSG), which had a mandate until this meeting, was dissolved and the new Baltic Earth Science Steering Group (BESSG) was declared operational.

Decision: The new Baltic Earth Science Steering Group, consisting of members of the BEISSG is active and operational.

There was discussion whether or not the BESSG should invite further members and increase its size, or to remain constant for the time being and consolidate. After a controversial discussion, a majority of 8 over 6 voted to keep the membership status as of now for the time being. However, this issue will be postponed and brought up again at the next BESSG meeting as no qualified majority (2/3 of present members = 9) was reached in this decision. The BESSG will ask the SAB for advice in this issue, specifically, if a fixed maximum term (e.g. 10 years) of membership in the BESSG should be applied, and if the group size should be limited. Also, if these rules should be fixed in the BESSG Terms of Reference, or if they should be treated rather flexibly.

Decision: SAB to be asked to advice in the issue of BESSG membership changes and group extension, and maximum term. Issue will be discussed and decided at the next BESSG meeting.

Decision: The Terms of References for the Baltic Earth Science Steering Group (BESSG) were unanimously accepted.

Decision: Memberships in the Baltic Earth WGs shall continue.

Decision: The Terms of References for the Baltic Earth Working Groups (BEWG) were unanimously accepted.

3.3. Baltic Earth SSG Chairmanship: Discussion and Decision

Markus Meier and Anna Rutgersson who had served as Baltic Earth Science Steering Group chair and vice chair, respectively, were asked whether they would agree to continue in these positions for another term of 2 years. There were no other candidates. Both agreed, and after a short discussion, both were unanimously elected as chair (Markus Meier) and vice chair (Anna Rutgersson).

Decision: Markus Meier elected as BESSG chair and Anna Rutgersson elected as BESSG vice chair for a 2-year term, e.g. until the BESSG meeting which will be held in conjunction with the 1st Baltic Earth Conference in early summer 2016.

TOP 4: Upcoming activities

4.1 Baltic Earth Science Plan

A draft Science Plan should be produced in half a years' time. It shall be based on the PostBALTEX report compiled by the PostBALTEX WG, with inputs from the current BESSG members and WG chairs and members, and also on the BALTEX Phase II Implementation Plans of 2006 and 2009. The core of the document will be the descriptions and objectives of the GCs and WGs. The Baltic Earth Science

Plan is intended to be a “light” document, which can be easily adjusted. The writing team will be led by Markus Meier, Anna Rutgersson and Marcus Reckermann, and inputs are expected by all BESSG members and WG chairs. It is expected to have a first draft ready at the 4th BESSG Meeting in early 2015.

Decision: MM, AR and MR to prepare a draft Baltic Earth Science Plan by 4th BESSG Meeting.

4.2 Baltic Earth international embedment (GEWEX, Future Earth, LOICZ)

The international embedment was discussed. It was decided by unanimous vote that the BESSG should be open concerning being a future Regional Hydroclimate Project in GEWEX, as at least three Baltic Earth GCs have strong relevance to GEWEX: GC1 Salinity, GC3 Natural Hazards, GC 5 Water and Energy Cycles. MR will communicate this to the GEWEX Steering Group at the GEWEX Conference in Den Haag in July. Further steps will be then discussed and initiated as appropriate at the next BESSG Meeting.

Future Earth was valued as very relevant for the scope of Baltic Earth, but it is unclear how Baltic Earth could be connected to Future Earth and what the procedures would be. Concerning a possible connection with LOICZ it was recommended to wait until their future organization, scope and position in Future Earth is clear. It was recommended to ask the SAB for advice in this respect and also investigate further possibilities for international embedment.

Decision: SAB to be asked to advice in a potential international embedment of Baltic Earth.

4.3 Baltic Earth Summer School

The further activities for preparing a Baltic Earth Summer School in 2015 will largely depend on the outcome of the EU proposal “ExtremeBaltic”. If this is successful, summer schools can be organized under this umbrella. If this is not successful (a decision is expected in late summer), further options need to be approached immediately.

4.4 GoF Year Baltic Earth Workshop

Kai Myrberg proposed to hold a Baltic Earth Workshop on “Using modelling as a tool to ensure sustainable development of the Gulf of Finland ecosystem”. The scientific themes of the Gulf of Finland Year 2014 (bio- and geodiversity, maritime spatial planning, maritime safety especially in winter conditions, fish and fisheries and ecosystem health) fit very well with the Grand Challenges of Baltic Earth, as they relate to natural and anthropogenic impacts on the biogeochemistry and ecosystem of the Gulf of Finland. Modelling is recognized as an important tool to study the different processes and the linkages between them. The workshop will be organized back-to-back with the trilateral Finnish-Estonian-Russian Forum for the investigation of the Gulf of Finland ecosystem. The workshop will be 1.5 days long and participants of the trilateral Forum will have the opportunity to join the Workshop. The Workshop shall take place in Helsinki at SYKE, 24-25 November 2014. See Annex 8 for further information.

Decision: Baltic Earth Workshop on the Gulf of Finland to be held in Helsinki.

Action Item: To KM and MR to prepare the Baltic Earth Gulf of Finland Workshop.

4.5 First Baltic Earth Conference 2016 “Competing drivers for Earth system changes in the Baltic Sea region” (scope, time window, suggested venues)

At the previous Baltic Earth Interim Science Steering Group Meeting (#2), the decision was taken to hold Baltic Earth Conferences every two years in an anticyclic rhythm to the Baltic Sea Science Congress. The first Conference is envisaged for 2016. Furthermore, it was decided not to go to the big cities like other conferences do but to stick to the BALTEX tradition to have conferences on islands or at smaller coastal resorts. A possible venue for the 1st Baltic Earth Conference could be the resort of Nida on the Lithuanian part of the Curonian Spit. The possibility to hold a conference for up to 200 participants there, or at an alternative venue just north of Klaipeda (Palanga), will be investigated in early autumn.

Action Item to ID, MR, SK, MM, AR to investigate a possible venue for the 1st Baltic Earth Conference on or near the Curonian Spit.

TOP 5. Miscellaneous

5.1 A memorandum of Understanding or Letter of Intent shall be drafted for institutions relevant for Baltic Earth research, to be signed. The commitment should be dependent on the capability of the interested institution. Some institutions may be able to sponsor a Baltic Earth event or activity, or support one or several travel grants per year; others may be able to just allow and pay the travel costs for own scientists to participate in Baltic Earth meetings. The MoU or LoI shall be flexible in this respect and should not involve any concrete financial expectations.

Action Item to MR, MM, AR to draft an MoU or LoI, with the support of HJI.

5.2 An online calendar on future and past Baltic Earth events shall be placed on the website.

5.3 There will be JPI Climate Change call out soon; it should be investigated and tried to establish a network for a proposal; possibly a support letter drafted; possibly Poland and Lithuania to be involved.

Action Item to HvS, MM, AR with all to investigate possibilities for a joint Baltic Earth proposal in a JPI.

5.4 Sequence and time slots for BESSG meetings discussed and decided.

Decision: Full BESSG meetings (1.5 days) shall take place every winter; short half day meetings can be attached to either Baltic Earth Conferences (even years, starting from 2016, in June or early summer before the summer break), or to the Baltic Sea Science Congress (odd years, starting from 2015, in late August)

5.5. Place and time of the next BESSG Meeting:

Decision: Hamburg, Germany, February/March 2015 (Morning to lunch next day).

Abbreviations and Acronyms

BACC	BALTEX or Baltic Earth Assessment of Climate Change for the Baltic Sea basin
BALTEX	The Baltic Sea Experiment
BEISSG	Baltic Earth Interim Science Steering Group
BESSG	Baltic Earth Science Steering Group
BEWG	Baltic Earth Working Group
BONUS	Joint Baltic Sea research and development programme of the EU
BSSC	Baltic Sea Science Congress
CLISAP	Integrated Climate System Analysis and Prediction
COST	European Cooperation in Science and Technology
DMI	Danish Meteorological Institute
EGU	European Geosciences Union
FMI	Finnish Meteorological Institute
Future Earth	Global research platform for global environmental change
GC	Grand Challenge
GEWEX	Global Energy and Water Cycle Exchanges
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
IEEE/OES	Institute of Electrical and Electronics Engineers/ Oceanic Engineering Society
IO-PAN	Institute of Oceanology – Polish Academy of Science
IOW	Institut für Ostseeforschung Warnemünde (Baltic Sea Research Institute)
ISSG	Interim Science Steering Group
JPI	Joint Programme Initiative
KLIWAS	Klima Wasser Schifffahrt: Auswirkungen des Klimawandels auf Wasserstraßen und Schifffahrt – Entwicklung von Anpassungsoptionen
LoI	Letter of Interest
LOICZ	Land-Ocean Interactions in the Coastal Zone
MBI	Major Baltic Inflows
MoU	Memorandum of Understanding
PINBAL	Development of a spectrophotometric pH measurement system for monitoring in the Baltic Sea
RCA-GUESS	A coupled model system of Lund University, combining the Rossby Centre regional climate model RCA3 with the dynamic vegetation model LPJ-GUESS
RCM2014	Regional Climate Modelling Workshop in Lund, Sweden, 16-19 June 2014
SAB	Baltic Earth Senior Advisory Board
SMHI	Swedish Meteorological and Meteorological Institute
SYKE	Finnish Environment Institute
SZC2014	Regional Climate Change Conference in Szczecin, Poland, 12-15 May 2014

Annex 1: Baltic Earth 3rd Interim Science Steering Group Meeting Agenda

3rd Meeting of the Baltic Earth Interim Science Steering Group (ISSG)

18 June 2014

Elite Hotel Ideon
Lund, Sweden

PROVISIONAL AGENDA

(As of 3 June 2014)

This 3rd Baltic Earth Interim Science Steering Group Meeting takes place in conjunction with the 3rd Lund Workshop on Regional Climate Modelling (RCM2014) and is confined to a half day. This meeting will see the transition of the interim steering group to a permanent one. Due to the little available time, the meeting will focus on this transition and discuss the writing of a Baltic Earth Science Plan as well as important future activities like upcoming workshops and the 1st Baltic Earth Conference.

- 08:00** **Welcome and Introduction to the meeting by the Baltic Earth ISSG Chairman**
Markus Meier, SMHI, Sweden
- 08:10** **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
- 8:20** **TOP 2: Reports on activities during the first year of Baltic Earth**
- 2.1 Baltic Earth Extremes Workshop in Helsinki, January 2014
and resulting Marie Curie application (Anna Rutgersson, Jari Haapala)
 - 2.2 The SZC2014 Conference in Szczecin (Marcus Reckermann)
 - 2.3 The RCM2014 Workshop in Lund (Marcus Reckermann)
 - 2.4 BACC II status and beyond BACC II (Hans von Storch and Marcus Reckermann)
 - 2.5 Brief reports from the working groups
 - 2.6 Brief reports from institutions and countries on Baltic Earth relevant activities

- 9:15 **TOP3: Future Baltic Earth organisation**
- 3.1 Baltic Earth SAB membership
 - 3.2 Baltic Earth SSG and WG membership:
 Discussion and conversion from ISSG to SSG
 - 3.3 Baltic Earth SSG Chairmanship: Discussion and Decision
- 10:15 Break
- 10:45 **TOP 4: Upcoming Activities**
- 4.1 Baltic Earth Science Plan (Content, Writing Team, Deadline)
 - 4.2 Baltic Earth International embedment (GEWEX, Future Earth, LOICZ)
 - 4.3 Baltic Earth Summer School (Piia Post)
 - 4.4 GoF Year Baltic Earth Workshop 2014 (Kai Myrberg)
 - 4.5 Global and Regional Sea Level Workshop 2015 (Eduardo Zorita)
 - 4.6 Baltic Earth Workshop/Conference on “Competing drivers for changes in the Earth system of the Baltic Sea region” 2015
 - 4.7 1st Baltic Earth Conference 2016 (scope, time window, suggested venues)
 - 4.8 Other activities
- 11:50 **TOP 5: Miscellaneous**
- 5.1 Other items
 - 5.2 Place and time of next BSSG meeting
- 12:00 **Closure and Lunch**

Annex 2: List of participants

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

Jari Haapala, Finnish Meteorological Institute, Helsinki, Finland, jari.haapala@fmi.fi

Karol Kulinski, Institute of Oceanography, Sopot, Poland, kroll@iopan.gda.pl

Andreas Lehmann, GEOMAR, Kiel, Germany, alehmann@geomar.de

Markus Meier (chair), SMHI, Norrköping, Sweden, markus.meier@smhi.se

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

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

Irina Partasenok, Republic Hydrometeorological Centre, Minsk, Belarus, irina-danilovic@yandex.ru

Piia Post, University of Tartu, Estonia, piia.post@ut.ee

Marcus Reckermann, International Baltic Earth Secretariat, Helmholtz-Zentrum Geesthacht, Germany, marcus.reckermann@hzg.de

Anna Rutgersson (vice-chair), Uppsala University, Sweden, Anna.Rutgersson@met.uu.se

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

Hans von Storch, Helmholtz-Zentrum Geesthacht, Germany, hvonstorch@web.de

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

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

Juris Aigars, University of Latvia, Riga, Latvia, juris.aigars@lhei.lv

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

Chantal Donnelly, Swedish Meteorological and Hydrological Institute, Sweden

Sirje Keevallik, Tallinn University of Technology, Marine Science Institute, Tallinn, Estonia, sirje.keevallik@gmail.com

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

Gregor Rehder, Baltic Sea Research Institute, Warnemünde, Germany, gregor.rehder@io-warnemuende.de

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

Eduardo Zorita, Helmholtz-Zentrum Geesthacht, Germany, eduardo.zorita@hzg.de

Annex 3: Terms of References for the Baltic Earth Science Steering Group (BESSG)

Approved by BESSG, 18 June 2014



Terms of References of the Baltic Earth Science Steering Group (BESSG)

1. Tasks of the BESSG 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 BESSG and the Senior Advisory Board (SAB), with qualified majority¹,
- suggest and approve chairs of Baltic Earth Working Groups, with qualified majority¹,
- 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,
- to promote Baltic Earth at the institutional, national and international level through presentations at meetings and conferences,
- 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 Baltic Earth Conferences on a regular basis (every 2 years, starting with 2016)
- initiate and prepare Baltic Earth symposia and workshops on relevant topics (at least one per year)
- meet at least annually, with E-Mail communications between meetings.

¹ The “qualified majority” is 2/3 of BESSG members present at a meeting. A minimum of 1/2 of the BESSG must be present at a meeting for valid votes and to take decisions, this may include votes submitted prior to the meeting to the ISSG chair.

2. Term

- For chairpersons: 2 years (starting June 2014), with the possibility for a renewal of the term.
- For members: 2 years (starting June 2014) , with the possibility for a renewal of the term.

3. Election and approval

- Criteria for a membership in the BESSG 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 majorityⁱ of the BESSG.
- Approval by the BESSG is normally done at a regular BESSG meeting, in important cases approval and election may be by E-mail between meetings,
- Final official approval by the BESSG chair.

Annex 4: Terms of Reference for the Baltic Earth Working Groups

Approved by BESSG, 18 June 2014



Terms of References of the Baltic Earth Working Groups (BESSG)

These general Terms of References apply to all Baltic Earth Working Groups (BEWGs). Individual Working Groups are asked to formulate specific Terms of Reference which allow for the specific scope and purpose of individual Working Groups.

1. Tasks are to

- represent the “working level” of Baltic Earth,
- conduct and actively promote a dedicated Grand Challenge (GC), topic or element within a GC, or,
- conduct and actively promote a topic or element cross-cutting through several or all GCs,
- conduct or organise to conduct relevant projects and activities,
- report to the BSSG on a regular basis,
- meet regularly, at least once a year, with telephone conferences as required.

2. Term

- 2 years, or less, depending on the specific term of the Working Group.
- Requires approval by the BSSG, with the possibility of renewals.

3. Approval

- New WG members may be proposed by WG members and approved by WG chairs if there are no objections by WG members.

4. Deliverables

- Deliverables are to be defined in the specific Terms of References of the individual Working Groups. The deliverables are to be presented after the regular 2 year term, if not specified otherwise in the Working Group’s specific Terms of Reference.
- In general, outcomes of WGs may be thematic assessment reports, research projects, workshops, summer schools, or other products defined in the Working Group’s specific Terms of Reference.

Annex 5: Terms of Reference for the Baltic Earth Senior Advisory Board



Terms of Reference for the Baltic Earth Senior Advisory Board (SAB)

(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 (starting 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 majority¹,
- Suggestion of a candidate to be communicated to all members at least 4 weeks prior to election and approval by a qualified majority² 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.

² The “qualified majority” is 2/3 of BESSG members present at a meeting. A minimum of 1/2 of the BESSG must be present at a meeting for valid votes and to take decisions, this may include votes submitted prior to the meeting to the BESSG chair.

Annex 6: Confirmed members of the Baltic Earth Senior Advisory Board (SAB)

(as of 3rd Baltic Earth ISSG Meeting, Lund, 18 June 2014)

- Andris Andrusaitis, University of Latvia, Riga, Latvia, and BONUS EEIG, Helsinki, Finland
 - Jüri Elken, Marine Systems Institute, Tallinn University of Technology, Estonia (Chair)
 - Kay Emeis, Institute of Coastal Research, Helmholtz-Zentrum Geesthacht, Germany
 - Hans-Jörg Isemer, EU Projects Department, Helmholtz-Zentrum Geesthacht, Germany
 - Fritz Köster, DTU Aqua, Denmark
 - Stanislaw Massel, IO-PAN, Sopot, Poland
 - Stanislaw Massel, IO-PAN, Sopot, Poland
 - Jan Polcher, Laboratoire de Météorologie Dynamique du CNRS, GEWEX Hydroclimatology Panel GHP, Co-Chair
 - Ulla Li Zweifel, Professional Secretary HELCOM Secretariat, Helsinki, Finland
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