



Minutes of the
14th Meeting
of the Baltic Earth
Science Steering Group

held at

**Elite Grand Hotel
Norrköping, Sweden**

12 February 2020

Edited by
Marcus Reckermann

Participants at the 14th Baltic Earth Science Steering Group meeting

| Last name | First name | Affiliation | Function |
|------------|------------|---|--------------------------|
| Aigars | Juris | Latvian Institute of Aquatic Ecology, Riga, Latvia | BESSG member |
| Dieterich | Christian | SMHI, Sweden | Guest, BEAR Author |
| Elken | Jüri | TalTech, Tallinn, Estonia | BESAB Chair |
| Gröger | Matthias | Swedish Meteorological and Hydrological Institute, Norrköping, Sweden | BESSG member |
| Lips | Urmass | TalTech, Tallinn, Estonia | BESSG member |
| Meier | Markus | Leibniz Institute for Baltic Sea Research Warnemünde, Germany | BESSG Chair |
| Kjellström | Erik | SMHI, Sweden | Guest, BEAR Author |
| Omstedt | Anders | University of Gothenburg, Sweden | BESAB member |
| Reckermann | Marcus | International Baltic Earth Secretariat at Helmholtz-Zentrum Geesthacht, Germany | IBES, BESSG member |
| Rutgersson | Anna | Uppsala University, Sweden | BESSG member |
| Soomere | Tarmo | TalTech, Tallinn, Estonia | BESSG member |
| von Storch | Hans | Institute of Coastal Research, Helmholtz-Zentrum Geesthacht, Germany | BESAB member |
| Weisse | Ralf | Institute of Coastal Research, Helmholtz-Zentrum Geesthacht, Germany | BESSG member (via Skype) |



At the table, clockwise: Markus Meier, Erik Kjellström, Christian Dieterich, Urmass Lips, Matthias Gröger, Tarmo Soomere, Anders Omstedt, Jüri Elken, Anna Rutgersson, Hans von Storch. Present but not on the photo: Juris Aigars, Marcus Reckermann, Ralf Weisse (via Skype).

Summary of Decisions and Action Items

- Decision 1: Laura Tuomi of Finnish Meteorological Institute, Finland, was approved as new member of Baltic Earth Science Steering Group. She succeeds Jari Haapala from the same institute who resigned as Baltic Earth Science Steering Group member.
- Decision 2: Slawomir Sagan of Institute of Oceanology at Polish Academy of Science (IO-PAN), Poland, was approved as new member of Baltic Earth Senior Advisory Board.
- Decision 3: Hans von Storch was approved as new Baltic Earth Science Senior Advisory Board chair. Hans succeeds Jüri Elken who resigned from this position but will remain a member of the Baltic Earth Science Senior Advisory Board.
- Decision 4: A BEAR Author Meeting will be organized in conjunction with the 3rd HELCOM EN Clime meeting, 15-16 April 2020 (EN Clime: 16-17 April). BSH, the German Federal Maritime and Hydrographical Agency in Hamburg, Germany, will be the host.
- Note: The BEAR Author Meeting will organized as online meeting on 15 April 2020, 14-18 CET. The 3rd HELCOM EN Clime meeting will take place as online meeting on 16 April 2020, 13-16 CET. The physical meetings are canceled due to the corona virus situation.**

- Action Item 1: **Marcus Reckermann** with **Markus Meier** to prepare and send out acknowledgment letters to resigned members
- Action Item 2: **Marcus Reckermann** with **Markus Meier** to prepare and send out confirmation letters to new members.
- Action Item 3: **Markus Meier and all** to identify and approach possible authors for a new BEAR topic “Analysis of re-analysis products”.
- Action Item 4: **Markus Meier** to discuss issues with GC5 and the concurrent BEAR paper representatives, and suggest and contact potential additional colleagues.

Introduction

The 14th Baltic Earth Science Steering Group Meeting was a short half-day meeting. It served as preparatory meeting for the BEAR reports, and to exchange some first thoughts about developments after BEAR. Local host was Helen Andersson, SMHI, who was unfortunately unable to attend. The Baltic Earth Senior Advisory Board was invited to join the meeting, as well as invited guests.

Before the BESSG working meeting, an informal seminar was dedicated to Anders Omstedt, BALTEX and Baltic Earth SSG member since 1994, and intermittent chairperson, on the occasion of the publication of an interview with him. Many companions and colleagues of Anders’ 45 years of wandering through science came together to celebrate Anders’s achievements. For the interview booklet and video, see <https://baltic.earth/interviews/>

TOP 1: Organizational Issues

1.1 Approval of the agenda

The agenda was approved.

1.2 Approval of the previous 13th Baltic Earth SSG meeting minutes

The previous meeting minutes were approved.

1.3 Review of previous 13th Baltic Earth SSG meeting action items

The action items of the previous meeting were shortly recapitulated. All have been completed (see Annex 1).

1.4 Membership issues:

BESSG memberships

Jari Haapala of Finnish Meteorological Institute, Finland, resigned as Baltic Earth Science Steering Group member. The Baltic Earth Science Steering Group and Advisory Board acknowledges and thanks Jari for his contributions and long dedication to Baltic Earth. Jari had been a member of the Baltic Earth Science Steering groups since its foundation in June 2013.

Laura Tuomi of Finnish Meteorological Institute, Finland, was approved as new member of Baltic Earth Science Steering Group. She succeeds Jari Haapala from the same institution (**Decision 1**).

Slawomir Sagan of Institute of Oceanology at Polish Academy of Science (IO-PAN), Poland, was approved as new member of Baltic Earth Senior Advisory Board (**Decision 2**).

Jüri Elken of Marine Systems Institute, Tallinn University of Technology, Estonia resigned as chair of the Baltic Earth Senior Advisory Board but will remain a member of this board. The Baltic Earth Science Steering Group and Advisory Board acknowledges and thanks Jüri for his contributions and leadership in this board. Jari had been chair of the board since its foundation in June 2013.

Hans-Jörg Isemer of Helmholtz-Zentrum Geesthacht, Germany, resigned from the membership of Baltic Earth Senior Advisory Board. The Baltic Earth Science Steering Group and Advisory Board acknowledges and thanks Hans-Jörg for his long and outstanding dedication to BALTEX and Baltic Earth over the course of 26 years. Hans-Jörg had been the Head of the International BALTEX Secretariat from the start in 1994, and without his engagement, BALTEX and Baltic Earth would not have been as successful.

Hans von Storch of Helmholtz-Zentrum Geesthacht, Germany, was approved as new Baltic Earth Science Senior Advisory Board chair. Hans succeeds Jüri Elken who resigned from this position but will remain a member of the Baltic Earth Science Senior Advisory Board (**Decision 3**).

Resigned members will receive acknowledgment and thank you letters, new members will receive confirmation and welcome letters (**Action Items 1 and 2**).

TOP 2: Report by the Secretariat

The Secretariat report, presented by Marcus Reckermann, is attached to these minutes (Annex 1).

Update on events due to the new corona virus situation:

1. The abstract deadline for the 3rd Baltic Earth Conference was 16 February 2020. A total of 123 abstracts (including keynotes) were submitted. A draft programme will be online shortly but the conference will not take place as scheduled. Information on new dates and/or a new format will be issued shortly.
2. The 2nd Baltic Earth Winter School, scheduled for 23-30 March, is cancelled due to the uncertain situation concerning the new Corona virus.
3. The BEAR Author Meeting will organized as an online meeting on 15 April 2020, 14-18 CET. The 3rd HELCOM EN Clime meeting will take place on 16 April 2020, 13-16 CET. The physical meetings are canceled due to the corona virus situation.

4. The 15th Baltic Earth Science Steering Group meeting will be an online meeting as the 3rd Baltic Earth Conference is canceled due to the corona situation. A new date and time as well as provisions to join online will be distributed in due time.

TOP 3: Baltic Earth Assessment Reports (BEAR) Author Meeting

The BEAR reports will be published as a Special Issue in *Earth System Dynamics* (ESD), a Copernicus journal. They are Open Access and are flexible page limits; also, they provide the production as a printed issue. The issue to open to more contributions than the ones listed as of now; an additional contribution was suggested by the BESSG (*Analysis of reanalysis products for the Baltic Sea region*, draft title, see below), more may be submitted directly to ESD, but they need to fulfil the BEAR principles (<https://baltic.earth/bear>). The submission window is open 1 Apr – 30 Sep 2020. The BEAR Special Issue is announced at the ESD website: https://www.earth-system-dynamics.net/special_issues/schedule.html

Principal authors shortly indicated the status of the respective contributions:

- **Salinity dynamics in the Baltic Sea** (Andreas Lehmann)
The manuscript is well on track.
- **Land-sea biogeochemical interlinkages in the Baltic Sea region** (Karol Kulinski)
The manuscript lead was handed over from Gregor Rehder to Karol Kulinski; work on it is about to be started.
- **Natural hazards and extreme events in the Baltic Sea region** (Anna Rutgersson)
The manuscript is well on track and in good shape; streamlining of the text is in work.
- **Sea level dynamics and coastal erosion in the Baltic Sea region** (Ralf Weisse)
Text is advanced and can shortly be circulated.
- **Regional variability of water and energy exchanges in the Baltic Sea region** (Sergey Zhuravlov)
No information is available on the status of this manuscript. Contact to Sergey to be established and progress discussed; offer help and maybe ask additional scientists to join.
- **Multiple drivers for Earth system changes in the Baltic Sea region** (Marcus Reckermann)
Contributions by co-authors have been received; manuscript draft needs to be established.
- **Coupled regional Earth system modelling in the Baltic Sea region** (Matthias Gröger)
Status OK
- **Climate change and impacts in the Baltic Sea region (BACC III)** (Markus Meier)
Manuscript to be subdivided into 3-4 manuscripts; Markus Meier will contact potential lead authors and coordinate
- **New climate observation systems** (Urmas Lips)
Only oceanographic observations will be treated in this manuscript (essential ocean variables); dedicated atmospheric and hydrological observation systems (in the atmosphere and on land) should be treated in separate manuscripts, which may be published in a later stage of BEAR (see below discussion on future perspectives for Baltic Earth and BEAR)

Generally, overlapping issues need to be coordinated and BEAR and EN Clime messages need to be consistent.

A new Grand Challenge/topic/paper was discussed: “Analysis of re-analysis products”. Names of potential collaborators and possibly lead authors were discussed and should be further identified and approached (**Action Item 3**).

A dedicated BEAR Author Meeting will be organized in conjunction with the 3rd HELCOM EN Clime meeting in Hamburg, Germany, 15-16 April 2020 (EN Clime: 16-17 April). This meeting will be the final BEAR author meeting before (or shortly after the start of) the submission to ESD and release to external reviews (**Decision 4**).

The BEAR Author Meeting will organized as an online meeting on 15 April 2020, 14-18 CET. The 3rd HELCOM EN Clime meeting will take place on 16 April 2020, 13-16 CET. The physical meetings are canceled due to the corona virus situation.

TOP 4: Open Discussion on Baltic Earth after BEAR

This was a short, open and informal brainstorm discussion.

4.1. The status and future of Baltic Earth GC 5: Regional variability of water and energy exchanges in the Baltic Sea region was discussed, related also to the respective BEAR paper and the Baltic Earth engagement in GEWEX. Energy and Water cycles resp. exchanges had been the primary objective in BALTEX Phase 1, and continuously lost importance in BALTEX Phase 2 and Baltic Earth. It continues to be a primary topic in GEWEX, to which Baltic Earth is participating in the GEWEX Hydroclimatology Panel (GHP). It was acknowledged that currently, this topic is not represented to the extent desired. The situation should be discussed with current representatives of this topic. Names of further potential collaborators, in addition to the current representative of the topic, were discussed and should be further identified, to be approached (**Action Item 4**). A new Grand Challenge/topic/BEAR paper to potentially replace GC5 was discussed as well: “Analysis of re-analysis products”. Names of potential collaborators and possibly lead authors were discussed and should be further identifies and approached (**Action Item 3**).

4.2. As more topics were discussed, and more aspects of current BEAR topics evolved, it was discussed how to carry on with BEAR. Options could be a second BEAR Special issue in a few years, or a continuous series of BEAR papers under the Baltic Earth/BEAR label in ESD or another journal, that would have to be discussed and negotiated. Potential new topics mentioned in the discussion were an overview over novel atmospheric and hydrological observation techniques, but also data analysis and assimilation. More topics for sound assessment reports following the BEAR principles will surely evolve (see also below).

4.3. In addition to the Grand Challenges, which will be put to test and updated, the implementation of smaller projects or topics was proposed as “tiny challenges”. Examples mentioned were an “analysis of sea level extremes as a function of wind directions over the Baltic Sea region”, a web service to document and link to long data series, and the topics mentioned in connection to the new observation systems and data analysis. Furthermore, it was suggested to refer to the UN Sustainable Goals for new challenges. A suggestion was to prepare a questionnaire to be sent out to the Baltic Earth community prior to the 3rd Baltic Earth Conference, and discussed there and thereafter. Then, at the 4th Baltic Earth Conference in 2020, new grand (and tiny) challenges could be adopted.

TOP 5: Miscellaneous

5.1 BESSG Meeting #15

The 15th Baltic Earth Science Steering Group meeting which was scheduled to take place in conjunction with the 3rd Baltic Earth Conference, on 31 May 2020 in Jastarnia, Poland, will be an online meeting as the 3rd Baltic Earth Conference is canceled due to the corona situation. A new date and time as well as provisions to join online will be distributed in due time.

1st draft, 4 Mar 2020

2nd, corrected draft, 30 March 2020