



DRAFT Minutes of the  
17<sup>th</sup> Meeting  
of the Baltic Earth Science Steering Group (BESSG)

29 May 2022

Hotel Dom Zdrojowy  
Jastarnia, Poland

*Edited by*  
**Marcus Reckermann**

## Participants at the 17<sup>th</sup> Baltic Earth Science Steering Group meeting

Last name	First name	Affiliation	Function
Aigars	Juris	Latvian Institute of Aquatic Ecology, Riga, Latvia	BESSG member
Andrusaitis (online)	Andris	BONUS EEIG, Helsinki, Finland	BESAB member (observer)
Dailidiende	Inga	Marine Research Institute, Klaipeda University, Lithuania	BESSG member
Elken	Jüri	TalTech, Tallinn, Estonia	BESAB member
Kulinski	Karol	Institute of Oceanology IO-PAN, Sopot, Poland	BESSG vice chair
Lips	Urmas	TalTech, Tallinn, Estonia	BESSG member
Meier	Markus	Leibniz Institute for Baltic Sea Research Warnemünde, Germany	BESSG chair
Omstedt	Anders	University of Gothenburg, Sweden	BESAB member
Post	Piia	Institute of Physics, University of Tartu, Estonia	BESSG member
Reckermann	Marcus	International Baltic Earth Secretariat at Helmholtz-Zentrum Geesthacht, Germany	IBES, BESSG member
Rutgersson	Anna	Uppsala University, Sweden	BESSG member
Sagan	Slawomir	Institute of Oceanology IO-PAN, Sopot, Poland	BESAB member
von Storch	Hans	Institute of Coastal Research, Helmholtz-Zentrum Geesthacht, Germany	BESAB chair



Participants at the 17<sup>th</sup> BESSG Meeting in Jastarnia, Poland (Andris Andrusaitis participated online).

## Summary of Decisions and Action Items

Item/Decision 1: Slawomir Sagan and Hans von Storch to collaborate concerning a questionnaire regarding the perception of Baltic Earth stakeholders (scientists, students, others) towards Baltic Sea issues, to be presented at Baltic Earth events, workshops, conferences, educational events). Outcome could be a publication on this topic, following and extending the paper by Hans von Storch (Oceanologia).

Item/Decision 2: Juris Aigars, Andris Andrusaitis and Marcus Reckermann/IBES to prepare options to hold the 5<sup>th</sup> Baltic Earth Conference in Latvia.

Item/Decision 3: Markus Meier, Karol Kulinski and Marcus Reckermann to initiate the process to update the process of discussing, analyzing and writing a plan for the next Baltic Earth Phase, starting in 2024, by updating the Baltic Earth Science Plan 2017. An implementation team is to be formed.

Item/Decision 4: Membership changes approved: Georgia Destouni and Kari Hyttiäinen accepted as new members of BE SSG; Andris Andrusaitis accepted as new chair of BE SAB.

## Introduction

The 17<sup>th</sup> Baltic Earth Science Steering Group Meeting took place on site prior to the 4<sup>th</sup> Baltic Earth Conference in Jastarnia, Poland. Main items on the agenda were the outcomes of the BEAR activities and the prospects for Baltic Earth after 2022, with activities and events in 2023 and 2024.

## TOP 1: Organizational Issues

### 1.1 Approval of the agenda

The agenda was approved. A short round table introduction was done.

### 1.2 Approval of the previous 16<sup>th</sup> Baltic Earth SSG meeting minutes

The previous meeting minutes were approved.

### 1.3 Review of previous action items

The decisions/action items of the previous meeting were shortly recapitulated, see below:

**Item/Decision 1:** BESSG members and Chairs as well as BESSAB members and chairs are asked to confirm in written form (e-mail) their willingness to continue for another 3-year term, if they intend to do so. This shall be done at latest 3 months before the 17<sup>th</sup> Baltic Earth Science Steering Group Meeting in Jastarnia, Poland; that means by 30 January 2022.

***Done. All have responded positively and wished to remain in SSG for another term***

**Item/Decision 2:** A questionnaire regarding the perception of Baltic Earth stakeholders (scientists, students, others) towards Baltic Sea issues shall be prepared (Hans von Storch with collaborators), to be presented at Baltic Earth events, workshops, conferences, educational events). Outcome should be a publication on this topic, following and extending the paper by Hans von Storch (Oceanologia).

***Pending. Hans von Storch and Slawomir Sagan agreed to cooperate to this end***

**Item/Decision 3:** Further ESA activities in the Baltic Sea region (oceanographic and coastal applications) shall be investigated. ***Pending***

**Item/Decision 4:** Encourage submissions of Baltic Earth related contributions or even dedicated session at the 13th BSSC 2021 in Århus, Denmark, 18-22 October 2021. Registration and Abstract Submission Deadline is 1 September 2021.

**Done.** *Two BEAR presentations were given (Markus Meier had a keynote on the Climate Change summary paper; Marcus Reckermann had a talk on the Human impacts paper), and two posters were shown, on the BEAR papers and the HELCOM-Baltic Earth Climate Change Fact Sheet.*

**Item/Decision 5:** Upon completion of BEARS: Analyze research gaps and recommend new Baltic Earth Grand Challenges. **Pending and identified as a priority task for the next two years to prepare an update of the Baltic Earth Science Plan 2017 before the 5<sup>th</sup> Baltic Earth Conference 2024.**

**Item/Decision 6:** Establish an open call for suggestions for new Baltic Earth Grand Challenges to community; feedback to be presented and analysed at 4th Baltic Earth Conference. **Pending, see item above**

**Item/Decision 7:** Decide on sessions and prepare the Call for papers /2nd Announcement for the 4th Baltic Earth Conference. **Done**

**Item/Decision 8:** Invite international keynote speakers for the 4th Baltic Earth Conference. **Done**

**Item/Decision 9:** Investigate and prepare possibilities for additional online participation in the 4th Baltic Earth Conference. **Done**

#### 1.4 Membership issues:

All members of the Baltic Earth Science Steering Group and Advisory Board declared their willingness to serve another 3-yr term as member of the respective committees. Hans von Storch declared his retirement from the talk of the BESAB chairman. He was thanked for his contributions to Baltic Earth. He will stay in the SAB. During the discussion, a closer collaboration between SSG and SAB was encouraged.

New members have been discussed at the meeting and some names were discussed. In the end, two potential new members were approached and were willing to accept the task:

##### **Georgia (Gia) Destouni**

Professor of Hydrology, Hydrogeology and Water Resources  
Head of Department of Physical Geography  
Stockholm University

Gia's research interests include hydro-climate, water resource availability and quality, and their shifts due to changes in human activity, climate, and other environmental aspects. Geographically, her research focus is both global and regional on various parts of the world, including for example the Baltic, Arctic, Central and East Asian, Balkan and Mediterranean regions.

##### **Kari Hyttiäinen**

Professor, Department of Economics and Management  
Helsinki Institute of Sustainability Science (HELSUS)  
Economics of aquatic ecosystems  
Environmental and Resource Economics

Kari studies the best practices and policies to protect aquatic ecosystems, with a special focus on the Baltic Sea. His research addresses cost-efficient measures and policy instruments to mitigate and adapt to the environmental problems of the Baltic Sea and the future prospects of sustainable blue growth sectors.

**Andris Andrusaitis** accepted to take on the chairmanship of the BESAB.

## TOP 2: Activities in 2022 and 2023

### 2.1 Past events in 2021 and 2022

- *7<sup>th</sup> Summer School, Askö, Sweden, 23-30 August 2021.*  
This year's Summer School was held on spot on Askö, Sweden.  
<https://baltic.earth/events/089258/index.php.en>
- *Presentation HELCOM-Baltic Earth Climate Change Fact Sheet, 3 September 2021*  
The HELCOM-Baltic Earth Climate Change Fact Sheet (CCFS), elaborated by the HELCOM EN Clime Group including Baltic Earth scientists, was published on 3 September 2021 to an international online audience, accompanied by a press conference.  
<https://helcom.fi/helcom-at-work/events/events-2021/ccfs-launch/>
- *BSSC 2021, 18-22 October 2021*  
The 13<sup>th</sup> Baltic Sea Science Congress was held in Århus, Denmark. Two BEAR presentations were given (Markus Meier had a keynote on the Climate Change summary paper; Marcus Reckermann had a talk on the Human impacts paper), and two posters were shown, on the BEAR papers and the HELCOM-Baltic Earth Climate Change Fact Sheet.  
<https://conferences.au.dk/bssc2021>
- *7 March 2022: Extraordinary BESSG/BESAB Meeting; how to handle the Russian war on Ukraine; online via zoom. A Baltic Earth statement was issued on the Baltic Earth website.*  
<https://baltic.earth/news/105184/index.php.en>
- *16-24 March 2022: 3<sup>rd</sup> Baltic Earth Winter School was held online*  
<https://baltic.earth/events/103451/index.php.en>
- *23-27 May 2022: EGU General Assembly 2022: Convenorship of Baltic Earth Session "Climate change and other drivers of environmental change: Developments, interlinkages and impacts in regional seas and coastal regions"; the session had to merge with another session to become "Climate change and other drivers of environmental change in Mediterranean-type and other climate regions, regional seas and coastal zones"*  
Presentations at:  
<https://meetingorganizer.copernicus.org/EGU22/session/42612#Presentations>
- *29 May 2022: 17<sup>th</sup> Baltic Earth Science Steering Group meeting in Jastarnia, Poland*
- *30 May - 3 June 2022: 4<sup>th</sup> Baltic Earth Conference in Jastarnia, Poland*  
For programme, abstract proceedings volume, photos and a conference summary, see  
<https://baltic.earth/events/087774/index.php.en>

## 2.2 4<sup>th</sup> Baltic Earth Conference – Aftermath, feedback and suggestions for innovations

### *Feedback by Young Scientists*

At the conference, a large group of 39 young scientists (master students, PhD students, early post-docs) had an outbreak event, in which, among other things, they discussed their perception of the conference and Baltic Earth in general. Their feedback was shared by Marcin Stokowski to the SSG and is provided here:

*“Below you can find the announced comments/suggestions that came out during the Young Scientists Event. I decided to write them down and pass them on to you. I assure you that the comments at this address were only a fraction of all the conversations and certainly did not dominate the atmosphere that evening :) Here they are:*

1. *No more hybrid talks - unjust effort and difficult communication.*
2. *More young scientists as chairs.*
3. *More news things, continuation studies only.*
4. *No contaminants sessions, why?*
5. *Too long sessions (9-19).*
6. *Gender balance in discussion and presenters - women felt dominated in both.*

*Thanks again for the great meeting!*

*Best wishes,*

*Marcin”*

Marcin further clarified point 3 “More new things”:

*“It is a point that was suggested by me but has found acceptance among young scientists. The follow-up work presentations are one thing, I fully agree with that. Maybe it is just a matter of redirecting senior scientists to other interests or activities. Perhaps it is a characteristic of the human mind, which from year to year is less interested in new things and rather clings to old, well-known ones.*

*But there is another thing that's on my mind here. More general. It seems that in science we are mainly engaged in refining the ideas coming back from the 60s and 70s. We are still using the same concepts, definitions, constants etc. And there's nothing wrong with that when they are true and useful. But in many cases being closer by 0.5% is just not giving anything truly new. And when one reads papers from the 60/70's they are fresh, based on long-term data, and experiments are replicated. While today, what we can see is few-years observations which result from the time of conducting the project (most I know are 3-4 years) and replications are rare and sometimes difficult (<https://www.nature.com/articles/d41586-021-03736-4> and more from 2021). I just have an impression of less courageous projects and more nice-and-safe projects. On one hand, it is a matter of the grant system. On the other hand, it may be our quiet agreement on the "businessization" of science. Business and science of course have a lot in common but other categories should be emphasised. Maybe simply the system should be more generous for high-risk ideas?”*

### *Comments by Markus Meier*

We should involve the young scientists more in the organisation of Baltic Earth. For instance, I would like to propose to have one or more young scientist representatives also within the BE SSG. This would require short-term appointments because the young scientists usually do

not have a permanent job. However, I believe this would guarantee a voice of the young scientists in the decisions. One or even several good, preferable female PhD students or young postdocs would be excellent. The young scientists should elect their representatives every second year during the Baltic Earth conference.

A few additional comments on the conference:

- 1) Even if it will take more time for all BE SSG members, the entire BE SSG should review more abstracts (not only a small selection) to reduce the risk of bad oral presentations. The overall quality of the talks was excellent. However we had a few outliers.
- 2) Coffee and lunch breaks should be longer to allow more communication and (if needed) to catch up in case of delays during the sessions. I also think that it is the decision of the session chair to allow delays or not. In one of the sessions the atmosphere was very stressful and that was not motivating for the discussion. Of course, this approach would require to have less orals and more posters. I think the tent solution was very good. Maybe we could make the poster session even more attractive by having coffee, cake or even in the evening a glass of wine/beer during the session.
- 3) Each conference participant should have no more than one presentation. Additional abstracts will be posters, even in case of good quality of the additional abstracts.
- 4) Only a few members of the BE SSG stayed the entire week. I do not know what we may do. Maybe it would help if we didn't schedule the steering group meeting on a Sunday (but during one of the free evenings during the week, perhaps parallel to the young scientist event on Wednesday) and the week shouldn't border on a long weekend when we all are planning some vacation with our families. The BE SSG meeting can be shorter when we have perhaps an additional zoom meeting a few months prior to the conference, also for the preparation of the conference. In sum, we should aim to have 2-3 BE SSG meetings per year in future (with one at the BE or BSSC conferences face-to-face). Hybrid is ok for SSG meetings. It worked well in Jastarnia, the BE Secretariat can provide the necessary technological equipment.

#### *Special issue*

It was discussed which journal should be approached concerning the publication of the Special Issue for the 4<sup>th</sup> Baltic Earth Conference. Although the experience with Oceanologia (which has processed the Special Issue for the 3<sup>rd</sup> Baltic Earth Conference) was not entirely positive, it was decided to approach Oceanologia again for this Special Issue, because it is the host journal of the IO-PAN, and because the process may be improved. It was agreed to start negotiations with Oceanologia after the summer break. *(Note: a poll on interest to publish in a Special Issue of the conference among authors is ongoing)*

### **2.3. Future events and activities 2022 and 2023**

- 28 July 2022: *GEWEX-GHP Meeting*, online  
<https://www.gewex.org/panels/gewex-hydroclimatology-panel/regional-hydroclimate-projects-rhps/>
- 22-29 August 2022: *8<sup>th</sup> Baltic Earth Summer School*, on site on Askö, Sweden  
<https://baltic.earth/events/104382/index.php.en>

- 26-27 September 2022: *Baltic Stakeholder Conference*, online  
The stakeholder conference had to be postponed from 9-10 March 2022 due to the political situation and the following strategic pause of HELCOM.
  - Day 1 (26 September 2022): Webinar about climate change in the Baltic Sea (open to all)
  - Day 2 (27 September 2022): Workshop on the science, policy and management aspects of climate change (by invitation only). The BSC 2022 is organised by the German Environment Agency (UBA) and the German Federal Agency for Nature Conservation (BfN) in conjunction with Baltic Earth. <https://helcom.fi/helcom-at-work/events/helcom-stakeholders-conferences/bsc2022/>
- 23–28 April 2023: *EGU General Assembly 2023*, Convenorship of Baltic Earth Session “Climate change and other drivers of environmental change: Developments, interlinkages and impacts in regional seas and coastal regions; on site in Vienna, Austria
- 27 March 2023 - 31 March 2023: *International Baltic Earth Winter School for Young Scientists* on “Earth System Science for the Baltic Sea Region”
- August 2023: *9<sup>th</sup> Baltic Earth Summer School*, on site on Askö, Sweden

A broadening of Baltic Earth educational activities to other regional seas was suggested. This issue needs to be further discussed.

Further events which Baltic Earth intends to organize or take part in were discussed.

Firstly, an international conference on hydrology of the Baltic Sea region was suggested, to take part in the latter part of 2023, in connection with hosting the next GEWEX GHP meeting. This was discussed and it was noted that the scope should be broader to reflect the whole atmosphere land ocean system. *Note: At the GEWEX-GHP Meeting on 28 July 2022, this was suggested to the GEWEX group, but then another option was favored: a joint conference of the GEWEX RHPs and related activities (see <https://www.gewex.org/panels/gewex-hydroclimatology-panel/>) in 2024 (or 2025).*

Sea level activities in JPI Oceans were shortly discussed. Two members of BESSG are task group members of JPI Oceans Sea level rise (Meier and Weisse). A pan-European Sea level rise conference will be held in Venice, 17-18 October 2022. <https://jpi-oceans.eu/en/pan-european-sea-level-rise-conference-2022>

The 5<sup>th</sup> Baltic Earth Conference which was initially planned to take place in St. Petersburg, Russia, will need to find a new host country and institution. After a lively discussion, Latvia, Estonia, and Germany were suggested as closer candidates, and Latvia was preferred as the only Baltic Sea country where neither a BALTEX nor a Baltic Earth conference had taken place. The possibility to have the 5<sup>th</sup> Baltic Earth Conference in Latvia will be investigated by the Latvian BESSG and BESAB members Juris Aigars and Andris Andrusaitis together with the Baltic Earth Secretariat, until spring 2023.

### TOP 3: BEAR and the future of Baltic Earth after 2022

The completed BEAR reports are now published in “Earth System Dynamics” as Open Access ([https://esd.copernicus.org/articles/special\\_issue1088.html](https://esd.copernicus.org/articles/special_issue1088.html)) and act as sort of “final reports” for

what could be designated as a “first phase” of Baltic Earth. They represent reviews of most Grand Challenges:

- Grand Challenge 1: Salinity dynamics in the Baltic Sea;
- Grand Challenge 2: Biogeochemistry of the Baltic Sea;
- Grand Challenge 3: Natural hazards and extreme events in the Baltic Sea region;
- Grand Challenge 4: Sea level dynamics and coastal erosion in the Baltic Sea region;
- Grand Challenge 6: Multiple factors of Earth system changes in the Baltic Sea region

plus assessments of some closely related topics:

- Climate change and the Baltic Sea ecosystem
- Atmospheric and oceanographic projections and coupled regional Earth system modelling in the Baltic Sea region
- Current knowledge about past and future climate changes in the Baltic Sea region (“BACC III”)

A statistical analysis at the time of writing these minutes (August 2022) showed that two BEAR papers are among the three most downloaded papers at ESD in the last 12 months. The other papers were also downloaded in good numbers. The Attention Scope for five of the ten BEAR papers are in the top 25% of all research outputs scored. Hence, the interest in the papers can be regarded as high and the BEAR project as successful.

[https://esd.copernicus.org/articles/special\\_issue1088.html](https://esd.copernicus.org/articles/special_issue1088.html)

[https://esd.copernicus.org/most\\_downloaded.html](https://esd.copernicus.org/most_downloaded.html)

An Editorial is still to be written before the Special Issue can be regarded as finalized.

The BEAR reports shall be used to analyse open research questions/gaps and to elaborate recommendations for future Grand Challenges. During the 4<sup>th</sup> Baltic Earth Conference in Jastarnia, the BEARs were presented and discussed. A thorough analysis shall follow with the next two years and shall form the basis for an updated set of Grand Challenges.

The BEARs and process of making will be described in two international publications. It is envisaged to write an article in EOS and in the GEWEX Newsletter.

Furthermore, an open discussion evolved and several key words for new activities were expressed; they are here just noted as uncommented list and need further discussion and elaboration: International collaboration (Future Earth, Coastal Futures, Future Coasts); sustainability; shipping; remote sensing; alternative energies; high-resolution atmosphere-ocean coupling; process studies, role of eddies for mixing and climate; digital ocean; modelling of human impacts.

It was agreed to update the Baltic Earth Science Plan 2017 by the next Baltic Earth Conference in June 2024. This update shall take into account the discussions at the conference in Jastarnia and the ones following in the next months. A formal process and implementation team still needs to be formed.

## **TOP 4: Any other issues**

### **4.1 Next BESSG meeting**

The next joint BESSG and BESAB meeting shall be online in November 2022. Time and date will be identified by a doodle poll in late August.

1<sup>st</sup> draft, MR, 10 August 2022

2<sup>nd</sup> draft, MR and MM, 23 August 2022

Approved, 1 September 2022