



Minutes of the
22nd Meeting of the
Baltic Earth Science Steering Group (BESSG)
and
Baltic Earth Senior Advisory Board (BESAB)

10 December 2024
online

Edited by
Marcus Reckermann

Participants at the 22nd Baltic Earth Science Steering Group (BESSG) meeting and Baltic Earth Senior Advisory Board (BESAB) meeting

Last name	First name	Affiliation	Function
Aigars	Juris	Latvian Institute of Aquatic Ecology, Riga, Latvia	BESSG member
Andrusaitis	Andris	Latvian Institute of Aquatic Ecology, Riga, Latvia	BESAB member, chair
Dailidienė	Inga	Marine Research Institute, Klaipeda University, Lithuania	BESSG member
Elken	Jüri	TalTech, Tallinn, Estonia	BESAB member
Jedruch	Agnieszka	Institute of Oceanology IO-PAN, Sopot, Poland	Coming IBES
Post	Piia	Institute of Physics, University of Tartu, Estonia	BESSG member
Hyytiäinen	Kari	University of Helsinki, Helsinki Institute of Sustainability Science	BESSG member
Kulinski	Karol	Institute of Oceanology IO-PAN, Sopot, Poland	BESSG member, vice chair
Lips	Urmas	TalTech, Tallinn, Estonia	BESSG member
Meier	Markus	Leibniz Institute for Baltic Sea Research Warnemünde, Germany	BESSG member, chair
Myrberg	Kai	Finnish Environment Institute SYKE	BESSG member
Parnell	Kevin	Laboratory of Wave Engineering: Department of Cybernetics, TUTech, Tallinn, Estonia	BESSG member
Reckermann	Marcus	International Baltic Earth Secretariat at Helmholtz-Zentrum Hereon, Germany	IBES, BESSG member
Rehder	Gregor	Leibniz Institute for Baltic Sea Research Warnemünde, Germany	BESSG member
Sagan	Slawomir	Institute of Oceanology IO-PAN, Sopot, Poland	BESAB member
Von Storch	Hans	Institute of Coastal Research Helmholtz-Zentrum Hereon, Germany	BESAB member

Summary of Decisions and Action Items**Decisions**

- **Tamara Zalewska**, Instytut Meteorologii i Gospodarki Wodnej IMGW, Department of Oceanography and Monitoring of the Baltic Sea, Warszawa, Poland, was approved as new member of the Baltic Earth Science Steering Group.
- **Oliver Zielinski**, Director of Leibniz Institute of Baltic Sea Research Warnemünde (IOW), Rostock, Germany, was approved as new member of the Baltic Earth Senior Advisory Board
- **Lorenzo Minola** will leave the University of Gothenburg and BESSG as he will move to the Mediterranean and will not be available for Baltic Sea research. Lorenzo had joined the BESSG in February 2024 following the first call for a young scientist in the BESSG.
- The date and location of the **23rd BESSG meeting** was fixed: Sunday, 25 May 2025, 15:00 – 19:00 CET, Sopot

Action Items

- A self assessment of BESSG members whose 3-year term has expired will be initiated. Members will be asked for some input to renew the term for another 3 years. A simple questionnaire will be drafted by the Chairs and Secretariat, and sent to members, after this (22nd) BESSG meeting, to be presented at the 23rd (in Sopot at end of May 2025 in conjunction with BSSSC 2025).
- A new Young Scientist to join the BESSG to be proposed.
- Baltic Earth Scientific Online Colloquium 2025: The programme for 2025 needs to be prepared, speakers and topics to be identified and asked for.

Introduction

The 22nd Baltic Earth Science Steering Group Meeting was a full day online meeting. Both BESSG and BESAB members were invited to this meeting.

Markus Meier, chairman of BESSG, welcomed all participants to the meeting. Then there was a short introductory round for a short self-introduction of all participants.

TOP 1: Organizational Issues

1.1 Approval of the agenda

The agenda was approved.

1.2 Approval of the previous 21th Baltic Earth SSG meeting minutes and of the Extraordinary BESSG/SAB Meeting on 30 Sept 24

The meeting minutes were approved.

1.3 Review of previous Baltic Earth SSG meeting action items

- A new call for a second Young Scientist in the BESSG, to be published in 2025. **In preparation and on track**
- BESSG members whose 3-year term has expired, shall undergo a brief self-assessment if they would like to renew the term for another 3 years. A simple questionnaire will be drafted by the Chairs and Secretariat, and sent to members, after the next (22nd) BESSG meeting, to be presented at the 23rd BESSG meeting. **In preparation and on track**
- The deadline for the 1st draft contributions to the updated Baltic Earth Science Plan 2024 is now 21 June 2024. Contributors who have not yet submitted a draft, are asked to do so by this date (before the summer break). After the summer break (30 September 2024), the contributions will be assembled and complemented with introductory/supplementary text by the Writing Team, and sent out for internal review. A round of external reviews will follow. **Delayed, the new deadline for the first draft is now 1 March 2025**

- Inga Dailidienė agreed to organize the Baltic Earth Winter School at Klaipeda University. She will be supported by the Secretariat and by previous hosts of the Winter School, in organizing, content and recruitment of potential lecturers. **In preparation and on track**
- The GEWEX-GHP Meeting in 2024 will be held in Sapporo, Japan. Markus Meier and Marcus Reckermann will participate online and represent Baltic Earth, as well as Kari Hyytiäinen who will be there in person. **Completed**

1.4 Membership issues

- **Tamara Zalewska**, Instytut Meteorologii i Gospodarki Wodnej IMGW, Department of Oceanography and Monitoring of the Baltic Sea, Warszawa, Poland, was approved as new member of the Baltic Earth Science Steering Group.
- A self assessment of BESSG members whose 3-year term has expired will be initiated. Members will be asked for some input to renew the term for another 3 years. A simple questionnaire will be drafted by the Chairs and Secretariat, and sent to members, after this (22nd) BESSG meeting, to be presented at the 23rd (in Sopot at end of May 2025 in conjunction with BSSSC 2025), or 24th BESSG meeting.

1.5 Advisory Board issues

- **Oliver Zielinski**, Director of Leibniz Institute of Baltic Sea Research, was approved as new member of the Baltic Earth Senior Advisory Board

TOP 2: Report by the Secretariat

2.1. International Baltic Earth Secretariat (IBES) Issues:

New IBES and transfer, Extraordinary meeting of the BESSG and BESAB in Secretariat issues

- MoU will be signed between IOW and IOPAN on the establishment of a new shared IBES on 4 February 2025.
- Transfer of files and website in preparation.
- Secretariat staff candidate at IOW pending, job announcement out.
- Secretariat Staff at IOPAN as of 1 January 2025: Agnieszka Jędruch.



Agnieszka Jędruch

E-mail: ajedruch@iopan.pl



I am a postdoctoral researcher at the Institute of Oceanology of the Polish Academy of Sciences. My current work involves studies on the exchange of mercury across the sediment-water interface in munition dumpsites in the Baltic Sea. My research also concerns the uptake and trophic transfer of mercury in the marine environment with a focus on initial links of the food chain, i.e., primary producers and benthic invertebrates. I am also interested in marine ecology, including food web interactions, biodiversity, and ecosystem functioning.

Agnieszka was warmly welcomed by the group. The transfer of material and files will be organized between Hereon, IOW and IOPAN in January and February 2025. The website will be hosted and run at IOW, and the transfer of files will be completed by November 2025 latest.

2.2 Past and anticipated Baltic Earth activities in 2024 and 2025

- **Aftermath 5th Baltic Earth Conference in Jurmala, Latvia:** Frontiers Research Topic (special issue).
 - 107 abstracts, 63 orals, 44 posters, 109 participants from 17 countries
 - Young Scientists event
 - Proceedings (extended abstracts), session summaries, photos available at <https://baltic.earth/jurmala2024>
 - Call for Papers in Frontiers in Earth Science (until 30 March 2025) <https://www.frontiersin.org/research-topics/67058/new-challenges-for-baltic-sea-earth-system-research>
Guest-Co-Editors: Markus Meier, Karol Kulinski, Juris Aigars, Laura Tuomi and Agnieszka Jedruch
- **Baltic Earth Scientific Colloquium** installed; <https://baltic.earth/colloquiums>
6 online colloquia successfully conducted; 30-120 participants, various topics
The programme for 2025 needs to be prepared, speakers and topics to be identified and asked for.
- Report from **Multiple Drivers Workshop in Helsinki, 4-5 Dec 2024**
 - 2nd Baltic Earth Workshop on Multiple Drivers, Helsinki, 4-5 December 2024. <https://baltic.earth/multipledrivers2024>
35 participants; presentations, brainstormings and concept for 3 review papers discussed.
Paper 1: Do we have the tools to tackle future environmental hazards in marine and coastal environments?
Paper 2: What is the potential of the Digital Twin concept for Baltic Earth?
Paper 3: Potential topics for BEAR 2
- Winter term 2024/2025 (October 2024 - January 2025):
International **Baltic Earth Master Course on "Climate of the Earth System"**, Rostock University
- **6th International Baltic Earth Winter School** for Young Scientists on "Earth System Science for the Baltic Sea Region". Inga Dailidienė agreed to organize this at Klaipeda University, in a tentative time slot 24-28 March 2025. Application deadline is 15 January 2025, and various lecturers from Baltic Earth and the Baltic Sea research community will give lectures. <https://baltic.earth/winterschool2025>
- **Baltic Sea Science Congress**, 26 – 30 May 2025; Sopot, Poland. The call for papers is open, abstract deadline is 21 February 2025. <http://www.bssc2025.pl/>
- **Baltic Earth session @ EGU2025 Vienna**, 27 April – 2 May 2025;
Coastal dynamics and processes under changing climate and changing human activities

Conveners: Laurent Amoudry, Kaja Gentsch, Markus Meier, Maren Voss

<https://meetingorganizer.copernicus.org/EGU25/session/52605>

- **JPI Climate Project (MAGICA)**

Maximizing the synergy of European research Governance and Innovation for Climate Action
MAGICA maximizes the synergies between infrastructure investments and initiatives of climate change research and innovation across the European Research Area (ERA). This is done by building upon and further implementing the Mission of JPI Climate in support to the international and European climate agenda (including the European Green Deal and Adaptation Strategy). Baltic Earth was asked to participate as a stakeholder; possibility to contribute to steer JPI Climate topics. Matthias Gröger to contact Lola Kotova on behalf of Baltic Earth.

- **Baltic Earth in GEWEX** – Reports, joint activities resp. RHP Conference or similar
Baltic Earth is one of the GEWEX Regional Hydroclimate projects and yearly reports are due. A joint conference is envisaged for 2026 or 2027. <https://www.gewex.org>
- **Baltic Earth and CORDEX:** A CLIVAR/CORDEX joint Task Force on Regional Ocean Climate Projections was established (1) to assess the past and future evolution of the ocean state at the regional scale, including in vulnerable areas (e.g. regional seas, coastal zones, islands, coastal cities) for various variables, including existing and new Climate-Impact-Drivers, (2) to evaluate the quality of regional ocean models and regional ocean projections for delivering climate information for the oceanic regions at relevant spatial scale, and (3) to assess the past and future evolution of ocean phenomena relevant for society and decision-making at the relevant spatio-temporal scales such as oceanic extremes (e.g. marine heatwaves, extreme sea level, reversal of surface circulation, ocean dense water formation, sea-ice extent minimum, eutrophication...)
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- **New WG “Marginal Seas – Humans and Environment”** implemented, a second Workshop will be conducted online on 29 January. The roadmap and outcomes of the WG shall be discussed and activities put on track. https://baltic.earth/working_groups/marginal_seas/
- First ideas for **6th Baltic Earth Conference in 2026:** Host, time window and scope. Markus Meier has agreed to host the 6th Baltic Earth Conference in Germany. The venue will be investigated in the coming weeks and months, time window will be May-June 2026.
- The next set of **BEAR papers** are envisaged to be due in 2029. A discussion on the scope and topics for this update will need to take place.

Current publication projects

- **Special Issue in Oceanologia** on the 4th Baltic Earth Conference Jastarnia “Assessing the Baltic Earth System”; finalized: 11 papers; https://www.iopan.gda.pl/oceanologia/66_1.
- **Special Issue in Estuarine Coastal and Shelf Science** on River Mouth Systems and Marginal Seas – Natural Drivers and Human Impacts; almost finalized (15 papers)
<https://www.sciencedirect.com/special-issue/10HQ49HMPFK>
- **Oxford Research Encyclopedia “Climate of the Baltic Sea”**, overview papers; 21 published or in review/accepted; 25 more proposed, closing by the end of the year

- **Frontiers in Earth Science:** Research Topic on 5th Baltic Earth Conference in Jurmala, Latvia
Call for Papers open: New Challenges for Baltic Sea Earth System Research Submission
deadline: 30 March 2025 <https://www.frontiersin.org/research-topics/67058/new-challenges-for-baltic-sea-earth-system-research>
- HELCOM/Baltic Earth Climate Change Fact Sheet 2024 published –
EN Clime activities and timeline

TOP 3: Science Plan 2024 status

Continuing, updated and modified Research Topics (RT)

- RT on Land-Sea Biogeochemistry of the Baltic Sea – Linking observations and modelling (Karol Kulinski, Gregor Rehder)
- RT on Natural hazards and extreme events (Leads need to be investigated)
- RT on Sea Level Dynamics (Ralf Weisse, Kevin Parnell)
- RT on Multiple drivers of Earth system changes (Kari Hyytiäinen, Susa Niiranen)
- RT on the "Baltic Sea Model Intercomparison Project" (Matthias Gröger)
- WG on Education (Markus Meier)

New and approved Research Topics

- RT on Teleconnections (Florian Börgel, Itzel Baroni)
- RT on Small-Scale Processes (Urmas Lips)
- RT on Philosophy (Anders Omstedt, Hans von Storch)
- RT on Marginal Seas (Jan Harff).

Tentative updated timeline for Science Plan 2025

February/March	Writing Team works on Draft contributions to complete a 1st Draft
March/April	1 st complete Draft available, internal review (SSG, SAB), writing workshop with authors and writing team; completing 2nd Draft
May:	23 rd Baltic Earth Science Steering group meeting @ BSSC in Sopot (May 2025) 2 nd Draft available for discussion @ SSG and SAB
June-Sept:	Corrections and external reviews
Oct-Dec:	Corrections and final publication

The scope and the content was discussed. It was suggested that the plan should have a clear focus and vision understandable and accessible also to managers and the interested public, and in particular the young generation. In that respect, it was suggested to involve a science writer in the drafting of the document.

It was suggested to hold Writing Workshops of the Writing team, as appropriate.

It was also discussed to somehow thematize the geopolitical situation and how it impedes the free transfer of scientific information. In that respect, an article in "Baltic Rim Economies" by Markus Meier and Karol Kulinski was mentioned:

[https://www.centrubalticum.org/en/publications/baltic_rim_economies/baltic_rim_economies_4_2024 -
_germany/markus_meier_karol_kulinski_scientific_cooperation_under_changing_geopolitics](https://www.centrubalticum.org/en/publications/baltic_rim_economies/baltic_rim_economies_4_2024_-_germany/markus_meier_karol_kulinski_scientific_cooperation_under_changing_geopolitics)

The importance to involve young scientists was stressed once more.

TOP 4: Any other issues

The venue and time for the 23rd Baltic Earth Science Steering Group meeting was fixed and will be attached to the Baltic Sea Science Congress 2025:

Sunday 25 May 2025, 15:00-19:00 at IO-PAN, Sopot, Poland

M. Reckermann, 1st Draft, 13 January 2025

M. Meier, 19 January 2025