

6th Baltic Earth Conference



Baltic Earth 2.0

Heringsdorf, Usedom, Germany
13 – 17 April 2026





Welcome to the 6th Baltic Earth Conference!

The **Baltic Earth scientific network** strives to advance the understanding of the Baltic Sea region as a basis for science-based management in the face of climatic, environmental, and human impacts. Baltic Earth brings together a **broad international research community** focused on **scientific issues relevant to societal efforts toward sustainability in the region**. Baltic Earth addresses the atmosphere, land, and marine environment of the Baltic Sea, its drainage basin, and nearby areas relevant to the region.

Baltic Earth has entered a new phase, **Baltic Earth 2.0**, characterized by a new secretariat shared between Germany and Poland and revised research topics, which will be the focus of this conference.

Following the publication of the **Baltic Earth Assessment Reports** (BEARs) in 2023, it is now time to update research challenges and define new ones. These updated and emerging research foci will be presented and discussed by scientists, students, managers, and other stakeholders.

The conference sessions reflect the research themes outlined in the new Baltic Earth Science Plan, with **ten thematic sessions** designed to inspire collaboration, dialogue, and innovation across disciplines.



Abstract Submission and Registration

The **call for abstracts** is now open! We warmly invite submissions on any of the conference session topics, as well as on related themes and programmes relevant to the Baltic Sea system. Abstracts, with a maximum length of 300 words, may be submitted for both oral and poster presentations. We welcome contributions from both experienced researchers and those at the beginning of their scientific careers.

To recognise and encourage young talent, awards will be presented for outstanding early-career contributions, and a special networking event will be organised to support and connect emerging scientists.

Abstract submission and registration will be handled through the **Converia platform**. Detailed guidelines and access to the submission portal are available on the **conference website**. The **abstract submission deadline is 8 December 2025**, and the **registration and fee payment deadline is 12 February 2026**.

Fees

The conference fee is 380€ for regular participants and 290€ for early-career scientists (up to seven years after PhD).

Stay updated

Visit our website at **baltic.earth/heringsdorf2026** and follow Baltic Earth on LinkedIn and Facebook for news and announcements.

Session Topics

1. Climate variability and teleconnections

The session examines how climate variability and teleconnections shape weather and climate across Northern Europe and the Baltic Sea region. We invite contributions that, for example, link the North Atlantic to the Baltic – from jet stream dynamics and storm track variability to ocean–atmosphere coupling, the North Atlantic Oscillation, and other features of the climate system. We particularly welcome studies that focus on how these drivers project onto the seasonally varying background state, separate multiple time scales, and address how they influence extremes, regional climate variability, and their predictability. Submissions may use reanalyses (including century-scale products), CMIP/RCM ensembles and downscaling, forecast systems, process-based diagnostics, causal/attribution frameworks, and storyline or event-based approaches. Case studies that integrate observations and modelling, assess model skill for the Baltic domain, or connect teleconnections to impacts and services are encouraged.

2. Bridging scales: From small-scale turbulence to basin-wide circulation

Oceanic processes span a wide range of spatial and temporal scales, from large-scale circulation and mesoscale fronts and eddies to submesoscale phenomena, internal waves, and small-scale turbulent mixing. However, the transfer of energy across these scales and the interactions among them are still not well understood. Moreover, the impact of small-scale processes on basin-wide circulation and its internal variability has yet to be fully elucidated, which is crucial for improving the predictability of oceans and seas. In this session, we invite observational, modeling, and theoretical studies that explore physical processes within the water column across various spatial and temporal scales in the Baltic Sea and other sea areas. We particularly welcome studies that address cross-scale interactions, energy cascades, and the role of small-scale dynamics in shaping large-scale ocean circulation and variability.

3. Natural hazards and their impacts

The Baltic Sea region is one of the most populated and industrialized in Europe, making it highly vulnerable to natural hazards. This session addresses the causes and impacts of extreme hydro-meteorological, marine, and geological events in the region. We welcome contributions on forecasting and early warning, attribution to climate change, compound impacts on society, coasts, and ecosystems, as well as strategies for risk reduction and resilience building.

4. Sea level and coastal change

Coastal change in the Baltic Sea results from variations in wind, air pressure, and sea level, as well as waves, land uplift or subsidence, and other coastal drivers that mobilize and transport sediments. It is most evident during storms, sometimes accompanied by coastal flooding, when the sea level rises – a combined result of higher water levels driven by the dynamics of the North Sea and processes influenced by regional and local weather conditions, all against the backdrop of mean sea level rise. Studies on sea level variability, waves, land uplift, and subsidence, as well as their effects on sediment transport and coastal changes, are welcome.

5. Biogeochemistry of the Baltic Sea: Linking observations and modelling

Investigations on the marine and terrestrial carbon, nitrogen, and phosphorus cycles, and pathways toward understanding primary production mechanisms and organic matter transformations in the Baltic Sea, are encouraged. Contributions addressing the biogeochemical causes and effects of eutrophication, oxygen limitations, and trace gas production – including microbiological processes – as well as modelling approaches to explain observations and project future changes, are welcome.

6. Baltic optics: Advancing ocean colour science and applications in the Baltic Sea

Understanding the optical properties of the Baltic Sea plays a key role in advancing our knowledge of ecosystem dynamics, phytoplankton community composition, carbon cycling, and primary production. Yet, the region's optical complexity – driven by strong gradients in salinity, coloured dissolved organic matter (CDOM), suspended matter, and phytoplankton diversity – poses persistent challenges for accurately observing and modelling its optical state. This session invites contributions that address current and emerging questions related to data needs, methodological gaps, and technological challenges in ocean colour research in the Baltic Sea. We welcome interdisciplinary work combining in situ observations, remote sensing, and numerical modelling, as well as developments in algorithm design, sensor calibration, and data assimilation. Topics include ocean colour data needs, validation, and quality assurance in optically complex waters; gaps and uncertainties in current observation networks and datasets; challenges of satellite ocean colour retrievals for coastal and inland waters; integrated observation approaches combining optical, biogeochemical, and physical measurements; new and emerging technologies such as hyperspectral sensors, autonomous platforms, and AI-assisted analytics; and regional Baltic Sea case studies and applications for ecosystem management, water quality monitoring, and climate change assessments.

7. Adaptive governance under multiple drivers of change in the Baltic Sea

The Baltic Sea and its catchment area are influenced by multiple interacting physical and socioeconomic drivers, including climate change, nutrient loading, economic development, demographic change, and technological innovation, among many others. These overlapping pressures create high uncertainty, making it difficult for governance systems to anticipate future conditions or to design and implement effective long-term solutions. Modelling frameworks can play a critical role in adaptive management: creating different scenarios, exploring system dynamics, and using participatory modelling approaches allow stakeholders to examine uncertainty, test alternative mitigation and adaptation strategies, and update management responses as conditions evolve. These approaches are increasingly recognized as essential for managing under uncertainty and complexity. Yet their application in the Baltic context has been uneven, and lessons remain scattered. This session will explore how adaptive and model-informed approaches can help address the cumulative and interacting nature of multiple drivers, and how governance systems can build resilience in the face of change and uncertainty.

8. Marginal seas: Humans and environment

The Baltic Sea is one of the best-studied regional seas, and the research community possesses extensive paleoenvironmental, prehistoric, and historical data. As a semi-enclosed sea bordering the open ocean, the Baltic Sea — like other comparable seas — is increasingly threatened by changing natural and anthropogenic impacts. This global pressure on marginal seas, their coasts, and their catchment areas is caused in particular by climate change and the overexploitation of their resources. The corresponding call for generally applicable sustainable management strategies and concepts has led to the integration of dedicated scientific sessions into the program of the biennial Baltic Earth Conferences since 2022, focusing on global comparisons between the Baltic Sea and other marginal seas. We are continuing this initiative and invite marine geoscientists, life scientists, economists, historians, and stakeholders from around the world to the 2026 conference in Heringsdorf to exchange experiences and concepts for the sustainable management of marginal seas, and to discuss them jointly in the context of the UN Sustainable Development Goals.

9. Future projections of the Baltic Sea region

The Baltic Sea region is strongly impacted by anthropogenic climate change and ranks among the fastest-warming seas globally. Continued warming is expected to lead to changes in temperature, salinity, and nutrient dynamics — affecting marine ecosystems and the services they provide to human society. Consequently, robust climate projections are essential for effective adaptation and planning. While global climate projections from the Climate Model Intercomparison Project (CMIP) are available, their spatial resolution is too coarse to adequately capture the complex characteristics of the Baltic Sea region, including its orography, land–sea distribution, and key regional processes. Moreover, many models struggle to accurately represent observed natural climate variability. This session welcomes contributions focusing on future climate projections for the Baltic Sea region, addressing these challenges and proposing strategies to overcome them.

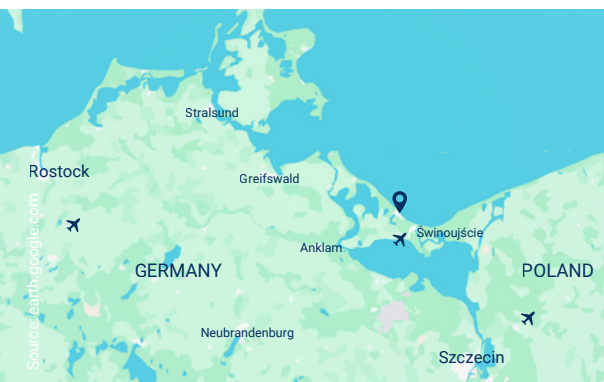
10. Philosophical aspects of Baltic Sea Earth System research

This session will explore and discuss the big ideas underlying Earth System Science on a regional scale, such as in the Baltic Basin or other marginal seas. Earth System Science examines how physical, chemical, biological, and human processes interact. Understanding the Earth System in the Baltic Basin has been shaped by several key ideas developed over the years, including land uplift and glaciation, estuarine circulation, climate change and variability, acidification, eutrophication, fishing success, and human impacts. We invite presentations that address the origins, development, and significance of one or more of these ideas, and their importance for advancing the understanding of Earth System Science.

Location

Usedom, a picturesque island shared by Germany and Poland, is a true jewel of the Baltic coast. It offers over 40 km of sandy beaches, more than 1,900 hours of sunshine annually, and extensive areas of well-preserved natural landscapes. Notable sites include the historic spa towns of Bansin, Heringsdorf, and Ahlbeck, each showcasing elegant resort architecture and a rich seaside tradition.

The conference will take place in **Heringsdorf**, a charming seaside spa town that retains its unique appeal even in the quieter season. It is distinguished by its grand villas of resort architecture, spacious parks, and most prominently, the Heringsdorf Pier — Germany's longest, extending 508 metres into the sea. The town's maritime heritage remains vivid, with traditional fishing practices that continue to shape its coastal character and cuisine.



Accommodation and Travel

The venue includes two **Seetelhotel hotels** — **Villa Esplanade** and **Pommerscher Hof** — both conveniently located in the heart of Heringsdorf. The town and conference hotels are easily accessible by train, bus, car, or ferry, with direct flight connections from selected cities to Heringsdorf Airport.

Heringsdorf offers a wide range of accommodation options to suit different preferences and budgets. A **special conference rate** is available at Seetelhotel Villa Esplanade — 111€ per room per night, including breakfast. Please use the reservation key “BalticEarth2026” when booking. Full availability is guaranteed until 1 February 2026. After this date, a limited number of rooms will remain available at the same rate, so early booking is strongly recommended to secure accommodation at the conference hotel.

Reservations

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