# 4th Baltic Earth Conference

Jastarnia, Hel Peninsula, Poland

30 May - 3 June 2022

## Assessing the Baltic Sea Earth System

## Second Announcement and Call for Papers

# 4th Baltic Earth Conference

## Scope

Baltic Earth strives to achieve an improved Earth System understanding of the Baltic Sea region as the basis for science-based management in the face of climatic, environmental and human impact in the region. Baltic Earth brings together a broad international research community and targets the atmosphere, land and marine environment of the Baltic Sea, its drainage basin and nearby areas with relevance for the Baltic Sea region.

The completion of the Baltic Earth Assessment Reports (BEAR) marks the termination of the first phase, nine years after the launch of Baltic Earth. The BEARs provide a retrospect of Baltic Earth related research, current knowledge and knowledge gaps, and wrap up Baltic Earth activities.

The conference covers the Baltic Earth Grand Challenges, and in particular the topics of the Baltic Earth Assessment Reports (BEAR). Invited and contributed papers will be presented in plenary and at dedicated poster sessions. There will be a dedicated young scientist´s event.

The conference is intended as discussion forum for scientists, students, managers and other stakeholders. Conference language is English.

## Topics

The sessions of this conference reflect the topics of the Baltic Earth Assessment Reports and other Baltic Earth topics. In discussing the different topics, we would like to include the perspectives from other marginal seas (like the neighboring North Sea, but also around the world). Contributions from other marginal seas shall help to evaluate the state of the regional Earth system (including human impacts) and management options in the Baltic Sea and elsewhere. Note that there may be modifications to the topics below in the final sessions.

- **Salinity dynamics:** Improved understanding of atmospheric patterns in various space and time scales including precipitation forcing water exchange with the North Sea, between sub-basins, estuaries and lagoons, and impacting on internal circulation, meso-scale dynamics and turbulence; salinity stratification and its role in increasing areas of hypoxia; environmental interaction between fish, its reproduction and varying salinity conditions on different time scales in the Baltic Sea
- **Biogeochemical functioning and development** from catchment to the open sea: Investigations on the marine and terrestrial carbon, nitrogen and phosphorus cycles and pathways towards an understanding of primary production mechanisms and organic matter transformations in the Baltic Sea; biogeochemical causes and effects of eutrophication, oxygen limitations and trace gas production, including microbiological processes
- **Natural hazards and extreme events:** Observations, analysis and modelling of high impact events in the Baltic Sea region; frequency and strength of storm surges and waves, flooding due to extreme precipitation events or droughts; prediction systems, probabilistic estimates and attribution analyses
- **Sea level dynamics and coastal erosion:** Variability and change of mean and extreme sea level; waves, storm surges, currents, seiches, variations in wind and sea level pressure, river runoff, effects of sea ice, inflows, thermosteric effects, land uplift/subsidence and their effects on sea level/sediment transport/coastal changes; projections of future sea level rise, observed and projected long-term trends and multi-decadal variations
- **Regional variability of water and energy exchanges**: Observation, analysis and modelling of the regional water cycle; precipitation, evaporation, river runoff; hydrological and atmospheric exchange processes; analysis of the natural variability of energy and water components; cloud-aerosol-feedback mechanisms, cloud and atmospheric boundary layer processes; hind- and forecast short- and long-term water and energy exchanges of the past and future
- **Human impacts and their interactions:** Interactions between anthropogenic forcings like eutrophication, pollution, fisheries, aquaculture, shipping, offshore installations, hydrographic engineering, coastal management, agricultural and forestry practices and land cover change with natual forcings; analysis and application of coupled Earth system models capturing interactions between atmospheric, marine and land compartments/processes, as well as responses to anthropogenic forcings; regional detection and attribution efforts
- **Sustainable management options** to cope with the various human and evironmental impacts described above and climate change, including geoengineering options
- **Analysing and modeling past and future climate changes**: Recent and projected changes in regional climate variables like temperature, precipitation, etc., as well as impacts on the atmosphere, hydrosphere, oceanography, and biosphere of the Baltic Sea region; recent progress in the understanding of regional climate variability with special focus on coupled effects between sea, atmosphere, land and anthroposphere
- **Comparing marginal seas**: How do climatic, geological and human impacts in different polar, moderate and other marginal seas compare with conditions in the Baltic Sea?

# 4th Baltic Earth Conference

## Call for Papers

Contributions in accordance with the conference topics as outlined above, both oral or as poster, are welcome. Extended abstracts in English, maximum of two pages, including figures, tables or diagrams, are invited to be submitted by E-mail to the International Baltic Earth Secretariat.

Abstracts must be submitted by e-mail to **balticearth@hereon.de** by 21 January 2022. Please indicate to which topic you would like to have your presentation allocated. An electronic abstract template is available for download at https://baltic.earth/hel2020. Please use this template, other formats will not be not accepted.

## Abstract Deadline: 21 January 2022

The Scientific Conference Committee will review the submitted papers, decide on allocation to topic, oral or poster presentation and establish the conference programme. Authors will be notified by mid-February 2022, and the programme is expected to be online by the end of February 2022. An abstract volume will be distributed at the conference.

Authors will be invited to submit a full paper based on their presentation for a special conference issue in an international scientific journal to be published after the conference.

## Scientific Conference Committee

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Leibniz Institute for Baltic Sea Research Warnemünde, Germany

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International Baltic Earth Secretariat

## Time Table

Abstract deadline..... 21 January 2022
Notification to authors..... 11 February 2022
Programme available..... 25 February 2022
Registration open..... 1 December 2022
Registration and fee payment deadline..... 18 March 2022
Hotel booking deadline..... 25 March 2022
Conference..... 30 May - 3 June 2022

Social programme
- Ice Breaker..... 30 May 2022
- Excursion..... 31 May 2022
- Conference Dinner..... 2 June 2022

**baltic.earth/hel2022**

# 4th Baltic Earth Conference

## Venue and Accomodation

**Hotel Dom Zdrojowy Jastarnia**
Kościuszki 2A
PL 84-140 Jastarnia
Poland
https://www.hoteldomzdrojowy.pl/en/

The conference takes place in the Hotel Dom Zdrojowy, in Jastarnia in Puck County, Pomeranian Voivodship, Poland, located on the Hel Peninsula. The peninsula is a narrow sandy spit, separating the Bay of Puck, the western part of Gdansk Bay, from the Baltic Sea. Hel Peninsula with its two main towns Jastarnia and Hel is a holiday resort for the greater Gdynia-Sopot-Gdansk (Tri-City) metropolitan region.

We recommend to book accomodation in the Hotel Dom Zdrojowy, where the conference will take place. **Single, double rooms as well as appartments are pre-reserved for conference participants until 25 March (see website)**. Please book your room with the Hotel before this date. See the conference website for further infos on accomodation.

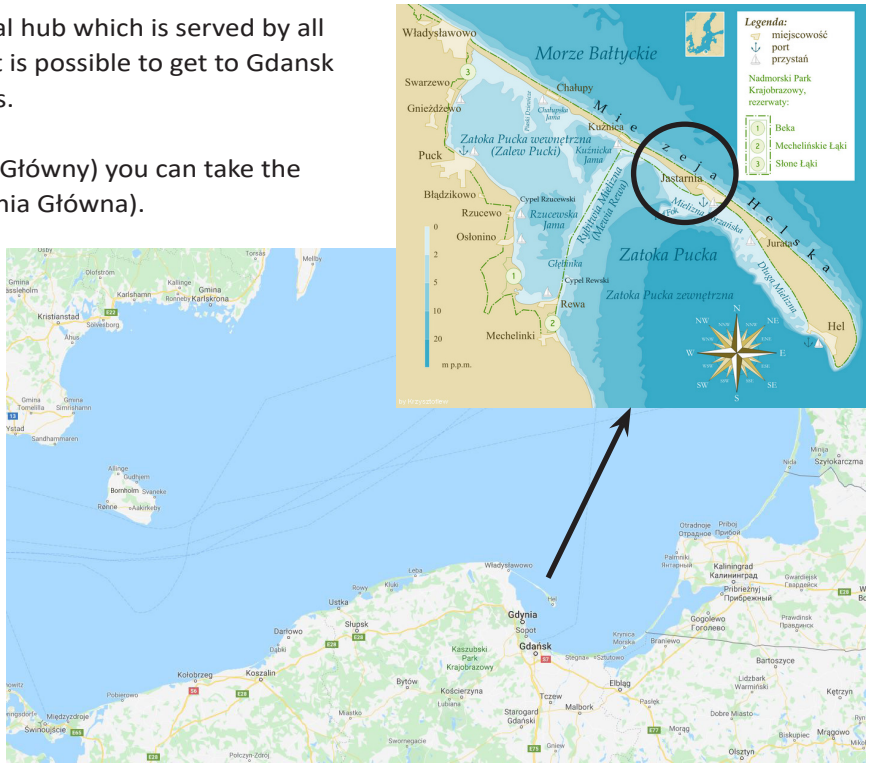
## Travel Information

**By air:** Gdansk Lech Walesa Airport is an international hub which is served by all major airports in the Baltic Sea region and beyond. It is possible to get to Gdansk or Gdynia train station and downtown by train or bus.

**By train:** From Gdansk Central Train Station (Gdansk Główny) you can take the train to Jastarnia (about 2h ride, change train in Gdynia Główna).

**By ferry:** From Sweden, there are regular ferries: from Nynashamn (close to Stockholm) to Gdansk and from Karlskrona to Gdynia.

**By car:** Go to Puck and Władysławowo, then on Highway 216 to Jastarnia on the Hel spit.




## Registration and Fees

Conference participants must register online via the conference website: baltic.earth/hel2022

## Registration Deadline: 18 March 2022

The conference fee is 380 € (450 € after 18 March) for full delegates. Students (proof needed) pay 180 € (250 € after 18 March). The conference fee covers the conference venue, the abstract volume, the Ice Breaker, morning and afternoon coffee and refreshments, daily lunches and the conference dinner. Accompanying persons will be charged for participation at the conference dinner and excursion. Fees are incl. VAT.

Partial support for students and young scientists may be available, depending on additional funding.

Details on support and conference fee payment are available at the conference website.

## For payment details see the conference website

## baltic.earth/hel2022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