

3rd Meeting of the Baltic Earth Working Group
“Marginal Seas – Humans and Environment”
at the Baltic Sea Sciences Congress 2025, Sopot, Poland
on May 28, 2025, 18:00 – 20:00 CEST

Abstract

Marginal seas are particularly exposed to the pressures of climate change but also to human impacts due to increased economic use of the seas, their coasts and drainage areas. The result is a worldwide ongoing environmental degradation that requires new holistic approaches of sustainable marginal seas' management. Searching for corresponding concepts the Baltic Sea can play a key role as one of the best studied marginal seas, rich in prehistorical and historical data, unique oceanographic, hydrological and meteorological monitoring surveys over decades documented in comprehensive publications and data bases. In this view, the Baltic Earth community established in October 2024 a working group **Marginal Seas – Humans and Environment**. The members proposed limiting the initial work phase to two years, with the goal of jointly drafting a whitepaper which shall - based on a review of previous work – by interdisciplinary categorization of marginal seas pave the road to sustainable development strategies. Presently, the spatial, temporal and disciplinary scale of the study is set: Variables describing climate, geo-, eco- and socioeconomic system as complex drivers of marginal seas' environmental change are to be regarded as functions of marine basins, coastal and drainage areas – the spatial frame of the study. The time frame is set by the last glacial cycle, but especially the postglacial time – the period of human-nature interaction. While all environmental data for the present time can be measured in high spatial and temporal resolution, operational reanalysis allows to restore climate and marine data on the global scale back to the early 20th century. For the geological past proxy data have to be deciphered by paleo-environmental analyses. Future projections have to rely exclusively on numerical model data.

The working group will meet during the BSSC 2025 conference at Sopot focused on both completing the list of variables describing marginal seas and the corresponding data management. A second goal will be a global review of marginal seas diversity and - considering representativeness and availability of data - the selection of key areas for a first step of generalization to master the diversity. The third goal of the meeting will be road map to prepare the planned joint white paper.

To facilitate communication with overseas members, the meeting will be held in a hybrid onsite/online mode. Not only working groups members but all participants of the BSSC 2025 and in particular early stage researchers representing oceanographic and social sciences, humanities, mathematics and computer sciences are warmly invited to attend the working group meeting and participate in the discussion.

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