

Abstract for ECCA 2015

Session 'Regional challenges & opportunities' with focus on the Baltic Sea region

Hot spot Baltic Sea - expected climate change and its impacts on Europe's first macro-region

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Baltic Earth is the new Earth system research network for the Baltic Sea region. It is the successor to BALTEX and stands for the vision to achieve an improved Earth system understanding of the Baltic Sea region. A first major outcome of Baltic Earth is the publication of the Second Assessment of Climate Change for the Baltic Sea Basin (BACC II, published 2015 with Springer Open Access).

This assessment, like its precursor, BACC (2008) was produced by a team of scientists from the region, led by lead authors who have recruited experts from relevant topics to contribute. The process is not externally funded and completely based on published scientific evidence, and not biased by political or economic interest groups. The BACC reports aim to bring together consolidated knowledge that has broad consensus in the scientific community, but also acknowledging issues for which contradicting opinions are found in the literature, so that no consensus can be reached ("consensus on dissensus"). An international steering committee is responsible for overlooking the process, and all manuscripts are anonymously peer-reviewed by independent international experts. An outstanding outreach aspect of these reports is the close collaboration with HELCOM as a regional stakeholder (HELCOM is the intergovernmental Baltic Marine Environment Protection Commission for the Baltic Sea and the major regional science-policy interface in the Baltic Sea region).

The new study (BACC II, 2015) to which 140 authors have contributed, finds the results of BACC (2008) still valid. Climate change can be detected at the regional scale but attribution is still weak. The effect of changing atmospheric aerosol loads and land use change is largely unknown so far and needs further attention in the coming years. For the observed changes in biogeochemical and ecological systems, multiple drivers are at work of which climate change is one. Their relative importance still needs to be evaluated.

When addressing climate change impacts on e.g. forestry, agriculture, urban complexes and the marine and terrestrial environment in the Baltic Sea basin, a broad perspective is needed which considers not only climate change but also other significant factors such as emission changes, demographic, economic as well as land-use changes.

The BACC I and II Author Teams are credited at www.baltic-earth.eu via the links /BACC and /BACC2.