



# Assessment of Climate Change for the Baltic Sea Basin



## The BACC Project

### International Conference BACC II

Tallinn, Estonia

6 – 7 September 2012

## Programme

BACC (BALTEX Assessment of Climate Change for the Baltic Sea Basin) integrates available knowledge of historical, current and projected future climate change. The unique feature of BACC is the combination of evidence on climate change and related impacts on marine, freshwater and terrestrial ecosystems as well as society in the Baltic Sea basin, which covers the water catchment region of the Baltic Sea.

The **Purpose of the Conference** is to discuss **the 2<sup>nd</sup> BACC assessment (BACC II)** with the scientific community and interested stakeholders like policy makers and environmental managers. The first day of the Conference will be devoted to scientific discussions when the individual chapter lead authors will present the BACC II results both as oral lectures and posters. The second day, discussions will be dedicated to bridge science, policy and the public, and will include a panel discussion.

**Background:** The BACC project had published its first report in 2008, as a joint venture of BALTEX (Baltic Sea Experiment) and HELCOM (Baltic Marine Environment Protection Commission). Additional evidence published since then and topics not fully covered in the previous report have been integrated in the BACC II efforts, and the resulting new assessment will be discussed at this conference. As with the previous report, BACC II provides an assessment of past, ongoing and possible future climate variations in the Baltic Sea Basin based on available literature, where the term *climate variations* is used for both *natural climate variability* and *anthropogenic climate change*. BALTEX is a Regional Hydroclimate Programme within GEWEX (Global Energy and Water Cycle Experiment) and WCRP (World Climate Research Programme).

The Conference is jointly organized by



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**Helmholtz-Zentrum  
Geesthacht**  
Zentrum für Material- und Küstenforschung

## Thursday, 6 September 2012 - The Scientific Discussion

8:30 – 9:50 Registration

### **Coffee and refreshments**

10:00 **Opening and Welcome**

- Representative of the City of Tallinn
- Representative of Tallinn University of Technology
- Maria Laamanen, HELCOM Professional Secretary
- Hans von Storch, BACC Science Steering Committee Chairman

10:15 Introduction to BACC and BACC II  
Speaker: *Anders Omstedt*, University of Gothenburg, Sweden

10:30 **Part 1: Presentation of BACC II results**

Chair: *Anders Omstedt*, University of Gothenburg, Sweden

The focus of Part 1 of the Conference is on presentations by chapter lead authors for the scientific community. There will be limited time for discussion with the audience, with more extended possibilities for detailed communications between participants and authors at the poster session in Part 2 (see below).

### **Chapter 2: Past climate variability**

10:30 Past climate variability – 12,000 years  
Speaker: *Irena Borzenkova*, State Hydrological Institute, St. Petersburg, Russia

10:50 Past climate variability – 1,000 years  
Speaker: *Tadeusz Niedzwiedz*, University of Silesia, Sosnowiec, Poland

11:10 Discussion

### **Chapter 3: Climate change during the last 200 years**

In this chapter, knowledge on past and current change in the Baltic Sea basin will be assessed. The presentation will be divided into three sections, devoted to the atmosphere, the land surface and the Baltic Sea.

11:30 Recent and current climate change in the atmosphere  
11:50 Recent and current climate change on land  
12:10 Recent and current climate change in the Baltic Sea  
Speaker: *Anna Rutgersson*, Uppsala University, Sweden

12:30 Discussion

12:50 **Joint Lunch**

**Chapter 4: Modelling future climate change**

This chapter is divided into a methodological overview over the current state of the art of regional climate models used in the Baltic Sea region, and the actual results of the models.

14:00 Skill of methods for describing regional climate futures

14:20 Projections of future climate change

Speaker: *Joanna Wibig*, University of Łódź, Poland

14:50 Discussion

**Chapter 5: Impacts of current and future climate change**

Chair: *Marcus Reckermann*, International BALTEX Secretariat, Germany

This chapter is dedicated to the impacts of climate change, subdivided into environmental (atmospheric, terrestrial and marine environments), and socio-economic impacts (cities, managed forests, agriculture, coastal erosion).

15:10 Impacts on the environment: Atmospheric chemistry, terrestrial and marine biogeochemistry and ecosystems

Speaker: *Christoph Humborg*, Stockholm University, Sweden

15:40 Socio-economic impacts: Agriculture, forestry, urban complexes, coastal erosion and coastline changes

Speaker: *Sonja Deppisch*, HafenCity Universität Hamburg, (plan B:altic), Germany

16:10 Discussion

16:30 **Health break**

**Chapter 6: Attributing causes of regional climate change**

This chapter summarises the state-of-the-art in attributing the observed climate change in the Baltic Sea basin to different drivers, including global warming.

16:50 Attributing causes of regional climate change: Global warming, aerosols, and land cover

Speaker: *Hans-Christen Hansson*, Stockholm University, Sweden

17:20 Discussion

17:40 **Part 2: Discussion of BACC II results at posters**

Conference participants are invited to discuss the BACC II results presented in Part 1 of the Conference with BACC II authors. Posters showing main BACC II results are displayed for detailed discussion purposes. Both lead and contributing authors will be available for discussion with conference participants.

19:00 **End of Day 1**

19:30 **Joint Dinner**

## Friday, 7 September 2012 – The Stakeholder Discussion

### 9:00 **Part 3: Summary and environmental issues in the Baltic Sea basin**

Chair: *Hans-Jörg Isemer*, International BALTEX Secretariat, Germany

This part of the Conference will summarise the BACC II results for stakeholders, such as policy makers, environmental administration and decision makers, the public and media. The HELCOM experience and plans towards creating a good environmental status of the Baltic Sea will be presented, where climate change is an aspect to be considered.

### 9:00 **Summary of BACC II results**

Speaker: *Hans von Storch*, Helmholtz-Zentrum Geesthacht, Germany

### 9:30 **Cooperation for good environmental status of the Baltic Sea (HELCOM)**

The HELCOM Baltic Sea Action plan aims at restoring the good ecological status of the Baltic marine environment by 2021. Major environmental threats such as eutrophication and hazardous substances endanger the prospects for the future recovery of the sea and its capability to adapt to external forcing such as climate change. BACC II and HELCOM are co-operating to use the scientific findings of BACC II for revision of the HELCOM Thematic Assessment Report on Climate Change in the Baltic Sea area.

Speaker: *Maria Laamanen*, Helsinki Commission (HELCOM), Finland

### 10:00 **Discussion**

### 10:30 **Health break**

### 11:00 **Part 4: Panel discussion: Climate change and society**

The panel will discuss options of how to better communicate and translate scientific knowledge about climate change from science communities to decision makers as well as the public at large. Experiences from BACC and HELCOM, and further regional initiatives, will be used to help shape answers and actions. The primary objective of the panel discussion is to point out major messages from the two BACC reports and to focus on promising ways to achieve outreach and utilization of these results at national, regional and local levels throughout the coastal region of the Baltic Sea. Panel members will include scientists as well as representatives of governmental and intergovernmental organizations.

#### **Panel members**

- *Representative of the Estonian Ministry of the Environment*
- *Maria Laamanen*, HELCOM, Finland
- *Lykke Leonardsen*, Municipality of Copenhagen, Denmark
- *Maxi Nachtigall*, Council of the Baltic Sea States (CBSS), Expert Group on Sustainable Development/BALTIC 21, Sweden
- *Hans von Storch*, BACC Science Steering Committee, Helmholtz-Zentrum Geesthacht, Germany
- *Andrzej Witkowski*, University of Szczecin, Poland

Moderation: *Grit Martinez*, Ecologic Institute Berlin, Germany / Duke University, USA

### 12:30 **Wrap-up and Closing of the Conference** **Coffee and Sandwiches**

## BACC II Science Steering Committee

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The following institutions have organised and generously supported the Conference

Marine Systems  
Institute at  
Tallinn University  
of Technology



Danish  
Meteorological  
Institute



University of  
Gothenburg,  
Earth Science  
Centre



Finnish  
Meteorological  
Institute



HELCOM



Swedish Institute for  
the Marine  
Environment



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Geesthacht



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Meteorological and  
Hydrological Institute

