



## 2<sup>nd</sup> BALTEX Assessment of Climate Change for the Baltic Sea Basin (BACC II)

### Minutes

## 2<sup>nd</sup> BACC II Lead Author Team Meeting

28 and 29 March 2011  
KlimaCampus, ZMAW  
Hamburg, Germany



**Participants** (from left to right): Pekka Niemelä, David Simpson, Christoph Humborg, Tadeusz Niedzwiedz, Markku Viitasalo, Jukka Käyhkö, Bernd Schneider, Joachim Krug, Joanna Wibig, Anders Omstedt, Anna Wramneby, Hans von Storch, Sonia Deppisch, Sirje Keevallik, Irena Borzenkova, Anna Rutgersson, Jüri Elken, Birgit Hünicke, Marcus Reckermann, Ole Bøssing Christensen, Dennis Bray.

*The aim of this second Lead Author Team meeting was the finalization of the BACC II book chapter structure and the clarification of open issues from the first Lead Author Team meeting in Gothenburg. Since then, Lead Authors had the opportunity to draft chapter outlines and to approach contributing authors. Based on this, a clearer picture of the respective chapter contents evolved, and the overall book structure could be discussed with a better background. Outcome of the meeting was a significantly improved chapter structure, which was approved as final structure (with minor adjustments still possible during the writing and editing process). Open issues like approximate chapter lengths were also settled.*

## **1. Introduction and welcome**

The meeting took place in the Zentrum für Marine und Atmosphärische Wissenschaften ZMAW (Centre for Marine and Atmospheric Sciences), with the KlimaCampus as host of the meeting. The ZMAW is a union of six university institutes and the Max Planck Institute for Meteorology in Hamburg; the KlimaCampus is a network of climate research experts in the Hamburg area. This includes scientists from 18 different institutes of the University of Hamburg as well as non-university partners such as the Max Planck Institute for Meteorology, the Helmholtz-Zentrum Geesthacht and the German Climate Computing Centre. Hans von Storch gave a short overview over the climate research landscape in the Hamburg area.

## **2. Lead Author's presentations and discussion**

Lead Authors gave short presentations of their respective chapter outlines (i.e. draft chapter table of contents), which were vividly discussed, leading to the decisions and comments stated below. The presentations are available at the internal BACC II website:

<http://www.baltex-research.eu/BACC2/inside/internal.html>

## **3. Decisions**

- The chapter structure was revised to logically separate the physical components of the climate system (atmosphere, hydrology and Baltic Sea physics) from the impacts on the environment (atmospheric chemistry, biogeochemistry, ecosystems and the socio-economic systems). This allows a better description of environmental changes in the past together with potential future changes in one chapter. The grand chapter on impacts (Chapter 5) was labelled "Impacts (in competition with non-climatic drivers)" to demonstrate that the observed and projected changes are only partly attributable to climate change, and the other drivers need to be identified as far as possible.
- Consequently, chapters 3 and 4 now deal with the physical changes in the past and future, respectively.
- There are two new sub-chapters within the section "Socio-economic impacts" in chapter 5: "Coastal erosion and coastline changes", and "Fisheries and aquaculture".
- There are now three Annexes: "Empirical evidence for consensus and dissent among regional climate researchers", "The concept of detection and attribution", "The physiographic structure of the Baltic Sea drainage basin". For the first Annex, a new survey will be conducted, involving researchers who are involved in any aspects of regional climate change in the Baltic Sea region.
- Lead Authors within one grand chapter will decide on one or more responsible "chapter coordinators" who will overlook the consistency in contents, structure and style within grand chapters, and also write a short introduction and summary to be placed at the beginning of each grand chapter.
- Close communication with HELCOM on the further process of collaboration should be established by the beginning of September 2011.
- Material and draft chapter manuscripts will be made available to BACC II LAs and SSC members via the internal password protected BACC II web page:  
<http://www.baltex-research.eu/BACC2/inside/internal.html>. User name and password will be distributed by e-mail.

- A closed e-mail or blog based discussion forum will be set up and offered to all BACC II authors (lead and contributing). This system will be strictly internal and password protected to allow internal discussions on the book in general, and also separated in chapters.

#### 4. Open issues

- Lead Authors for the following new sub-chapters need to be identified: 5.3.3. “Coastal erosion and coastline changes” and 5.3.4. “Fisheries and aquaculture”
- Lead Authors for the following new Annexes need to be identified: A2 “The concept of detection and attribution” and A3 “The physiographic structure of the Baltic Sea drainage basin”
- Identification of (a) book coordinator(s), who will look after consistency in contents, structure and style between chapters
- Organisation of the peer review process, if possible by an external entity, possibly by journal editors, reviewers from abroad

#### 5. Comments

- It was noted that the choice of contributing authors within chapter topics generally very much reflects the national and regional background of the respective Lead Authors. This is somehow contradicting the original BACC philosophy to involve authors from the entire region. Lead Authors are asked to involve contributing authors from the entire Baltic Sea area, as far as possible.
- The BACC principle was emphasized that the book shall rely on published legitimate scientific literature (i.e. not from NGOs or companies), meaning that authors shall not present results of their own unpublished research but provide a broad overview over the available knowledge in the field, and also specify cases in which a consensus in the research community has not been reached.

#### 6. Updated BACC II timescale, milestones and meetings

Dates	Event/Milestone	Location	Comment
1 Sep 2011	Identification of chapter coordinators	-	Internal communication between lead authors (communicate to IBS)
1 Sep 2011	Provisional chapter summaries	-	Distribute among authors (and IBS)
1 Sep 2011	Communication with HELCOM on the process and collaboration	-	Discussion of material and timeline for HELCOM
10 Nov 2011	First version of BACC II chapters established	-	First internal draft deadline, internal iterations start
9-10 Feb 2012	3 <sup>rd</sup> Lead Author Team meeting	Copenhagen	Chapter drafts presented and discussed
15 Apr 2012	Deadline: Draft Chapters completed and submitted to IBS	-	Draft chapters ready for external review
15 Apr 2012	Provide HELCOM with draft chapters	-	
May 2012	External peer-review process starts	-	
Summer 2012	Review/Stakeholder Conference	Tallinn	Of the “BACC/Göteborg 2006” type
End 2012	External peer-review process completed	-	Revision of chapters starting
Spring 2013	BACC II material revised according to reviews	-	
2013	HELCOM Ministerial Meeting		HELCOM report based on revised BACC II material to be finalised
Summer 2013	BACC II report finalised	-	
Autumn 2013	BACC II book manuscript print-ready	-	
End 2013	BACC II book published	-	

## 7. Appendices (attached)

- Appendix 1: Agenda
- Appendix 2: Finalized BACC II book structure and Lead Authors as of 29 March 2011
- Appendix 3: Participant list

## 8. E-Appendices

(available at <http://www.baltex-research.eu/BACC2/inside/internal.html>, password protected)

- Finalized BACC II book structure and Lead Authors (as of 29 March 2011)
- Participant list
- Revised timeline, milestones and meetings (as of 29 March 2011)
- Lead Author presentations

### Abbreviations used:

BACC = BALTEX Assessment of Climate Change for the Baltic Sea Basin

CA = Contributing Author

IBS = International BALTEX Secretariat

LA = Lead Author

SSC = Science Steering Committee

Marcus Reckermann, International BALTEX Secretariat

Approved version, 11 April 2011

**Appendix 1****Programme**Monday 28 March

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- 14: 00     Welcome
- 14:15-     Chapter outlines by Lead Authors (5 min each)  
15:30     See list of speakers (and draft chapter headings)
- 15:30-     Coffee break  
16:00
- 16:00-     Chapter outlines by Lead Authors cont. and discussion  
18:00
- 19:00     Joint Dinner in the "Feuerschiff" in Hamburg Harbour

Tuesday 29 March

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- 9: 00     Breakout groups, chapter workshops
- 10:30     Coffee break
- 11:00-     Breakout groups, chapter workshops  
13:00
- 13:00     Meeting wrap-up
- 13:30     End of meeting

## Appendix 2

**BACC II chapter structure and Lead Authors**  
As of 29 March 2011, BACC II Lead Author Team Meeting Hamburg

*Page numbers are meant as approximate reference points (book pages incl. figures\*)*

1. **Overall assessment and summary (25 pp)**  
*Hans von Storch*, Helmholtz-Zentrum Geesthacht, Germany  
*Anders Omstedt*, University of Gothenburg, Sweden
  
2. **Past climate variability**
  - 2.1. **Introduction and summary (5pp)**
  - 2.2. **Holocene (10.000 yr) (25pp)**  
*Irina Borsenkova*, State Hydrological Institute, St. Petersburg, Russia
  - 2.3. **Historical time frame (1000 yr) (25pp)**  
*Tadeusz Niedzwiedz*, Silesian University, Sosnowiec, Poland
  
3. **Recent (mainly 200 years) and current climate change**
  - 3.1. **Introduction and summary (5pp)**
  - 3.2. **Atmosphere**
    - 3.2.1. **Atmospheric physics (15pp)**  
*Anna Rutgersson*, Uppsala University, Sweden
  - 3.3. **Land**
    - 3.3.1. **Hydrology (15pp)**  
*Jukka Käyhkö*, University of Turku, Finland
    - 3.3.2. **Terrestrial cryosphere (15pp)**  
*Sirpa Rasmus*, University of Helsinki and University of Jyväskylä, Finland
  - 3.4. **Baltic Sea**
    - 3.4.1. **Marine circulation and stratification (15pp)**  
*Jüri Elken*, Tallinn University of Technology, Estonia
    - 3.4.2. **Sea ice (15pp)**  
*Jari Haapala*, Finnish Meteorological Institute, Helsinki, Finland
    - 3.4.3. **Sea level and wind waves (15pp)**  
*Birgit Hünicke*, Helmholtz-Zentrum Geesthacht, Germany
  
4. **Modelling future climate change**
  - 4.1. **Introduction and summary (5pp)**
  - 4.2. **Skill of methods for describing regional climate futures (25pp)**  
*Joanna Wibig*, Lodz University, Poland
  - 4.3. **Projections of future climate change**  
*Ole Bøssing Christensen*, Danish Meteorological Institute, Copenhagen, Denmark
    - 4.3.1. **Atmospheric changes (T, P, Wind, DTR, extremes) (20pp)**
    - 4.3.2. **Hydrological changes incl. terrestrial cryosphere (15pp)**
    - 4.3.3. **Sea level (10pp)**
    - 4.3.4. **Marine physical changes (incl. sea ice, storm surges and waves) (20pp)**

## 5. Impacts (in competition with non-climatic drivers)

### 5.1. Introduction and summary (5pp)

### 5.2. Impact on the environment

#### 5.2.1. **Atmospheric chemistry (15pp)**

*David Simpson*, Chalmers University of Technology, Göteborg, Sweden

#### 5.2.2. **Terrestrial ecosystems (15pp)**

*Pekka Niemelä*, University of Turku, Finland

#### 5.2.3. **Freshwater biogeochemistry (15pp)**

*Christoph Humborg*, Baltic Nest Institute, Stockholm, Sweden

#### 5.2.4. **Marine biogeochemistry (15pp)**

*Bernd Schneider*, Baltic Sea Research Institute, Warnemünde, Germany

#### 5.2.5. **Marine ecosystems (15pp)**

*Markku Viitasalo*, Finnish Environment Institute, Helsinki, Finland

### 5.3. Socio-economic impacts

#### 5.3.1. **Agriculture and forestry (25pp)**

*Michael Köhl*, University of Hamburg, Germany

#### 5.3.2. **Urban complexes (25pp)**

*Sonia Deppisch*, HafenCity University, Hamburg, Germany

#### 5.3.3. **Coastal erosion and coastline changes (25pp)**

*NN*

#### 5.3.4. **Fisheries and aquaculture (25pp)**

*NN*

## 6. Attributing causes of regional climate change

### 6.1. Introduction and summary (5pp)

### 6.2. **Global warming (25pp)**

*Jonas Bhend*, ETH Zürich, Switzerland; currently CSIRO, Melbourne, Australia

### 6.3. **Aerosols (natural and pollutants) (25pp)**

*Hans-Christen Hansson*, Stockholm University

### 6.4. **Land cover and resource management (25pp)**

*Anna Wramneby*, Lund University, Sweden

## Annexes

### **A1 Empirical evidence for consensus and dissent among regional climate researchers**

*Dennis Bray*

### **A2 The concept of detection and attribution**

*NN*

### **A3 The physiographic structure of the Baltic Sea drainage basin**

*NN*

\* Using Chapter 3 of the BACC book, a factor of 1.3 was estimated to convert from book pages incl. figures (as given above) to Word manuscript pages without figures. A manuscript page has approx. 400 words (Times New Roman 12pt, 1.5 line pitch).

5 book pages incl. figures = 7 Word pages without figures  
 15 book pages incl. figures = 23 Word pages without figures  
 25 book pages incl. figures = 33 Word pages without figures

Remark: A book page contains approx. twice as many words as a manuscript page.

### Appendix 3

#### Participant List

Last Name	First Name	Affiliation	Country	E-Mail address	Function
Bhend	Jonas	CSIRO, Melbourne	Switzerland/ Australia	jonas.bhend@csiro.au	LA
Borsenkova	Irina	State Hydrological Institute	Russia	irena_borzen@mail.ru	LA
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