

## BACC II Report

### CHAPTER 3.c.i. Hydrology (Preliminary outline of the chapter contents)

Some remarks regarding the contents plan below:

- In BACC I there was no overview of the Baltic catchment as a whole. As we now, the catchment land area and its properties (such as agricultural land use, urbanization, waste water management and deforestation) have a fundamental impact on the Baltic Sea. As a majority of this terrestrial impact is routed to the sea via rivers, this system would probably benefit from some kind of synthesized approach. In BACC I, nutrient fluxes were dealt separately from river discharge, as one example. We may need to consider these linkages in Hamburg.
- As has been pointed out by Sirpa Rasmus (3.c.ii – Cryosphere), there is a need to consider how to treat *ice phenomena* (lake & river ice) in the book ; whether they form part of the cryosphere or hydrology. I have included them now in hydrology, but we can discuss also this matter in a wider context in Hamburg.

#### 3.c.i.1 Introduction

3.c.i.2 Background – an overview of the Baltic catchment and its drainage network (this, or some of its components, could alternatively be included in the beginning of the book)

#### 3.c.i.3 Summary and analysis of the BACC I findings

#### 3.c.i.4 Sources of data and uncertainties

- national & other data (cf. App. 4.3 in BACC I)
- knowns and unknowns per country/region

#### 3.c.i.5 Description of catchments draining to the Baltic

- number
- size
- land use (perhaps with a general overview of “anthropogenic factor”)
- drainage density (perhaps with a connection to bedrock and sediment properties + topography)
- regulation (dams etc.)
- lakes
- mean runoff

#### 3.c.i.6 Regional and seasonal variations, and trends

- Recent and present changes in regional discharge patterns
- Recent and present changes in seasonal discharge patterns
- Recent and present overall trends in discharge patterns

#### 3.c.i.7 Lake and river ice

- River ice
  - Recent and present changes in river ice formation, duration and brake-up

- Recent and present changes in ice thickness in rivers
- Lake ice
  - Recent and present changes in lake ice formation, duration and break-up
  - Recent and present changes in ice thickness in lakes

3.c.i.8 Extreme events; floods and droughts

3.c.i.9 Discussion and conclusions

3.c.i.10 Synthesis of the findings

- Discussion on the possible reasons for changes (climatic and non-climatic)
- Discussion on the effects on and interactions with biotic and other abiotic systems (with reference to other relevant sections)

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