

Instruments for regional stakeholder interaction

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Even in the case of a successful climate policy with significant reductions of CO₂ emissions, knowledge about regional and local manifestations of anthropogenic climate changes are needed for appropriate adaptation measures (Stehr and von Storch, 2008). We propose that the problem has additional three noteworthy components (von Storch and Meinke, 2008):

- The stakeholders, including the media and the public at large interpret the science in their cultural framework. Scientific knowledge undergoes many transformations before entering the public sphere. Vested interests, political as well as economical, play a role in this transformation. To fully comprehend this transformation social and cultural sciences are needed (von Storch, 2009a,b). In the Hamburg CLISAP Center of Excellence on Climate Research, this aspect has been taken care of by bringing in significant social and cultural science components.
- Comprehensive analyses of the regional and local climate, as well as climate impacts, are not the only requirement. In addition, basic concepts — such as natural climate variability, detection of human-induced change and attribution to causes, scenarios and uncertainty — need to be explained to the public. For dealing with our clientele – authorities and companies responsible and interested in coastal management and operations – we have prepared a data set named CoastDat (www.coastdat.de; Weisse et al., 2009), which informs in detail about marine weather (including storm surges, waves and currents) along the North Sea coasts in the past 6 decades and about projections for the coming 100 years. Also studies have been prepared about the consistency of ongoing climate change and projections for the future (Bhend and von Storch, 2007, 2009).
- Only to a limited extent do scientists understand the concerns among stakeholders and the public at large. Some of these concerns are not rational, some are even outlandish, but because prevailing in the social arena they influence the political decision process. Science needs to be aware of the full spectrum of issues that the public is concerned about (von Storch, 2009a, b).
- Another issue of great practical implication is the usage of precise language. There is not only the problem that scientific expressions have also a – usually somewhat or even significantly – different meaning. Usage of scientific slang makes communication even more difficult and inefficient. Bray and von Storch (2009) have illustrated this problem by examining the terminology “predictions” and

“projections”. About 30% of scientists use these terms wrongly (Bray and von Storch, 2009).

Two regional activities from northern Europe aim to address the need for regional assessment:

- An IPCC-like assessment report for past, ongoing and possible future climate change and impact of terrestrial and marine ecosystem has been assembled by about 80 scientists from 13 countries. This “BALTEX Assessment of Climate Change for the Baltic Sea basin” (BACC author team, 2008; <http://www.baltex-research.eu/BACC/>) was accepted in March 2007 by the Helsinki Commission (HELCOM) for the Baltic Sea as the basis for political deliberations (<http://www.helcom.fi/stc/files/Publications/Proceedings/bsep111.pdf>). A similar exercise has just been launched for the extended metropolitan region of Hamburg, and is expected to be concluded in 2010.
- To facilitate the two-way exchange of concepts, concerns, questions and knowledge between the scientific sphere and the regional public sphere the “Norddeutsches Klimabüro” (<http://www.norddeutsches-klimabuero.de>) was established in 2006. Other regional offices have been set up for Southern Germany at the Research Center Karlsruhe and for Arctic Regions and Sea level at the Alfred Wegener Institute in Bremerhaven (Schipper et al., 2008).

At the same time, a national Climate Service Center is established in Hamburg as part of the GKSS Research Center, and Institutions such as the German Weather Service or the Environmental Ministry are providing knowledge about regional climate change in Germany.

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