

Abstract for

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The temporal dimension of coastal adaptation and climate change

While it is pretty obvious that actions for reducing the emissions of greenhouse gases into the atmosphere (“mitigation”) need to be implemented as soon as possible for being effective, the time dimension of adaptive measures, for dealing with the consequences of non-avoided climate change, is considerably more complex.

A major factor is the uncertainty of the perspective of change; this depends on the efficiency of mitigation, but also on presently insufficient robust knowledge (for instance on the dynamics of the loss of ice-sheets). This uncertainty itself will be reduced in the future, not abruptly but slowly and continuously, because of time passing by, so that more data are available for analysis and constructing robust knowledge. Thus, for adaptation the predictive challenge is not only the prediction of, say, sea level, but also of the timing, when such predictions will become robust.

However, even if the data base for determining the climate sensitivity and the speed of sea level increase will be better in 10 and more years, new problems may be detected, which have been overseen until now. Thus, likely new uncertainties will probably emerge, and postponed future decisions may take these into account.

Another temporal issue is the decision when in the future to implement adaptive measures – in view of the steady improvement of technological and managerial options. Now, some options may be immature, and in some future, possibilities may be greatly improved. On the other hand, presently implemented measures for, say, improving coastal defense, should be designed in a manner so that future modifications are not ruled out.

These temporal dimensions will be discussed with examples from coastal defense in Northern Germany. The economic issue of “discounting of coasts with time” will not be addressed.