



**nordwest2050**

Perspektiven für klimaangepasste Innovationsprozesse  
in der Metropolregion Bremen-Oldenburg im Nordwesten

# Governance, Knowledge and Learning for Adaptation in Coastal Areas

**Bernd Siebenhüner** (University of Oldenburg)

Contributors:

Torsten Grothmann, Bernd Siebenhüner, Maik Wings, Kevin Grecksch,  
Michael Flitner, Heiko Garrelts



**nordwest2050**

## Overview

1. Governance of adaptation:  
*6 theses*
2. NorthWest 2050: *The example  
of the Northwestern region of  
Germany*
3. Studying the vulnerability of  
governance systems
4. Conclusions



## Governance of adaptation (I)

- Thesis 1: Adaptation and mitigation belong together.
  - Adaptation is only manageable if global mean temperature increases do not exceed 3-4 C
  - Mitigation cannot be replaced by adaptation.
  - Adaptation is not an excuse strategy for failure in effective mitigation.

## Governance of adaptation (II)

- Thesis 2: Adaptation and mitigation differ in nature.
  - In their timing
  - In the scale
  - In the disciplinary framing
  - In the actors and sectors affected
  - In the necessary governance processes

## Governance of adaptation (III)

- **Thesis 3: Adaptation implies:**
  - **Uncertainty:** especially local and short term
  - **Complexity:** climate change only one driver, affects most regions, sectors, levels of decision making in different ways
  - **Equity issues:** disparities in climate change impacts between different regions, sectors, population groups and species
  - Need to Identify multiple-benefits, no-regret and low-regret adaptation options (e.g. by multi-criteria-analysis)
  - Need to learn, be flexible, realize adaptation quickly when more information is available etc.

## Governance of adaptation (IV)

- **Thesis 4: Governance of adaptation can build on existing structures.**
  - Disaster management systems exist in international, national and many local contexts (flood control, water management, extreme weather event management etc.)
  - Relevant governance structures are in place that can be used.

## What do I mean by ‚governance‘?

Def.: All processes of rule making and rule implementation in societies.

1. Governance  $\neq$  classical political processes of law making
2. Governance  $\neq$  management and control
3. Governance  $\neq$  policy advice (because of changed roles of actors and knowledge)
4. Governance  $\neq$  participation (different forms of cooperation among actors)

## Governance of adaptation (V)

- Thesis 5: Governance of adaptation is new.
  - Governance systems are also vulnerable to climate impacts (e.g. political-administrative structures could become inoperational).
  - Adaptation implies an extremely multi-faceted governance challenge.
  - Need for thorough assessments of vulnerabilities.

## Governance of adaptation (VI)

Thesis 6: Governance of adaptation is a grand challenge for societies.

- Creating awareness and urgency for a long-term problem
- Avoiding technocratic fixes
- Participation
- Creating reflexive approaches

## NorthWest2050: Project Context

# Perspectives for Adaptation to Climate Change through Innovation Processes in the Bremen-Oldenburg Metropolitan Region



Federal Ministry  
of Education  
and Research

Funding Program KLIMZUG:  
Shaping Climate Change Viable  
for the Future



## Klimawandel in Regionen



**Bremen-Oldenburg Metropolitan Region**  
Source: [www.metropolregion-bremen-oldenburg.de](http://www.metropolregion-bremen-oldenburg.de)

## Partners




- Bremen-Oldenburg Metropolitan Region
- Sustainability Center Bremen (econtur gGmbH)
- University of Bremen (artec – Research Center for Sustainability Studies)
- University of Applied Sciences Bremen
- University of Oldenburg (Centos – Oldenburg Center for Sustainability Economics and Management)
- BioConsult







Partner region: State of Maryland (USA)

- University of Maryland (Center for Integrative Environmental Research)


[www.nordwest2050.de](http://www.nordwest2050.de)

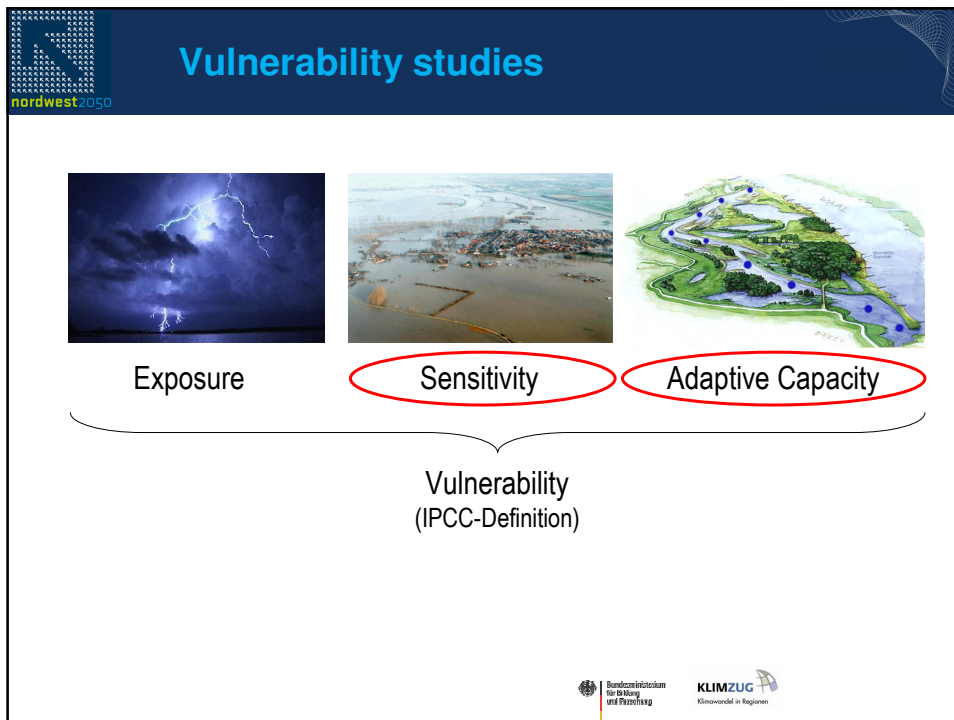



## Governance issues in NorthWest 2050‘





- Metropolitan Region as new governance structure – across states (Länder)
- Studying the vulnerability of governance systems in the region
- Developing adaptive governance structures
- Developing a Roadmap of Change for the Region
- Participation and stakeholder integration
- Self-organisation and reflexivity along value chains




**Guiding Questions for Vulnerability studies**

nordwest2050



**Sensitivity:**

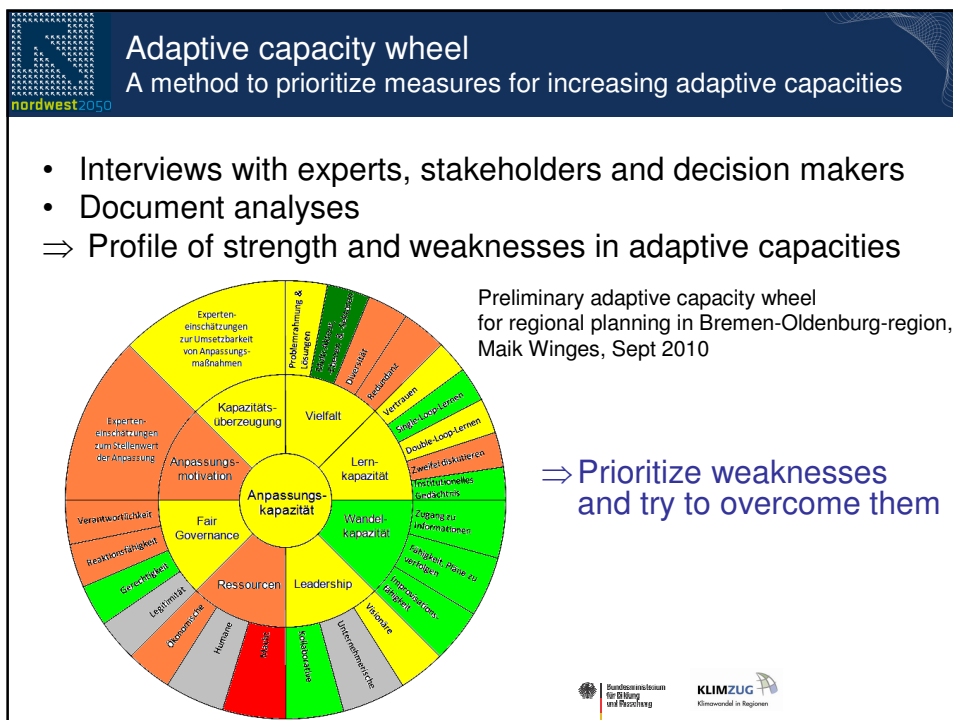
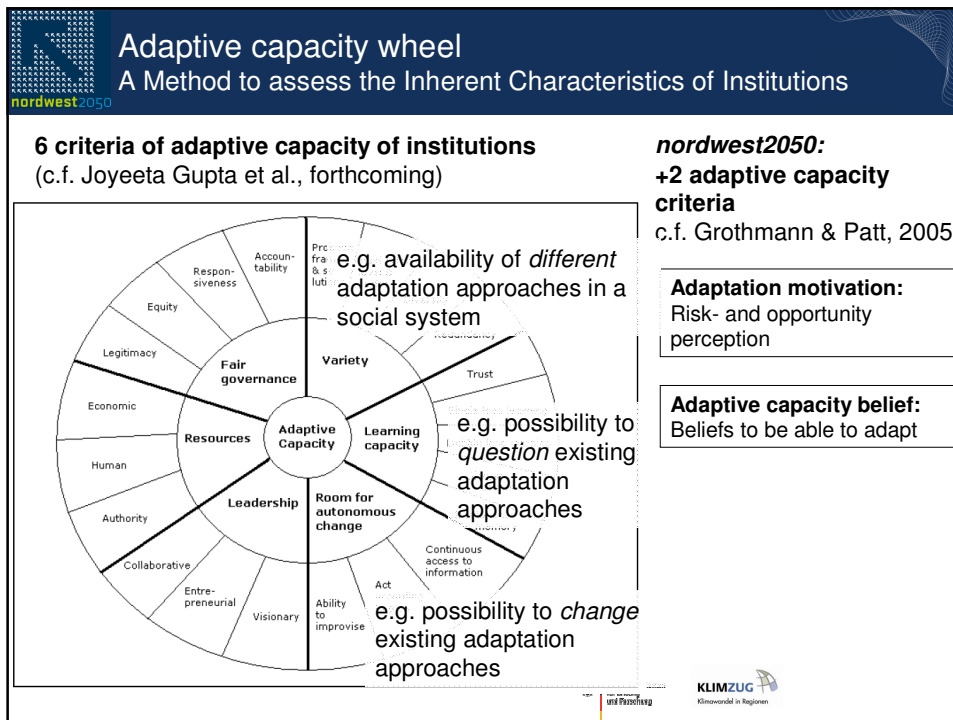
Which threats and opportunities to governance systems can occur through climate change?



**Adaptive Capacity:**

Are there capacities in governance systems to implement measures to adapt to potential damaging climate impacts or to utilize relevant opportunities?

Bundesministerium für Bildung und Forschung  
 KLIMZUG  
 Klimawandel in Regionen

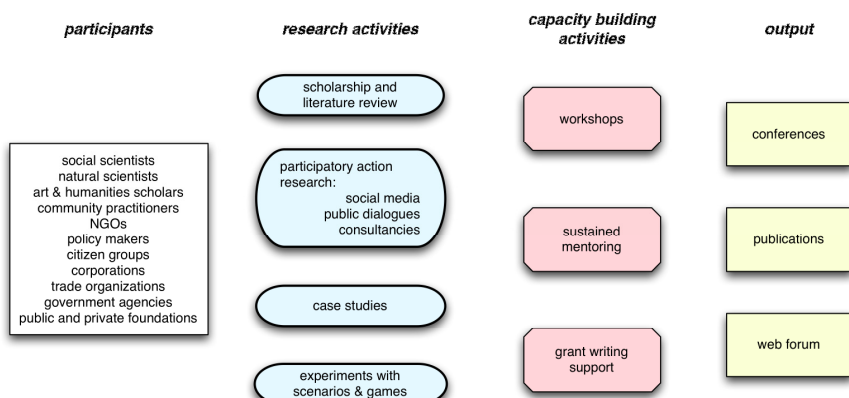


## Conclusions and announcement

- Central research questions:
  - How vulnerable and adaptive are different societal systems (political system, economy, cultures)?
  - How, when and why do societies adapt their governance structures?
  - What are effective adaptive governance structures?
  - How can change happen?

## New IHDP Project: Knowledge, Learning and Societal change for Sustainability (KLSC)

### Schematic Framework of KLSC



# THANK YOU!

## Main sources

- Grothmann, T. & Patt, A. (2005). Adaptive Capacity and Human Cognition: The Process of Individual Adaptation to Climate Change. *Global Environmental Change*, 15 (3), 199-213.
- Gupta, J., K. Termeer, J. Klostermann, S. Meijerink, M. van den Brink, P. Jong, S. Nooteboom and E. Bergsma (in press). *Institutions for Climate Change: A Method to Assess the Inherent Characteristics of Institutions to Enable the Adaptive Capacity of Society*, *Environmental Science and Policy*, forthcoming.