When climate change enters an entrenched Science-Policy interface

Knowledge production for climate adaptation policy in the Netherlands

Daan Boezeman, d.boezeman@fm.ru.nl
Martijn Vink, martinus.vink@wur.nl

Berlin Conference on the Human Dimensions of Global Environmental Change
Friday October 5th 2012

Governance of Climate Adaptation

VU University Amsterdam
WAGENINGEN UNIVERSITY WAGENINGEN UR
Erasmus Universiteit Rotterdam
Radboud University Nijmegen
Universiteit Utrecht
CARL VON OSSIETZKY universität OLDENBURG
UEA University of East Anglia
Stockholm University
Knowledge for Climate

Radboud University Nijmegen

Outline presentation

- Research problem
- Institutional perspective on co-production of knowledge
- Approach
- Case study
- Wrap up and discussion

Research problem

- The ultimate complexity, all-pervasiveness and sensitivity of **climate change** is - or needs to - changing **science-policy relations**

“societal participation, mutual learning and opening up pre-existing organizational and institutional boundaries are among the key words here to ensure a more responsible, more legitimate and more effective science-policy interface”
(Leroy et al., 2010, p. 28. In: From Climate Change to Social Change)

- Climate **adaptation** is especially interesting

1. Taken up by pre-existing policy fields (“mainstreaming”)
2. Requires knowledge production in direct context of application (“downscaling”)

Research questions

- how is climate knowledge translated into knowledge claims on the changing environment?

- Are science-policy relations indeed changing towards processes that are more interdisciplinary, participatory and facilitate learning? If so, how?

- Case study: **Droge Voeten 2050**
  - Regional water governance
  - ‘Routinized’ science-policy interface
  - Regional initiative
  - Ambition to integrate climate change
  - Ambition for more participation

Institutional perspective on knowledge production

- Scott (2008) institutions have regulative, normative and cognitive elements empowering and constraining action

- Jasanoff (2004) Societies have institutionalized ways of knowing, constantly reproduced in new contexts

- Focus on institutionalized tools, procedures, routines and science-policy boundaries in risk governance arrangements invoked to respond to climate change

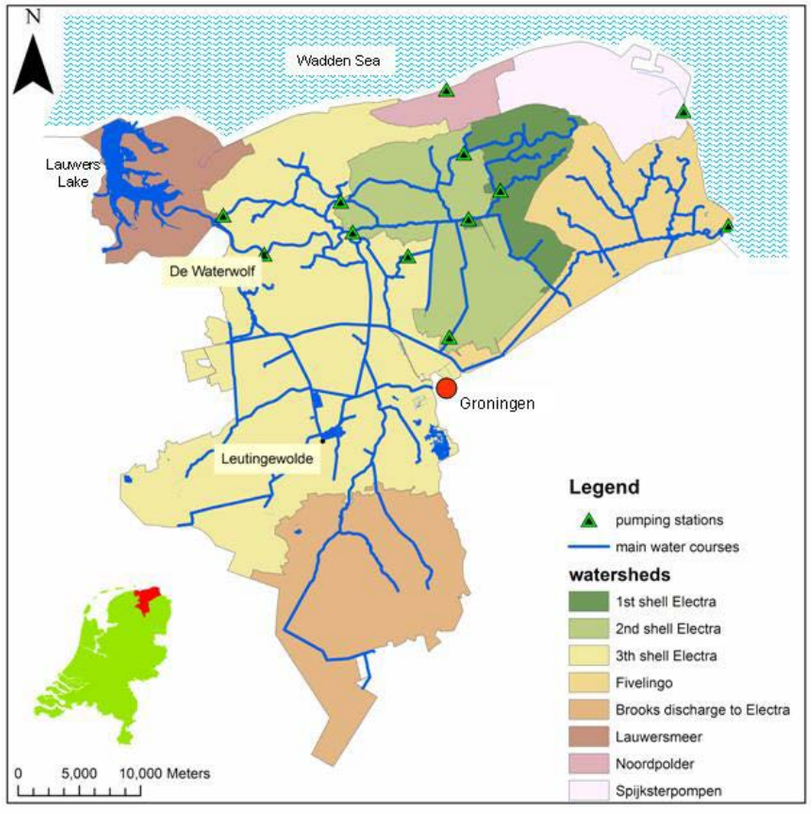
- Changes towards interdisciplinarity, participation and learning

Methodological approach

- Following the project since March 2011 until now
- Qualitative case study research
  - Participant observations (project meetings)
  - Interviews
  - Document analysis
  - Historical reconstruction of previous projects (roughly 1998 – now)

Geographical scope

- Regional issue
- North Netherlands
- A ‘Boezem’ system



Regional water policy

- Focusing events in 90ties: flooding ’98

- Respons: HighWater project (1999-2003)
  - Assign regional water barriers
  - Set safety norms
  - Advise policies (dike improvement, water retention), worth € 165-232 million
  - Top down, technocratic process and public controversies (law suits running until now)

- Early 2011 new study announced
  - Improve **safety**
  - Study consequences of **climate change** and **soil subsidence**
  - Propose policy to meet norms in 2025, **maintain safety until 2050**, contribute in 2100
  - Ambition to do it more **participatory**
  - Roughly **same organizational setting**, budget € 875.000 for external studies

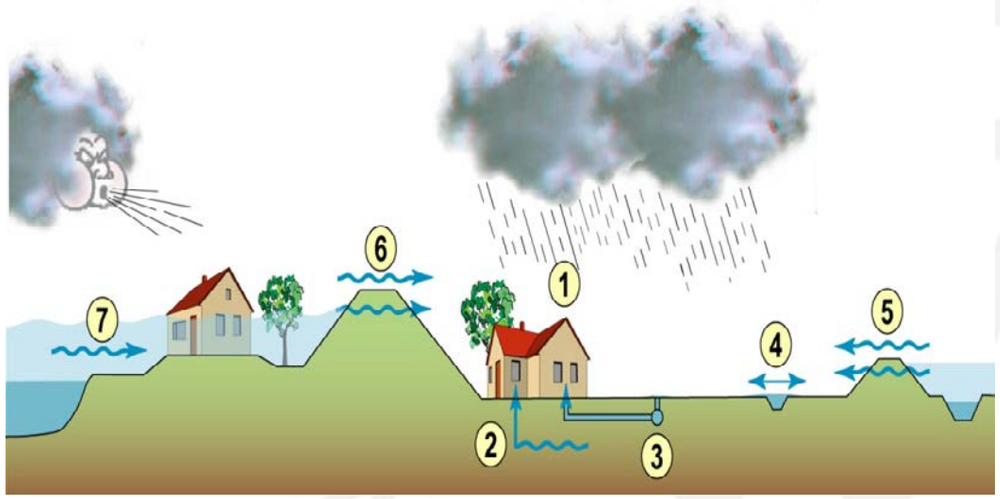
- **What happens?**

Translating climate change: three reductions

1. **Disciplinary reduction** in pre-appraisal phase
   - Dutch Water management is cut up and institutionalized in specializations
   - Embedded from start in a “hydrological quantity” problem framing

   - HOWA → “water system management 2050” → “**dry feet 2050**”

   - Possible climate effects outside framing are considered beyond scope -> other projects
   - Only when relevant for flooding the ‘boezem’
   - So no integral analysis of excess, not shortage of quality



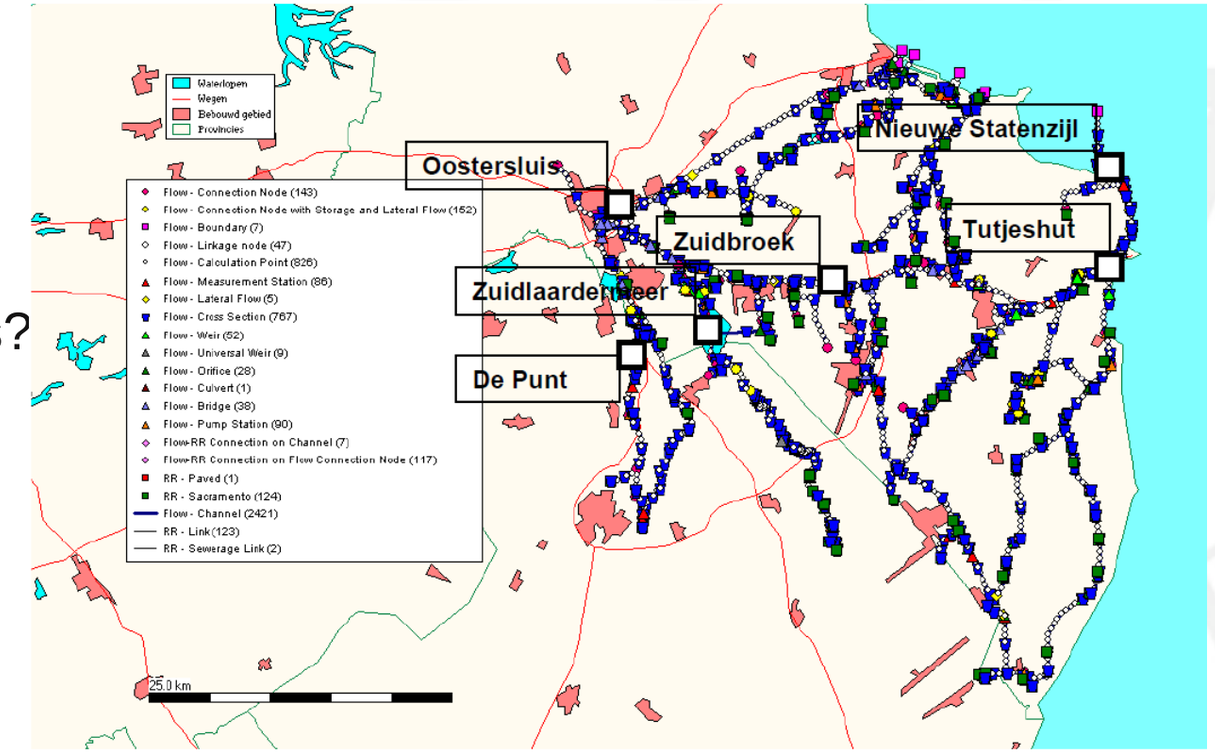
Translating climate change: three reductions

2. Fitting climate change into the **risk assessment** regime
   - The Risk Approach: risk = chance x effect
   - High degree of formalization in national and regional law + series of guidelines, procedures and tools
   - Continuous investment and development of very sophisticated hydrological models
   - Empowers a relative quick, comprehensive and detailed analysis of the boezem

- But…

- Focus on threshold probabilities
- Discussions focus on peak water levels

- How about other possible climate effects?
  - Dike collapse?
  - Increased soil subsidence?



Translating climate change: three reductions

3. Organizing **stakeholder participation** in knowledge production
   - Classical arguments: innovative solutions, acceptance, local knowledge, good government

   - Knowledge participation on different levels → different sub groups
   - Technical and participatory trajectory

   - Clear demarcation between risk assessment and risk management
   - Speaking for nature (problem identification) remains sole domain of hydrologists, risk management procedures aims to consider stakeholder alternatives
   - Participation resembles corporatist patterns, actors can push knowledge production
   - Delimited by other procedures (EIA)

Conclusions

- Complexity of climate change is tamed to fit the pre-existing machinery of risk governance, which both empowers *and* delimits analysis
- Translating climate change is a stepwise process…
- … and has to be integrated and harmonized with other processes in time-frame of a single project

- This science-policy interface is **strongly** institutionalized – in terms of maturity, size, formalization, and harmonization: sophisticated models, procedures, standardized sources, routines, etc

- **Moderate** shifts to organization interdisciplinarity, participation and reflexivity in this science-policy interface

Discussion

- How **specific** is this translation of climate change? Other policy fields?
- **Do we indeed need** shifts in transdisciplinarity, participation and reflexifity on the level of all adaptation projects?
- **How to better integrate** climate change in routinized adaptation projects?
  - Here, we would say e.g.:
  - Not develop new guidelines, but integrate in existing assessment procedures
  - Focus on integrating climate knowledge in standardized objects instead of on level of single projects

Thank you for your attention!

Daan Boezeman, d.boezeman@fm.ru.nl
Martijn Vink, martinus.vink@wur.nl