

Delta Session DS 4: Thames Estuary

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| Chair | Robert Nicholls, University of Southampton, United Kingdom |
| Organised by | Jim Hall, Newcastle University and Tyndall Centre for Climate Change Research, United Kingdom |
| Presentations | Alex Nickson, Greater London Authority, United Kingdom Jason Lowe, Met Office Hadley Centre, United Kingdom Jim Hall, Newcastle University and Tyndall Centre for Climate Change Research, United Kingdom Tim Reeder, Environment Agency, United Kingdom MSc. Marnix de Vriend, Royal Haskoning, the Netherlands Dr. Jelle van Minnen, Netherlands Environmental Assessment Agency, the Netherlands Swenja Surminski, London School of Economics, Association of British Insurers, United Kingdom |

Short summary

The session brought together researchers and policy makers.

- The focus was upon the Thames Estuary 2100 project, which has developed a strategy for protecting London from tidal flood risk during the 21st Century and beyond.
- Many researchers, consultants and government officials have been involved in TE2100.
- The TE2100 strategy promotes a flexible approach to adaptation planning.
- It made use of an extreme “High++” sea level rise scenario.
- The session was also set in the context of London’s Climate Change Adaptation Plan, which is currently in consultation.
- Adaptation is complex and involves many actors. This raises challenges of communication, for which London is a useful test case.
- Development of indicators is needed but also problematic => challenging.

Notes

Introduction by Robert Nicholls, Tyndall Centre for Climate Change Research, University of Southampton

Robert Nicholls introduced the session, pointing to the strategic significance of London and the Thames Estuary. He identified the TE2100 project (with the Delta Commission in the Netherlands) as an exemplary example of adaptation decision making, but noted other climate risks in London.

Alex Nickson, Greater London Authority (GLA)

Title: London’s response to climate change

- London is not well adapted to current climate and is already experiencing the impacts of climate change.
- The GLA is prioritizing adaptation.
- London’s adaptation priorities: Flooding, Water resources, Overheating, Air Quality, Subsidence and heave, Wind storms, Global climate events.
- Flood risk includes tidal, fluvial (from the Thames and tributaries) and local surface water flooding
- A hierarchy of responses is being developed (prevent, prepare, respond, recover)
- An ambitious urban greening program aims to tackle heat, runoff and improve attractiveness and livability of the city.

Questions:

- Cost-effectiveness of the Thames tideway tunnel

Jason Lowe, Met Office Hadley Centre

Title: Sea level rise projections in the Thames Estuary: providing information for decision makers

- Ensemble projections of sea level rise and surges
- AR4 mean sea level projections
- Regional sea level
- The “High++” scenario
- Storm surges

Questions:

- Role of gravitational effects in regional sea level. Uncertainty driven by global average.
- Emissions scenarios: Need to be cautious in terms of saying which scenario we are on at the moment

Jim Hall, Newcastle University and Tyndall Centre for Climate Change Research

Title: Impacts of climate change and sea level rise

- Flood risk in the Thames estuary and the Thames tidal defences
- Analysis of uncertainties in tidal flood risk analysis
- Modeling of land use change and its impacts on flood risk
- The Tyndall Centre’s cities research programme

Tim Reeder, Environment Agency

Title: Flexible planning in the Thames Estuary

- The Thames Estuary 2100 project
- Options considered
- Decision making methods: scenario planning, decision pathways, adaptable options
- Phased implementation: the first 25 years; to 2070; from 2070 (a decision needed by then).
- Plan out for consultation.

Questions:

- How flexible planning influences city development.
- Uncertainties in the failure probability of the storm surge barrier was taken into account. Even with one gate failed, the Thames barrier will provide good protection.

Marnix de Vriend, Royal Haskoning

Title: ‘Getting the Picture’ - Visualisation of impacts of Early Conceptual Options (ECO’s) as applied in TE2100

- Physiography and culture shape policies, leading to differing standards of protection in the UK and the Netherlands
- Reducing probability and consequences
- Role of stakeholders. Trust, cooperation and conflict.
- Visualisation of impacts and options

Dr. Jelle van Minnen, Netherlands Environmental Assessment Agency

Title: Adaptation indicators and their application in monitoring and evaluating adaptation activities

- The need for adaptation indicators
 - Target & monitor adaptation policies, measures & actions
 - Communicate adaptation
 - Compare adaptation achievements (across sectors, regions & countries)
- Development of adaptation indicators: Framework consists of three steps:
 1. indicators for the adaptation policy process (=process)

2. indicators to monitor the implementation of adaptation measures (=process)
 3. Indicators to evaluate the effectiveness of policy actions (=outcome)
- Application of adaptation indicators to biodiversity in the Thames Estuary. Examples of the different steps are:
 - Policy process indicator: Yes/No integration of adaptation policies into sectoral & spatial policies
 - Measure process indicator: Whether protective services – like natural defence against sea level rise- provided by coastal ecosystems are strengthened/supported
 - Effectiveness/outcome indicator: Number of species using the interconnected networks of protected areas

Questions:

- Next to presented framework suitable for planned adaptation, also autonomous adaptation should be considered in defining indicators.
- How to include/consider uncertainties in defining adaptation indicators?

Dr. Swenja Surminski, London School of Economics

Title: The role of the private sector in London's adaptation plans

- Climate risks versus opportunities.
- Mechanisms for involving the private sector in decision making
- The relationship between the insurance industry and government.

Discussion:

- Acceptable risk: contrast between standards-based approach in the Netherlands v cost-benefit based approach in the UK.