Decision Support Tools

Knowledge for Climate

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Knowledge for Climate is a research programme for the development of knowledge and services that makes it possible to climate proof the Netherlands. Governmental organisations (central government, provinces, municipalities and water boards) and businesses actively participate in the research programme. Knowledge for Climate focuses on eight areas, called hotspots: Mainport Schiphol, Haaglanden region, Rotterdam region, Major rivers, South-West Netherlands Delta, Shallow waters and peat meadow areas, Dry rural areas and the Wadden Sea region. An important part of the programme is the Knowledge Transfer. We cooperate with Universities in other parts of the world and stimulate Knowledge transfer within Delta areas through the Delta Alliance.

The programme works with eight consortia doing research on eight themes, one of them being Decision Support Tools.

Decision Support Tools

The programme will develop tools to integrate climate change in national policies. It will contribute to the ongoing planning process in the Netherlands at various levels, such as the Deltaprogramme and current Regional Strategic Visions (Structuurvisies).

Goal

The programme aims at improving tools for design and evaluation of adaptation strategies with a special focus on spatial planning and cross-cutting issues. The programme elaborates on results of previous research (NOP, BSIK, EU programmes) and extends the analysis in order to make further progress not only in the scientific domain but also in order to apply the results in the real world of the case studies and hotspots of KvK, in close consultation and collaboration with stakeholders.

Research questions

The programme focuses on three core elements

- Tools for assessment of the adaptation challenge, based on scenarios for climate change, potential impacts, and economic development.
- Tools for development and visualization of adaptation strategies in general and in particular related to the hotspots and case study areas of KvK.
- Evaluation and monitoring tools for assessing adaptation strategies in terms of various indicators such as effectiveness in terms of avoided damage, institutional integration, costs and benefits; side effects; equity issues; efficiency at various temporal and spatial scales.

The Work packages

WP1

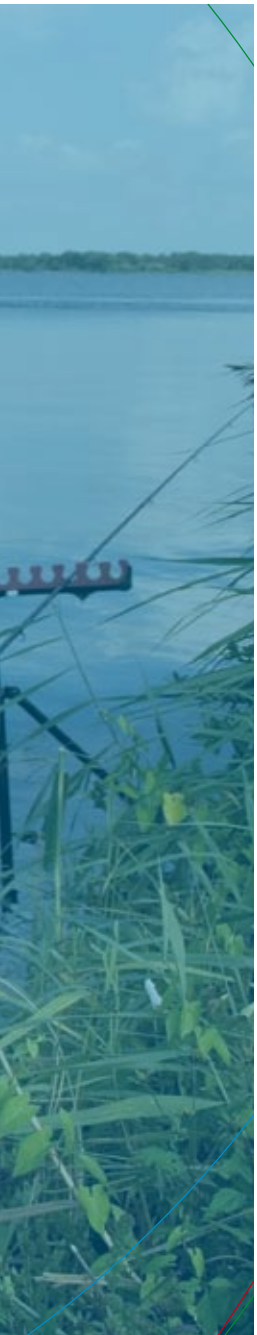
Work package 1 will improve the spatial modeling and the socio-economic scenarios as such that they can be better used at the regional level. This makes it possible to analyse the adaptation options at the local and regional level in the context of well defined socio-economic scenarios. This is essential for the applications of adaptation options in the hotspots and case study areas.

WP2

The work package offers improved assessment of flood risks and the disturbing effects of floods on regions, enabling policy makers to anticipate on increases in flood risk associated with climate change. Notably post-flood effects on real estate, recovery assessment and insurance issues are vital policy issues for spatial planning, insurance and public finance.

WP3

WP3 makes results from all work packages available for use in interactive design and evaluation of adaptation strategies. Starting point is quantitative spatial information from the 'Climate effect atlas'. Other inputs are the results from spatial and economic modeling (WP1 and 2), damage estimates (WP2) and risk perception (WP 5). Results from spatial valuation (WP 6) and Visualization (WP4) are fed back into the design process to improve the adaptation strategies.



WP4

This WP will provide visualization tools and guidelines, based on desk top study and as results from case studies via the consultation with stakeholders and policymakers. The visualization tools will assist in communication and to obtain the best solutions (mitigation and adaptation), particularly for spatial aspects and cross sectoral issues, e.g. nature conservation, agriculture, tourism and water management and their spatial implications, with explicit linkages to themes 1-5 of Knowledge for climate. We will also investigate the use of high quality dynamic 3D visualization of large-scale geodata, and an advanced numerical flooding simulation. We will integrate the simulation and visualization in a single interactive system that can be used for development and evaluation of climate adaptation strategies.

WP5

WP5 focuses on improving and climate proofing the freshwater system in the Netherlands under climate change. It will allow for an integrated analysis that can deal with the opportunities and the needs of the various regions in the Netherlands and will combine a hydrological and economic approach.

WP6

This work package focuses on cost benefit analysis and other evaluation tools in the context of the optimal timing of policy measures. Results can be directly applied in the assessment of adaptation options and in the temporal and spatial planning of adaptation. This will be based on a profound assessment of the various options and considering the perspectives of stakeholders and policymakers. The work package will make explicit linkages with the consortia 1 to 5 of Knowledge for Climate and to the hotspot Haaglanden.

WP7

WP7 anticipates the need for systematic evaluation of adaptation options while designing concrete adaptation policies and for assessing progress in strategies that are already carried out. Results of this WP will be applied in monitoring adaptation in the Netherlands based on an appropriate strategy and on well-designed and selected indicators. These indicators help evaluate achievement of both outcome-oriented (to what extent is vulnerability reduced?) and process-oriented adaptation targets (evaluating the step-by-step progress of the measures).

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decisionsupporttools

Stakeholders

- Several provinces and municipalities
- Interdepartmental Adaptation, Space and Climate programme (ARK), led by the Ministry of Housing, Spatial Planning and Environment (VROM)
- Delta Programme
- Stakeholders at the regional level
- Insurance companies, such as Aon Re

Working with Hotspots

- Hotspot Dry rural areas
- Hotspot Major rivers
- Hotspot Haaglanden region
- Hotspot Shallow waters and peat meadow areas

Consortiumpartners

ALTERRA WAGENINGEN UR

Netherlands Environmental Assessment Agency

VU University Amsterdam

TNO

WAGENINGEN UR
For quality of life

TU Delft

Deltares
Enabling Delta Life

To develop the scientific and applied knowledge required for climate-proofing the Netherlands and to create a sustainable knowledge infrastructure for managing climate change

Consortia Knowledge for Climate

- Climate Proof Flood Risk Management
- Climate Proof Fresh Water Supply
- Climate Adaptation for Rural Areas
- Climate Proof Cities
- Infrastructure and Networks
- High-quality Climate Projections
- Governance of Adaptation
- Decision Support Tools

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Knowledge for Climate

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