Kennis voor Klimaat
Knowledge for Climate

Hotspot major Rivers

Midterm review

Content

- Hotspot major Rivers & Delta programme
- Problem analysis
- Adaptation strategies
- Contribution of KfC projects
- Conclusions and outlook
- Discussion

Hotspot Major Rivers

Delta programme

Rivers
Sub programme

Hotspot Major Rivers and DP Rivers sub-programme

- Same area
- Same goal: adaptation strategies
- Conclusion: co-operation needed

- Benefits KfC:
  - Question-led research=>dissemination
  - Administrative support
  - Co-financing
- Benefits DP:
  - Tailored research, directly available

Organisation Hotspot Major Rivers

- Knowledge manager DP Rivers is co-hotspotleader
- Researchers of theme 1 (water safety) and theme 7 (Governance) participate in DP Rivers
- 4 specific projects in phase 1:
  - Assessment of upstream flood risk in the Rhine Basin
  - Adaptation to Meuse flood risk
  - Delta dykes
  - Risk perception

Situation at midterm review

- Problem analysis finished
- Potential strategies finished (report: September 2012).
  - Remarks:
    - Only water domain
    - Only Rivers sub-programme
- Next steps:
  - Promising adaptation strategies (report: September 2013).
  - Preferred adaptation strategies (report: September 2014).
  - Remarks:
    - Integral, spatial strategies; regional development
    - Together with Rijn-Maas-Delta and Lake Ijsselmeer sub-programmes

Content

- Hotspot major Rivers & Delta programme
- Problem analysis
- Adaptation strategies
- Contribution of KfC projects
- Conclusions and outlook
- Discussion

Problem analysis

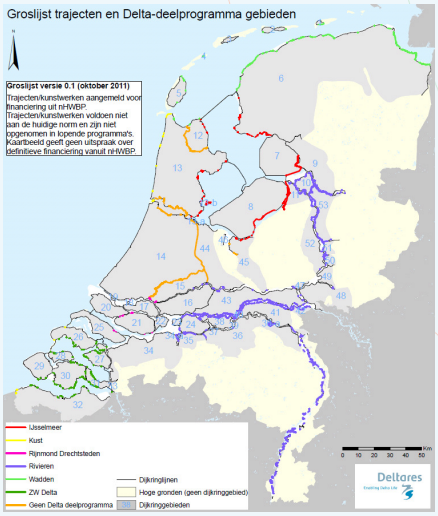
Short term tasks:

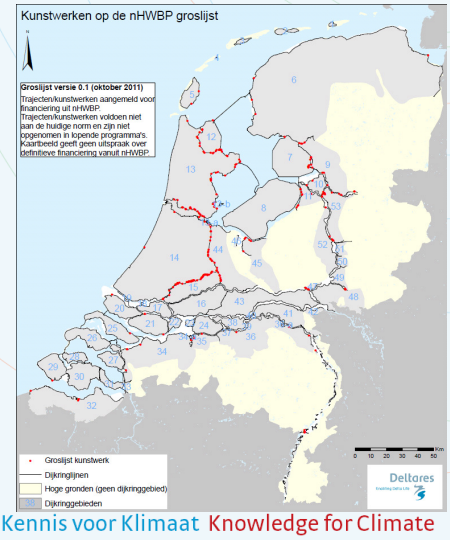
- Room for the River and Maaswerken programme
- Meeting the present standards (Flood protection programme/HWBP)

Long term tasks

- New technological information (e.g. piping; Flood Risks NL/VNK)
- Climate change
- Spatial development (incl. population)
- New information on Flood Risks (Water safety 21st century/WV21)

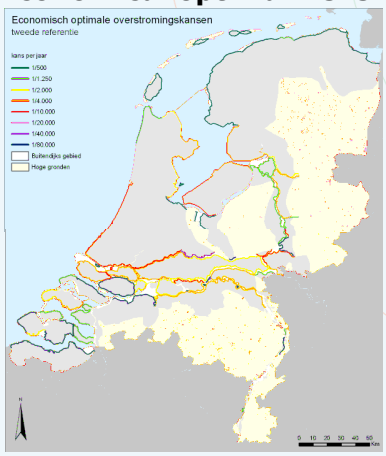
'Meeting the present standards'



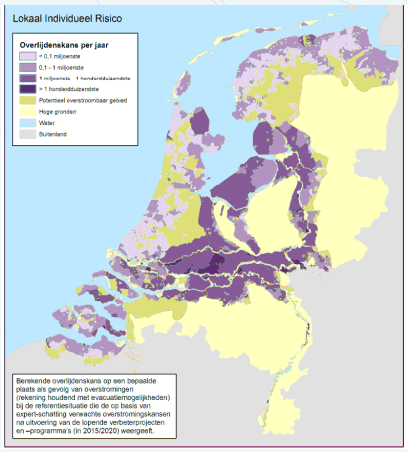


New information on Flood Risks (Water safety 21st century/WV21)

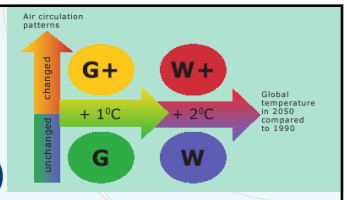
Economical optimal risks



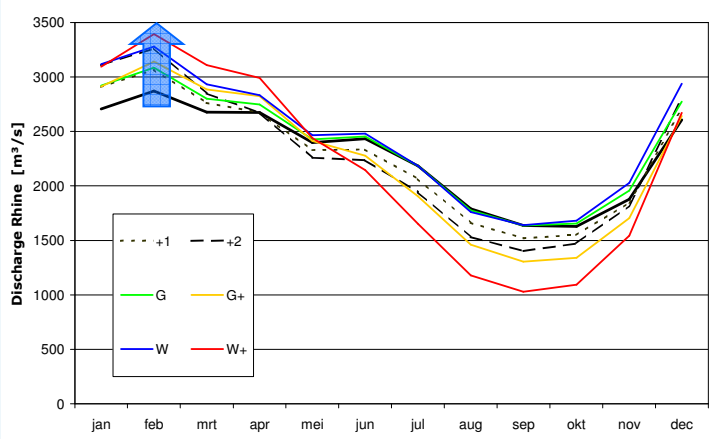
Individual risks



Climate change



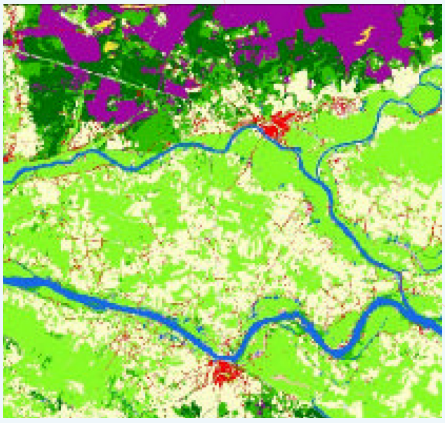
Rhine discharges (2050)



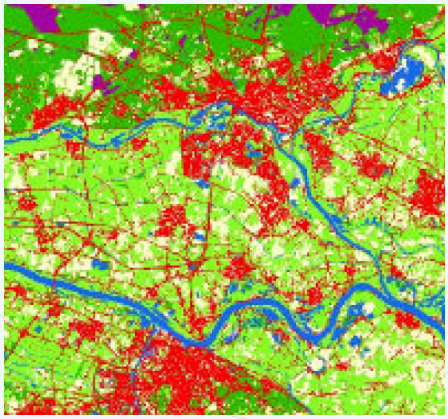
Spatial development

Arnhem-Nijmegen area:

1900



2000



Content

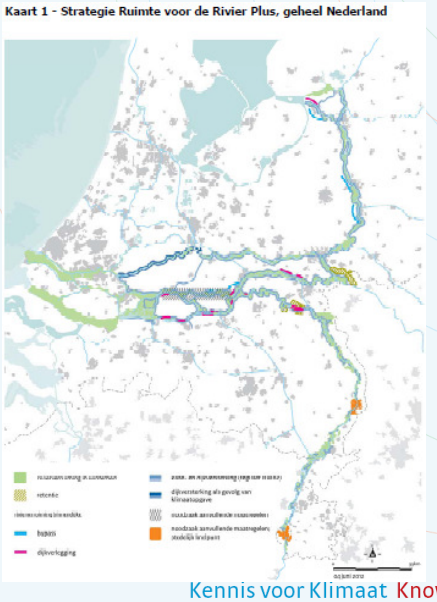
- Hotspot major Rivers & Delta programme
- Problem analysis
- Adaptation strategies
- Contribution of KfC projects
- Conclusions and outlook
- Discussion

Potential adaptation strategies

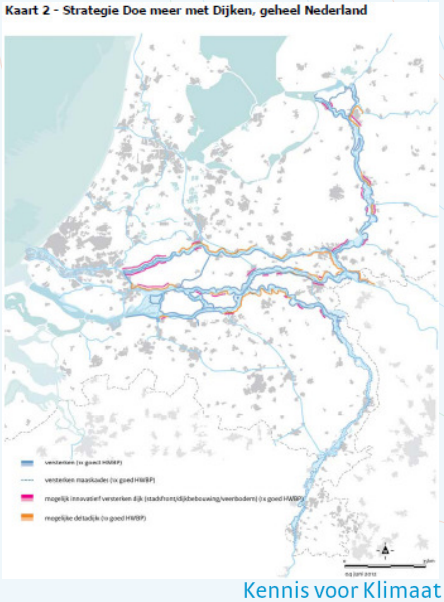
- Reference strategy
- Room for the River Plus
- More with Dikes
- System interventions
- Multi-layer Flood protection

Reference strategy

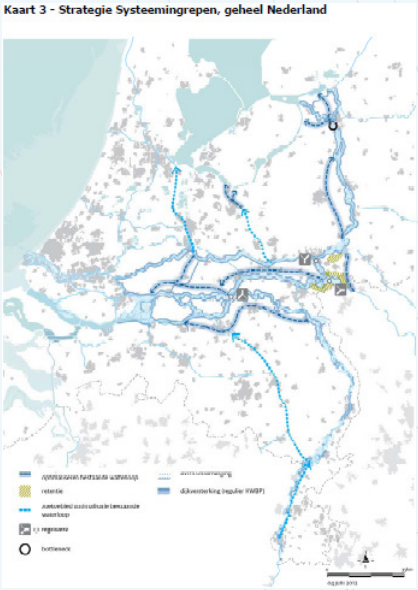
Room for the river plus



More with dikes



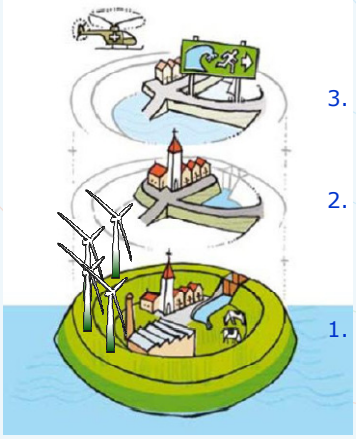
System interventions



Multi layer safety

Multi layer safety includes:

- Primary flood defences
- Delta dikes
- Multi functionality



3. Crisis control

2. Spatial planning

1. Prevention

Content

- Hotspot major Rivers
- Delta programme
- Problem analysis
- Adaptation strategies
- Contribution of KfC projects
- Conclusions and outlook
- Discussion

Contribution of KfC projects

- KfC projects phase 1:
  - Assessment of upstream flood risk in the Rhine Basin
  - Adaptation to Meuse flood risk
  - Delta dykes
  - Risk perception

Contribution of KfC projects

- Theme 1: Water safety
  - Robustness of the Ijssel system at high discharges
- Theme 7: Governance
  - Multilevel Governance
  - Participant action research
- Theme 6: Climate projections
  - Future weather
  - Coincidence medium high river discharges and wind set-up
- Theme 8: Decision support tools
  - SCBA's
  - Map tables

Content

- Hotspot major Rivers
- Delta programme
- Problem analysis
- Adaptation strategies
- Contribution of KfC projects
- Conclusions and outlook
- Discussion

Conclusions and Outlook

- Potential adaptation strategies for the rivers area are developped by Delta programme with important contribution of KfC
- Benefits for Delta programme:
  - Up-to-date scientific knowledge
- Benefits KfC:
  - Research directly creates added value for society

Conclusions and Outlook

- Adaptation strategies only focus on water domain
- Next steps:
  - Develop integral, spatial strategies, together with municipalities, provinces, stakeholders, inhabitants
  - Develop strategies for the Netherlands' part of Rhine and Meuse river basins
- 2013: Promising adaptation strategies
- 2014: preferential adaptation strategies

Contribution of KfC projects

- Theme 1 and 6: Physical aspects
  - Water safety and climate change scenario's
- Theme 7 and 8: Governance and decision support
  - Multilevel Governance
  - Area processes and decision processes
  - Tools

Content

- Hotspot major Rivers
- Delta programme
- Problem analysis
- Adaptation strategies
- Contribution of KfC projects
- Conclusions and outlook
- Questions and Discussion