Deltaprogramme
Spatial Adaptation

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Deltaprogramme

- After the disastrous flood of 1953, the government took measures to better protect the country against flooding.
- **Increased rainfall, rising sea levels, higher temperatures**
- greater impact: population has increased
- This is why the Netherlands needs to look far ahead and draw up sound plans for the future. These plans are presented in the annual Delta Programme.
Programme Spatial Climate Adaptation

Problem

• Main effects of climate change in the Netherlands:
  – Sea level rise
  – Peak discharge rivers (rainfall winter)
  – Extreme rainfall intensity (summer)
  – Drought
  – Heat

• Increased vulnerability of living environment

• High risk of damage and casualties.

• Knowledge and experience insufficient used in spatial planning decisions
Scope Deltaplan

- Waterlogging
- Heat
- Flooding
- Drought

Delta Programme – Spatial Climate Adaptation
Analysis - Ambition - Action

Analysis
Analysis of vulnerabilities and opportunities

Ambition
Formulating strategies

Action
Working to make the living environment climate-proof and water-resilient

Time

Setting down ambitions in dialogue

Learning
Drawing up implementation agenda

Methodology of the long-term and systematic address of water logging, heat stress, drought, and the impact of coastal and urban flooding
7 ambitions
Water-resilient and climate-proof spatial planning in the Netherlands

- Drawing up implementation agenda
- Mapping out vulnerabilities
- Conducting risk dialogue and drawing up strategy
- Capitalising on opportunities for linkage
- Regulating and embedding
- Encouraging and facilitating
- Responding to calamities
Ambition 1: Mapping out vulnerabilities

• Before 2019 every municipality has performed a stress test
Critical Vital and vulnerable
Ambition 4: Capitalising on opportunities for linkage

- Linking the water management challenges to existing agenda’s for development and maintenance.
Ambition 5: Promoting and Facilitating

• Pursue Incentive Programme
• Platform Climateproof Together
• Kennisportal www.ruimtelijkeadaptatie.nl
Incentive programme 2015-2017

• Knowledge sharing
  – Expert meetings
  – Regional meetings
  – Knowledge portal
  – Climate Adaptation Atlas

• Learning by doing:
  – Impact projects
  – Living Labs
  – City Deal
  – Pilot stress tests

• Education
Knowledge sharing

• Local governments play a crucial role in adaptation
• Climate science and data does not reach local stakeholders
• There is a clear need for methods that bridge the gap between the climate science community and the spatial planning community
Knowledge sharing

- The expected exploding volume of climate data (Overpeck et al. 2011)
- Climate scenario’s
Climate Effect Atlas (heat stress)
City Deal climate adaptation
Learning by doing

- Region Land van Cuijk
Ambition 6: Regulating and embedding

- Integral part of environmental visions
- Secure SA in implementation practice (municipalities and water boards) and policies (provinces)
- Explore (additional) legislation and regulations
- Before 2020 explore possibilities through performance guidelines and predicates.
- Appeal individuals on their own responsibility
Ambition 7: Responding to calamities

• Damage and nuisance will persist
• For calamity, during and curative
Dordrecht

Multi layer safety

Layer 1: Prevention

Layer 2: Spatial planning

Layer 3: Disaster management
Boulevard Scheveningen
High tide channel
Lent - Nijmegen
Water square Rotterdam
Betondorp, Amsterdam