



Deltacommissaris

The Delta Programme

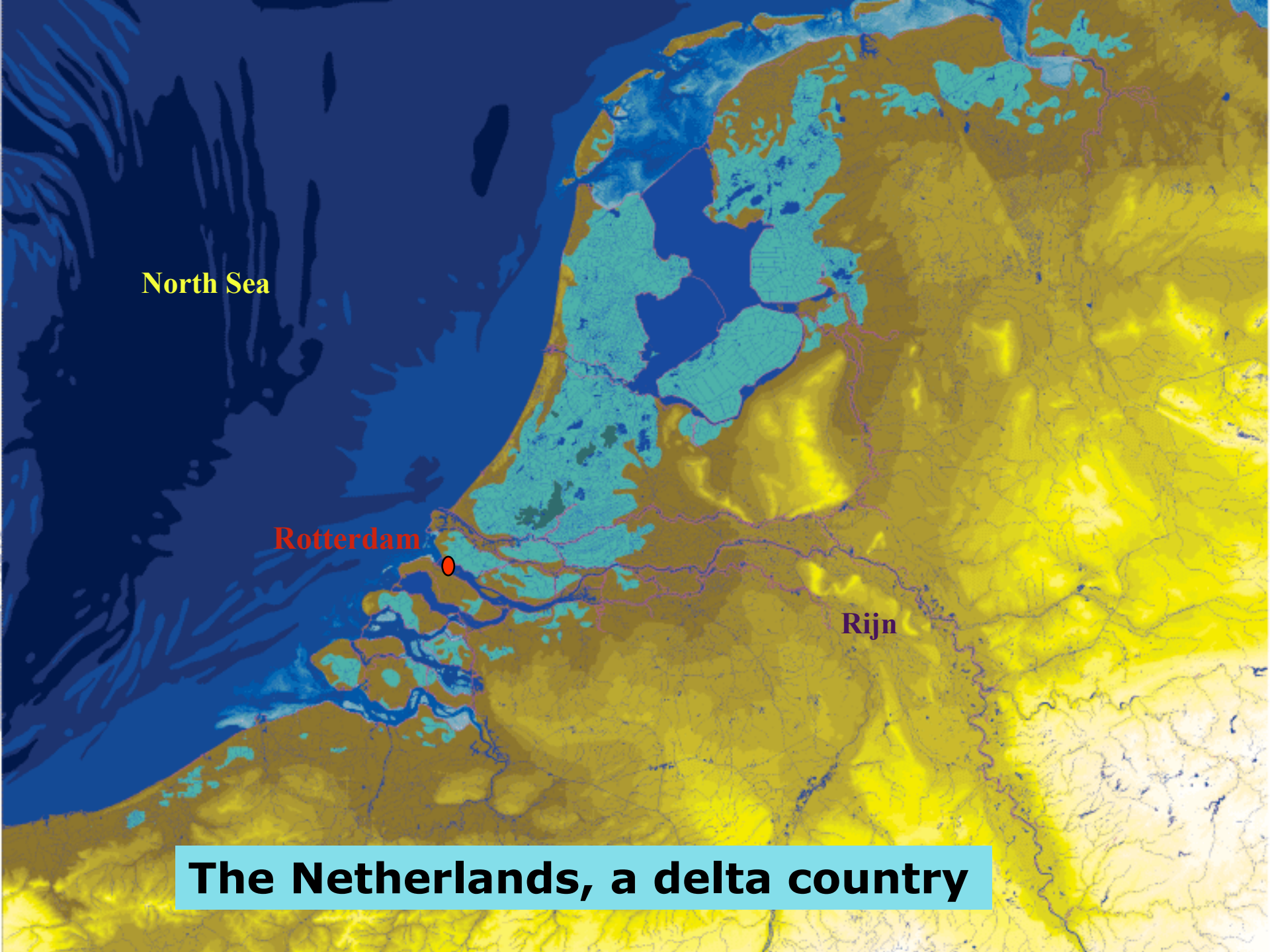
Keeping the Netherlands Climate Proof



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Programme Manager Deltaprogramme Spatial
Adaptation

Ministry of Infrastructure and Watermanagement



North Sea

Rotterdam

Rijn

The Netherlands, a delta country



Water on Dutch political agenda

Century 20th:

- 1916 floods (North)
- 1953 flood disaster (South-West)

Structural solutions with dams and barriers
Afsluitdijk dam to create IJsselmeer, Delta Works

- 1993/1995 high water levels (rivers)

Also spatial solutions

Room for the River/Meuse Projects

History of flood protection in NL





Delta Commission 2008

*The threat is not acute,
but measures to improve
flood risk management and
fresh water supply
should be prepared urgently!*





Delta Programme

- 2010 Delta Commissioner
- 2011 Delta Act
- Delta Fund
- New solutions: Room for the River
- Building with Nature



The 2011 Delta Programme

Working on the delta

Investing in a safe and attractive Netherlands,
now and in the future



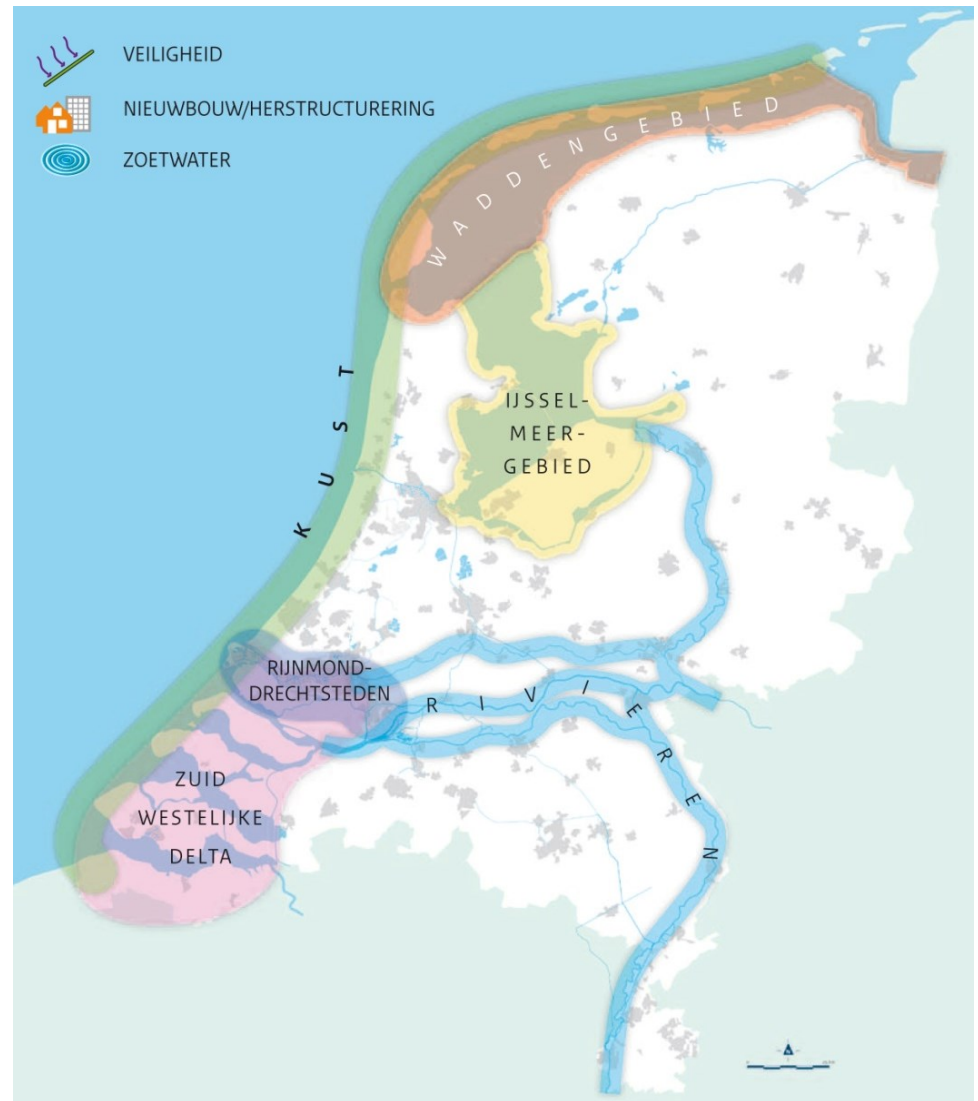


Delta programme

3 national programmes:

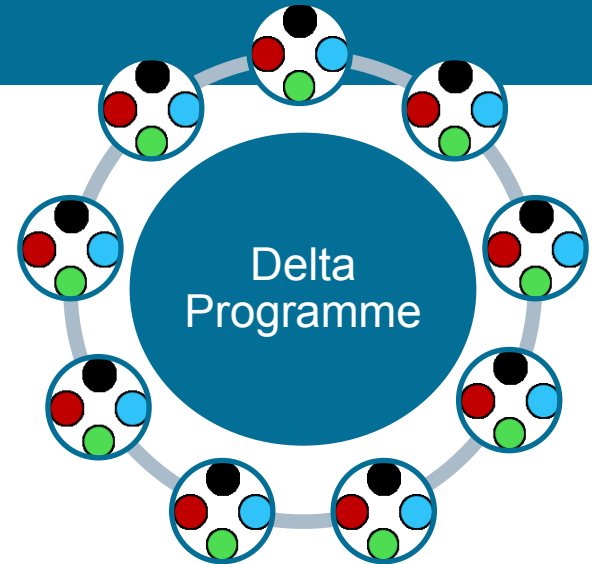
- Safety: risk based standards (cost benefit analysis)
- Fresh water strategy
- Spatial adaptation

6 regional programmes





Multilevel Governance & Institutions

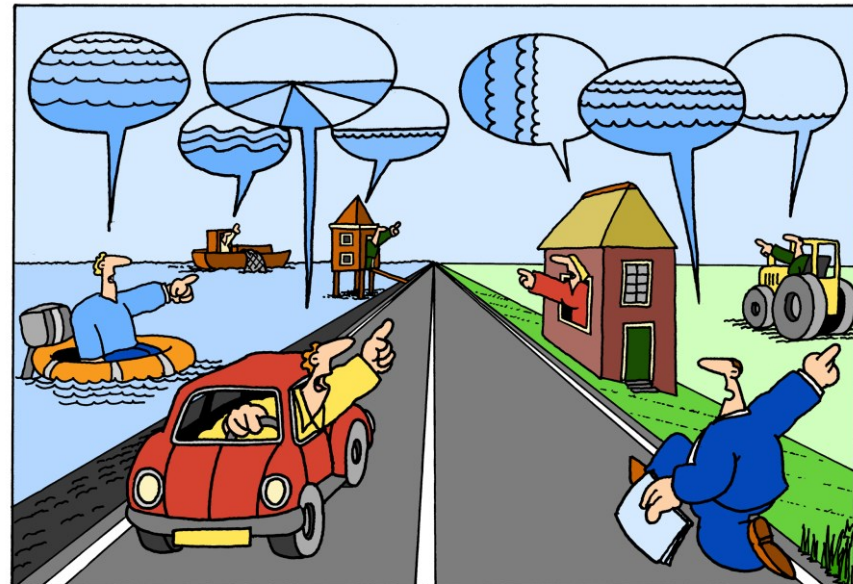


- **Ministry** – Policy guidelines, Rijkswaterstaat - national watersystem
- Provinces – spatial planning, supervise municipalities and waterboards
- **Municipalities** – spatial planning, sewage & drainage system
- **Regional water authorities** – regional watersystem, waterquality, waterquantity



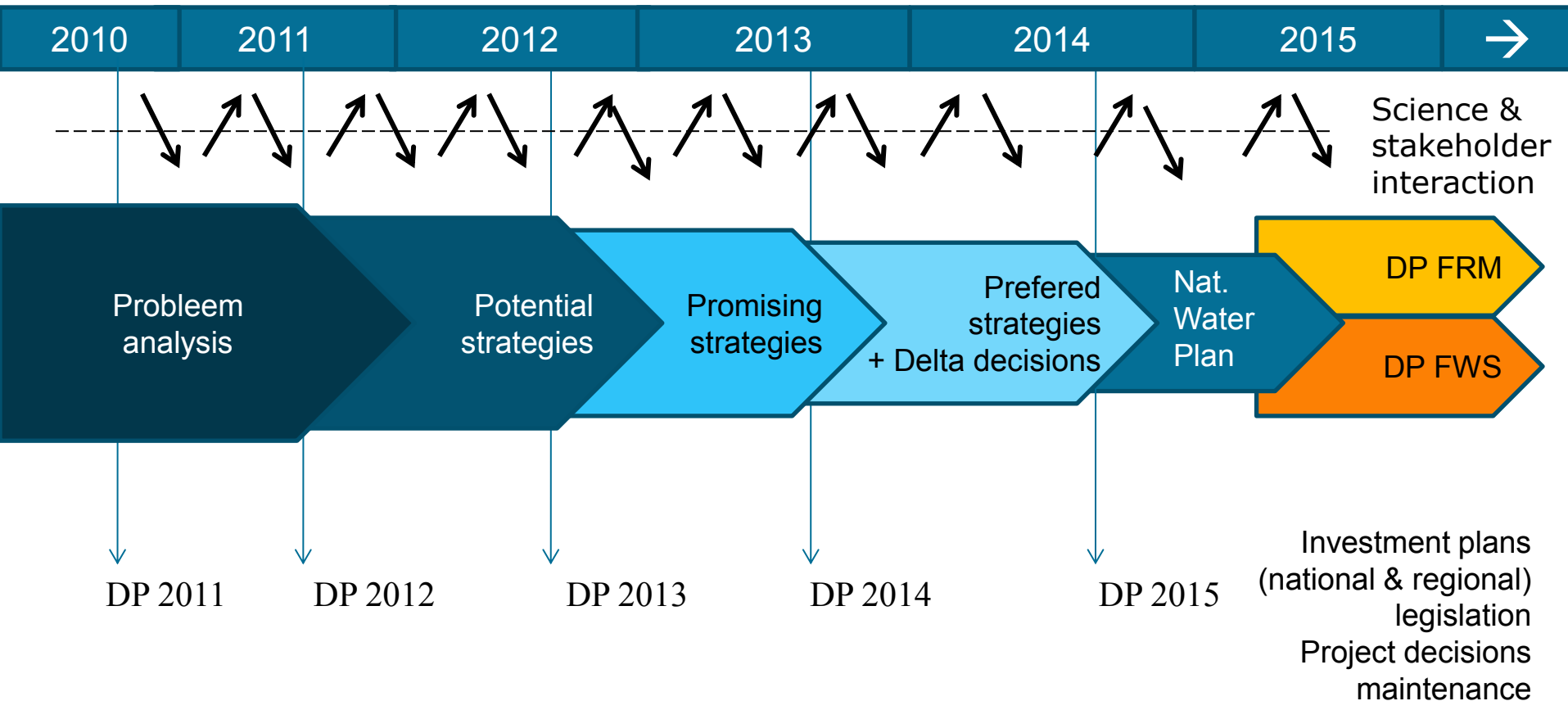
Regional approach

- Regional Steering Committees (regional water authorities, provinces, municipalities, central government)
- Involve local characteristics, knowledge, ideas, stakeholders
- Combine with local agenda's
- **Supervised by Delta Commissioner**
→ Progress, uniformity, coherence





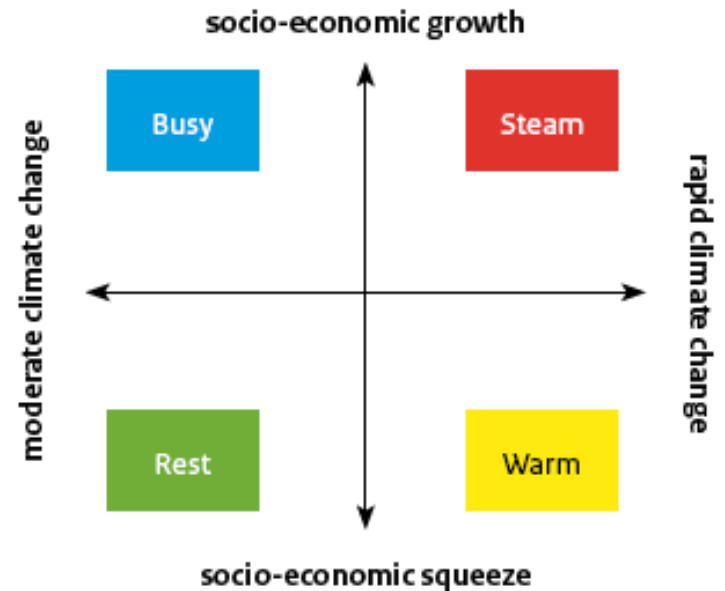
Structured decision making





Uncertain future → adaptive strategies

- Climate change
 - sea level rise,
 - discharge,
 - rainfall,
 - Evaporation
- Socio-economic developments
 - population,
 - economy,
 - land use/urban development
 - fresh water demand

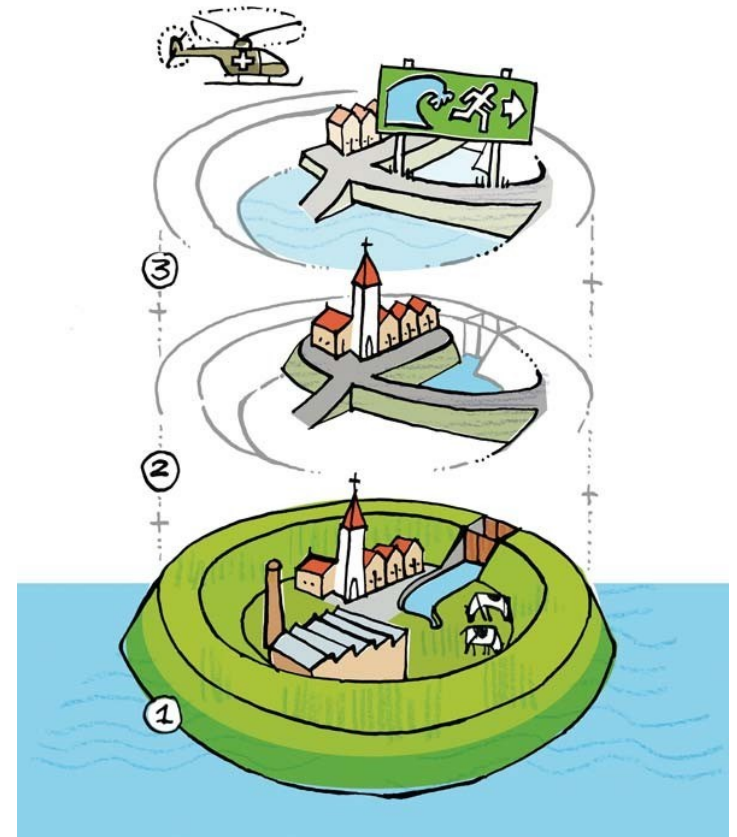


- Risk based
- Adaptive strategies
- Multifunctional measures



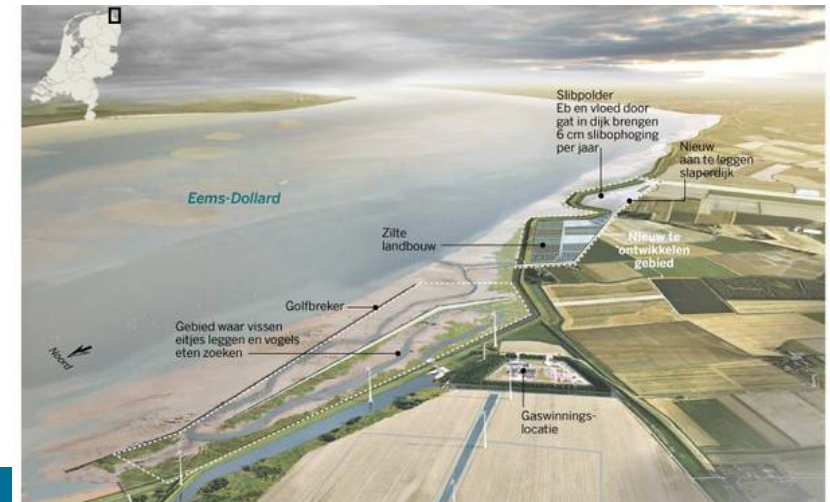
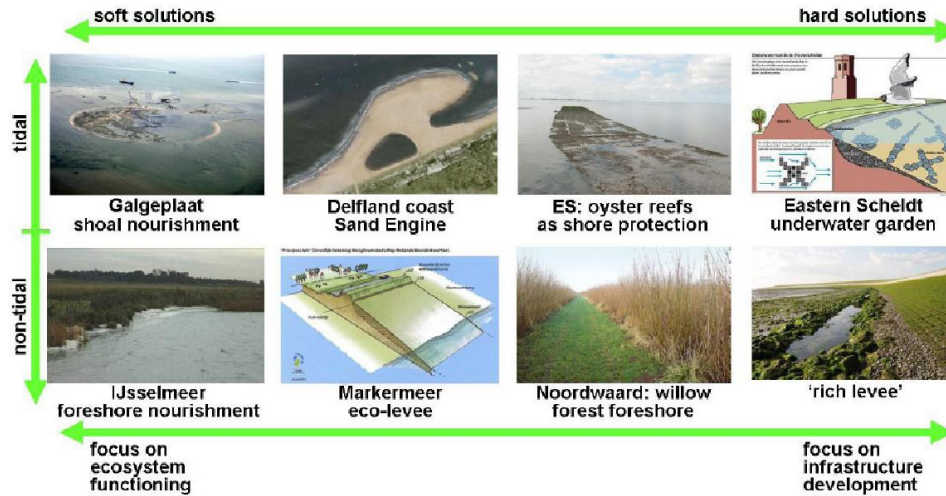
Policy: Multi layer safety approach floods

- Crisis management (3)
Reducing casualties of a flood
- Sustainable spatial planning (2)
Limiting the effects of flooding
- Prevention (1)
*Limit the probability of a flood disaster
(dikes, dunes and barriers)*



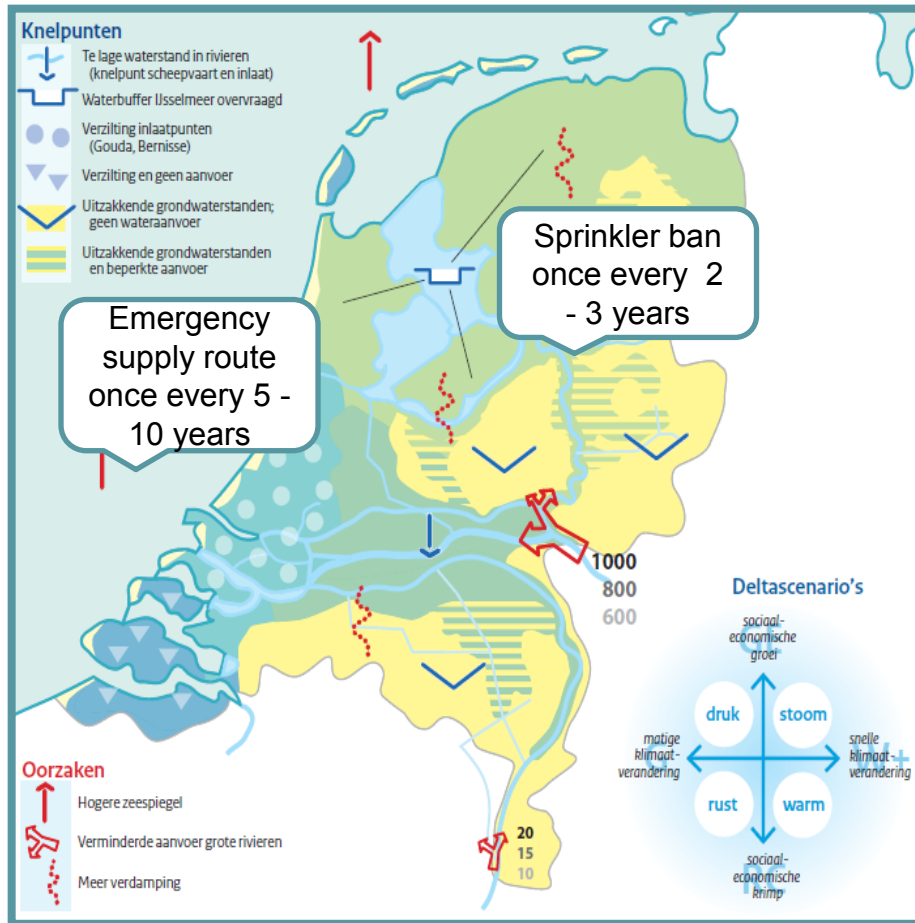


Flexible measures? Building with Nature!





Fresh water supply: current and future bottlenecks



Climate change reduces water **availability**
Socio- economic development changes water **demand**

Pressure points:

- Salinisation of fresh water inlets;
- Impossible to supply water from the main water system;
- Water demand exceeds the water buffer;
- Insufficient amount of water in rivers and canals



Delta Decision Freshwater Supply

- Freshwater is a shared responsibility; coherent measures will be taken in the main- and regional water system and by consumers.
- The freshwater strategy is adaptive to climate change

Short term:

- no-regret measures;
- elaborate the concept of “water availability”

Medium- and long term:

- enhancing freshwater buffers and supply routes
- Intensifying economic and effective use of freshwater
- Accepting water shortages more often
- Defining supply levels for the main water system

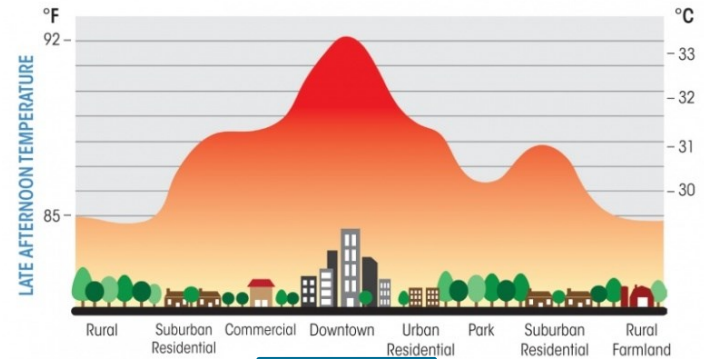




Deltaplan spatial adaptation



Waterlogging



Heat



Flooding



Drought



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



Responding
to calamities



Encouraging
and facilitating



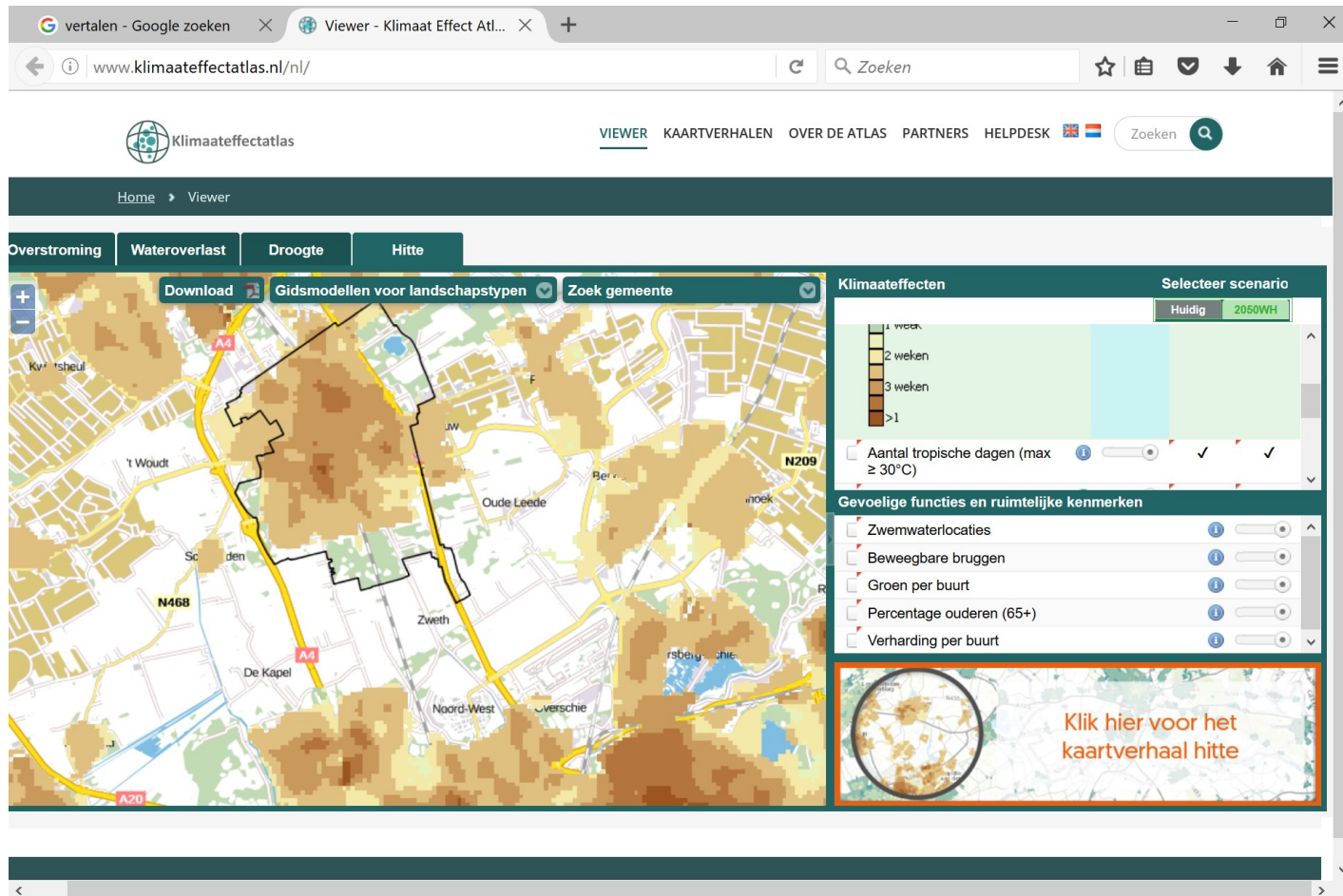
Ambition 1: Mapping out vulnerabilities

- **Before 2020 every municipality has performed a stresstest**

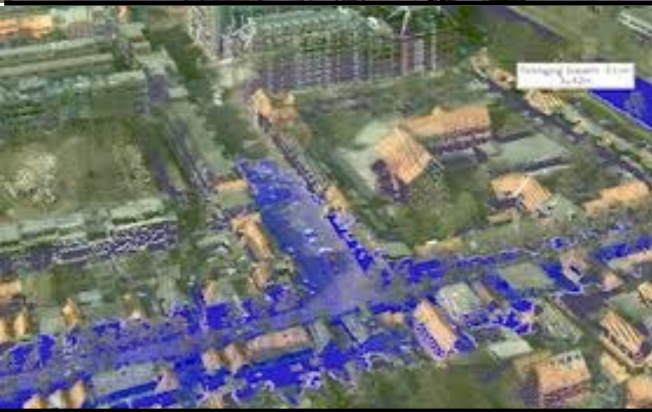
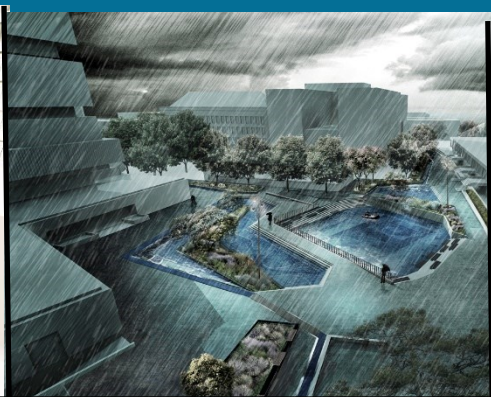




Climate Effect Atlas (heat stress)



Adapting in unurban areas



Design of the Green City



Global Commission on Adaptation

Supported by:



Global Leaders Call for Urgent Acceleration of Climate Adaptation Solutions

10.16.18





Convening countries

- Argentina
- Bangladesh
- Canada
- China
- Costa Rica
- Denmark
- Ethiopia
- Germany
- Grenada
- India
- Indonesia
- Marshall Islands
- Mexico
- Netherlands
- Senegal
- South Africa
- United Kingdom



Thank you for your attention

For more information:

www.deltacommissaris.nl/english