

Watermanagement in the NL

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Chair in PA Delft & Leide

'A Different Approach to Water'

> Watermanagement policy in the 21st century: an helicopter view

Water in the Netherlands has many faces

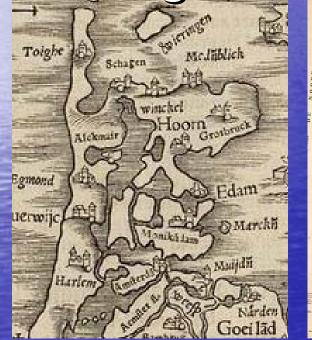


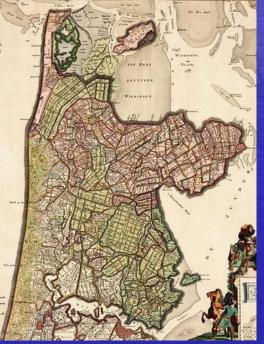






Long history of water management in the Netherlands







circa 1580

circa 1700

2000

The Dutch have always been



A new approach is needed.....



New policy principles as of 2000 National Agreement Water (NBW21)

Mission:

An expert on water, and a revolutionary approach to connections



 Water management: Clean water in the rivers, lakes and the sea. The use of water to prevent falling watertables, as well as protection against flooding.

Major concerns: Climate change Soil intrusion

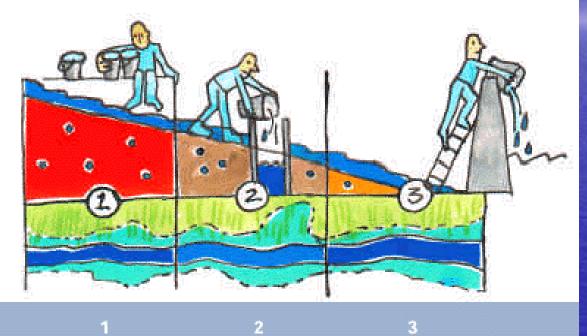


- 1. The sea level is rising
- 2. The risk of floods increases

- 3. The sea level rises, river discharges increase and the soil is subsiding
- 4. Changes in precipitation: more rainfall in winter, longer periods of drought in summer



Retaining-Storing-Draining



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Mutual interest: Shared problems, cooperation on solutions





Major stakeholders

- National government
- Provinces
- Waterboards
- Municipalities
- Citizens, private enterprises, non governmental organisations (NGO's)

Organisation presentation

Background & Context
 Challenges:

- 1. Safety and communication
- 2. Adaptation
- 3. Urbanisation
- 4. Innovation

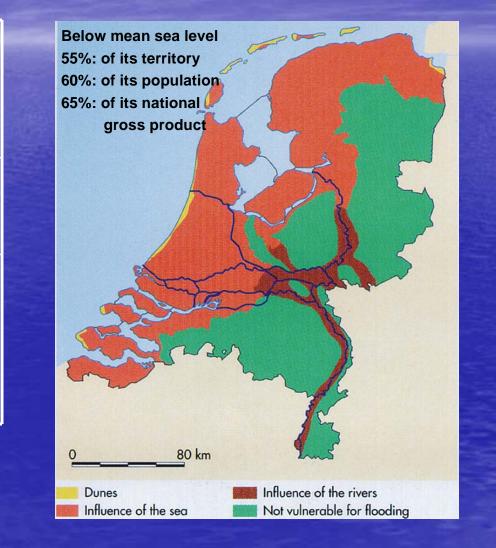
3. Organisation Dutch Watermanagement System
4. A multi-level watergovernance system in the making or in transition?

- 5. Discussion and reflection:
 - 1. Questions for international comparative training and reserarch

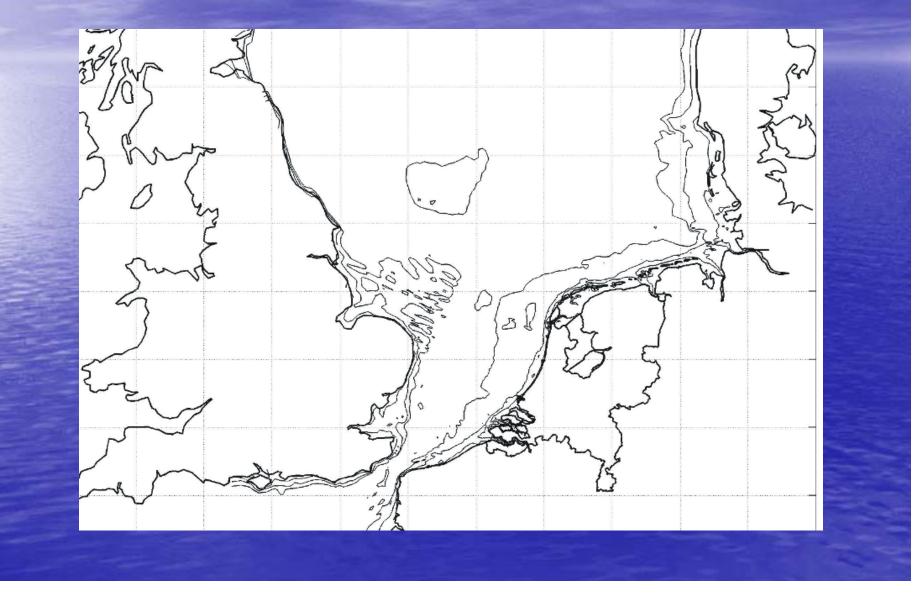
2. Contextual Backround

The Netherlands and the Sea

Surfac e area	33,000 sq. Km.~ Maryland + Delaware
Inhabi -tants	16 Million ~ Florida
Gross Nation al Produ ct	430,000 M€ ~ New York (State) > Australia



The Netherlands and the Sea

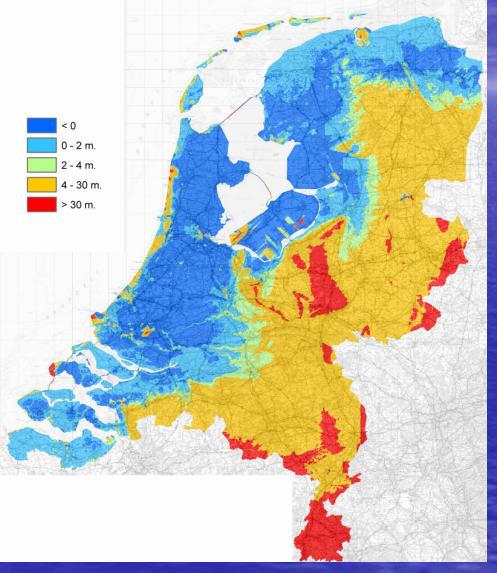


The Netherlands and the Sea



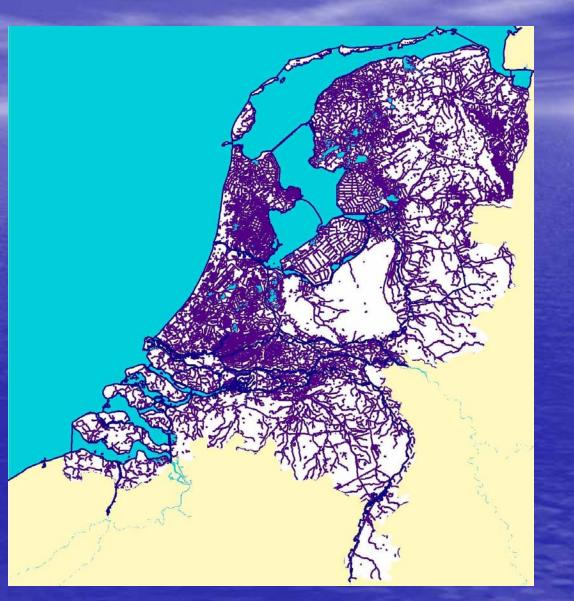
Main characteristics water system (1) Without

human intervention, about 60% of the Netherlands would be flooded by the sea



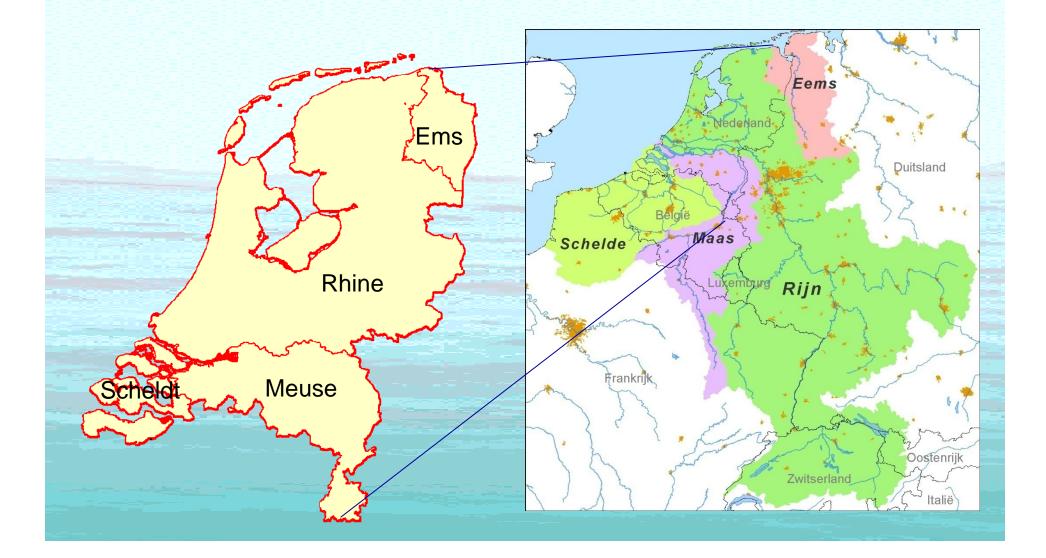
Main characteristics water system (3)

The 'Dutch challenges' require a very finemeshed water system, highly modified and regulated.





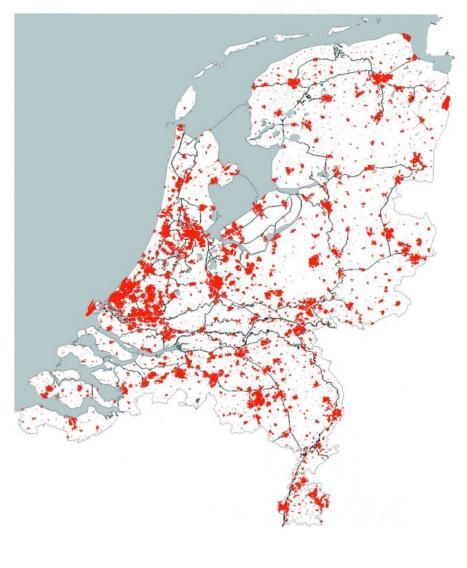
Delta of 4 international river basins



Metropolis?

(Polycentric) Spatial Urban development

2010



Dijkring 14: Central Holland



- Dijkrings have waterssystem related borders
- Amsterdam, Rotterdam, Den Haag, Schiphol
- 3 provinces, 5 waterschappen,
 6 security -regions
- Highways: A4, A16, A9, A10, A12
- Safety level: 1/10.000 year against flooding by the sea or rivers

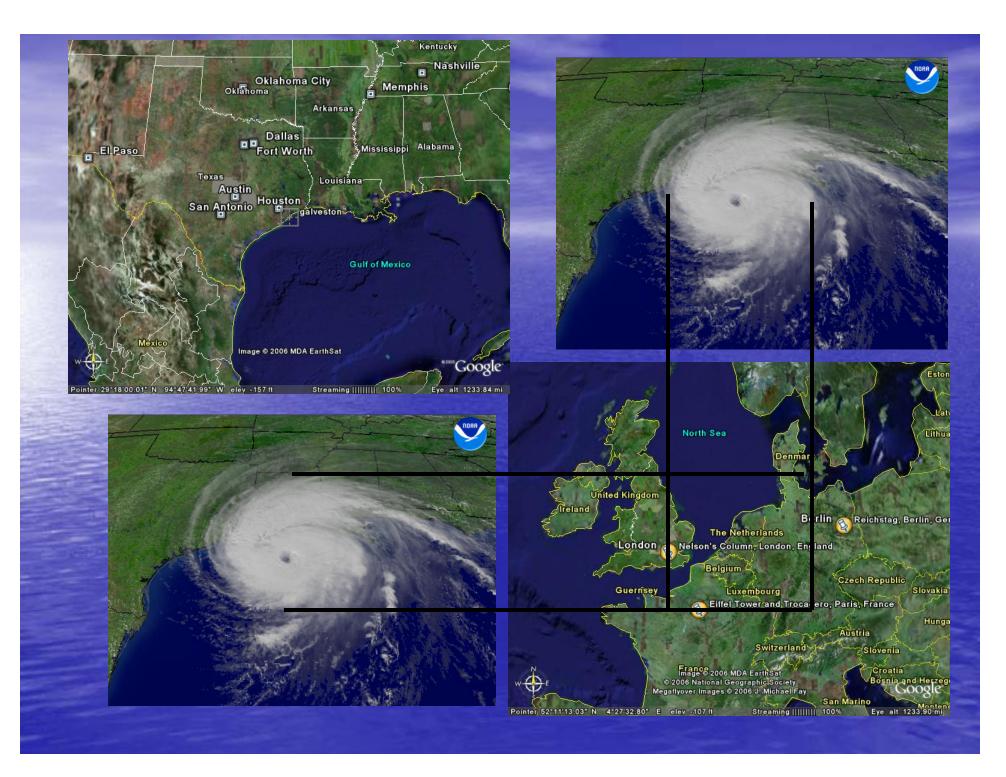
Dijkring 14: Centraal Holland



KATRINA & FLOOD SAFETY IN THE NETHERLANDS

" What if it would happen here? "

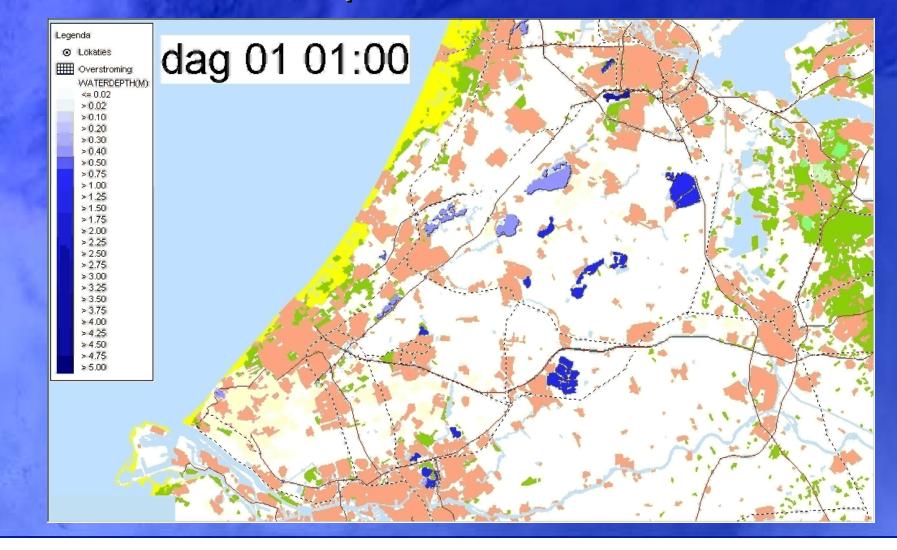
Hans Balfoort Directorate General for Water Affairs



scenario's



Monster, Katwijk en Alexanderpolder





effects Next to flooding:

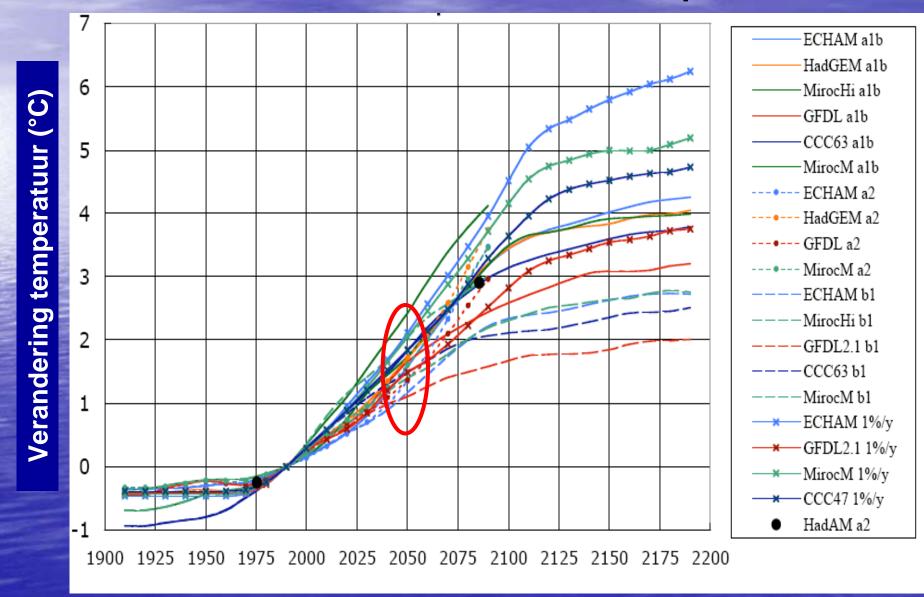
- Failure electricity and gaz supply
- Fallen trees and other objects
- Failure infrastructure Security services

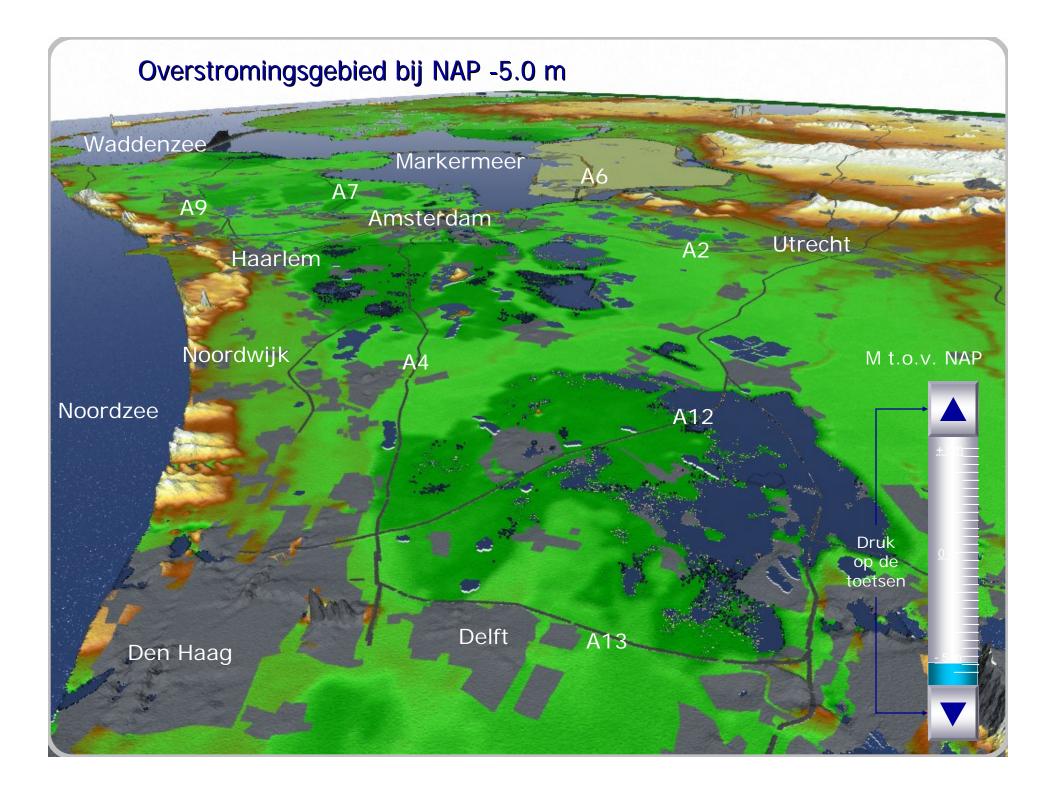


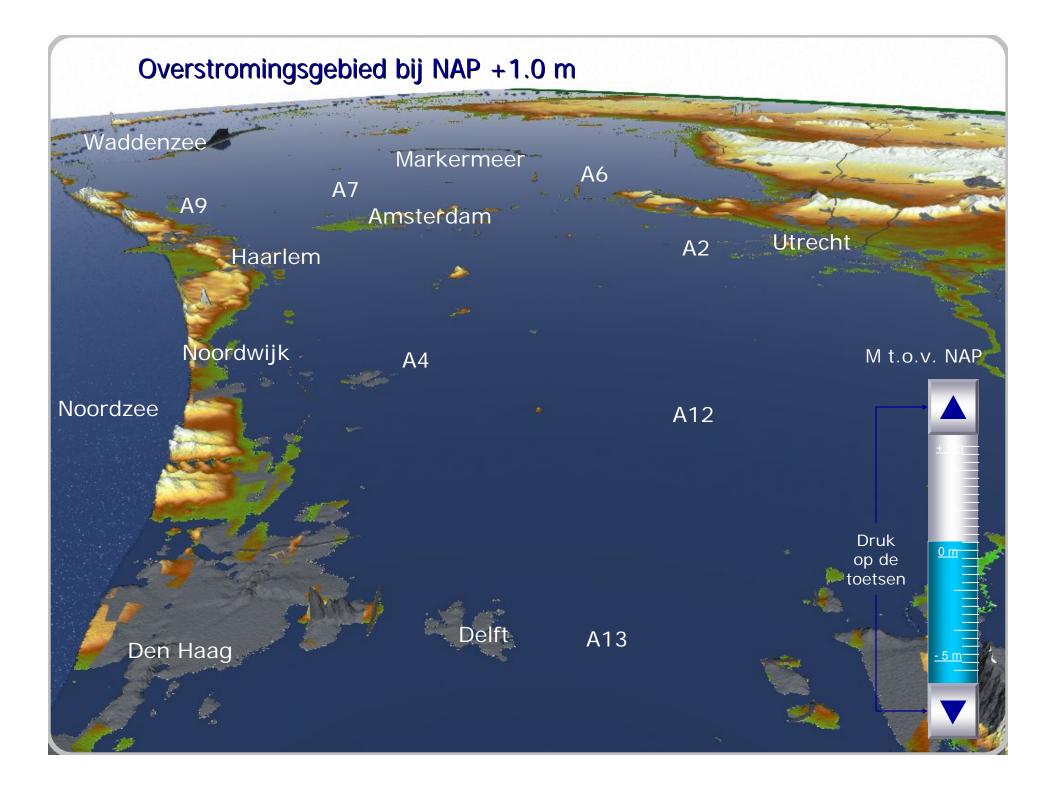
- No drinking wter for long period
 - Failure ICT en telecom

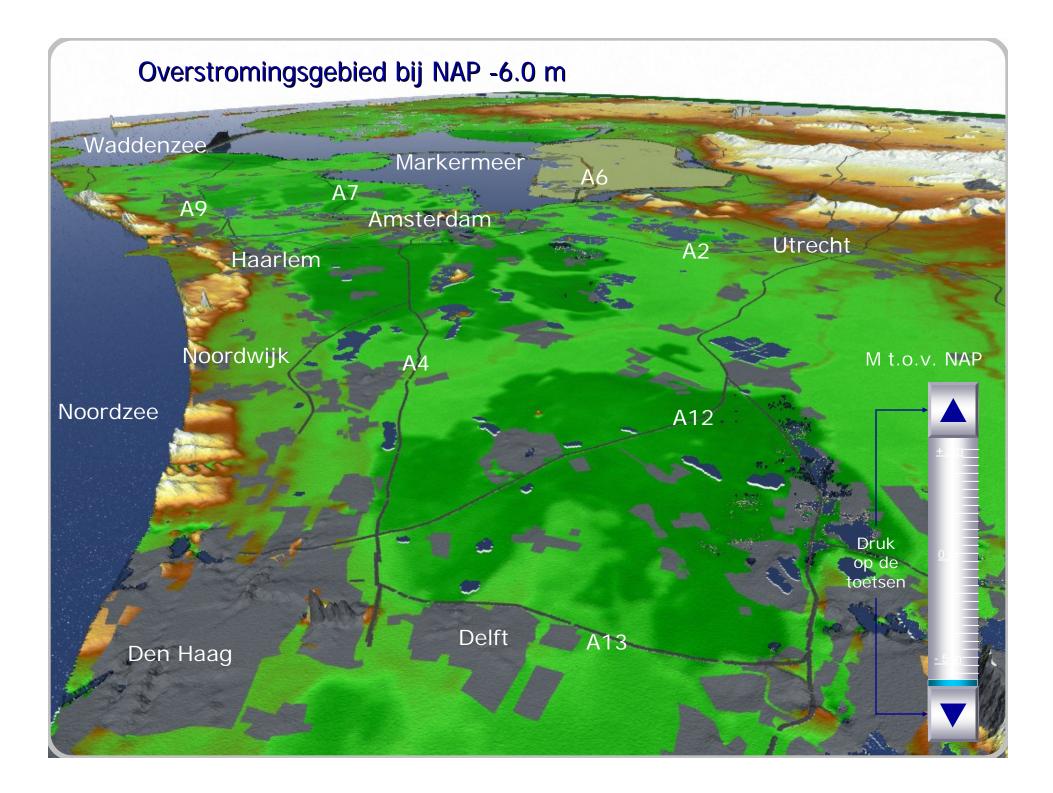
3. Challenges

Modelsimulaties wereldtemperatuur









Flood policy objectives for the 21st century

Sustainable flood risks

Maintaining flood risks on an acceptable level against acceptable costs

Management of the PROBABILITY of flooding

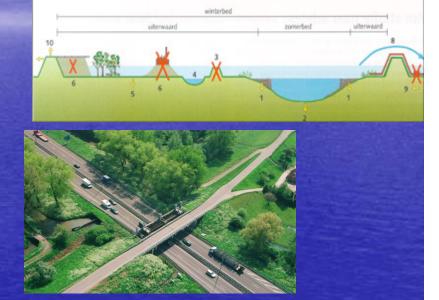
Management of the CONSEQUENCES of flooding

Policy options for the 21st century - probability

Room for the Rivers (2006) – Widening of the river bed

Further differentiation in flood probability
More refined legislative safety standards

Flood compartments– Reduction of flooded area





Policy options for the 21st century - consequences

Introduction of flood insurance – NFIP?

Building codesAdaptive building principles

Evacuation – Local or Germany?

Disaster response– First national exercise 2008









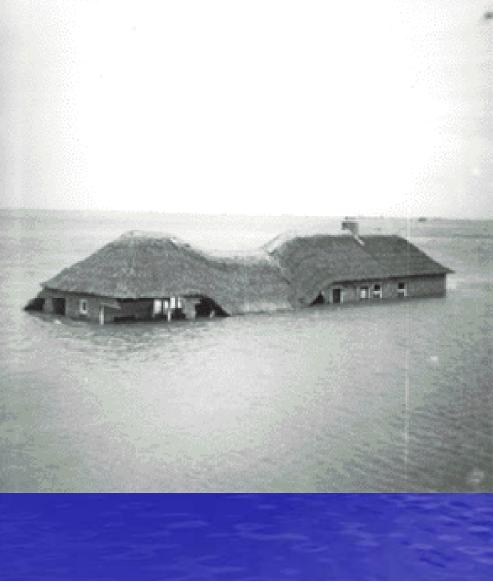




1953 flood: 1836 victims







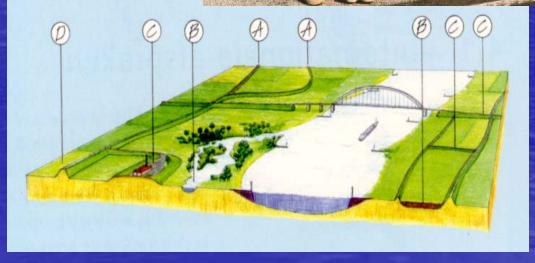
Safer than ever, but ...

- Climate change requires adaptation (scenario's KNMI)
- Rhine:
 - Capacity increase
 - Dependence on Germany
- Meuse:
 - Uncertainties about future capacity
 - Dependence on measures Belgium
- Sea and Shore
 - Sealevel risingm extremer strms, higher waves
- and...
 - deadcasualties worst case larger than anticipated (10.000- 100.000)
 - Economic value to be protected behind the dikes has increased considerably (factor 5 since 1956) including population increase

Innovation











The future?



Examples of integrated spatial planning

4. Institutional Organisation – MLG in the making



A new Water Act

An integrated law to regulate the management and use of water systems in the Netherlands.



Why did we need this new Water Act?

1.Modernization and harmonization of instruments for integrated water management Current legislation is disperse and out-of-date Insufficient instruments to carry out our new policies

Why did we need this new Water Act?



2.Europe-proof:

 Elaborating the implementation of the European Framework Directive Water

 Water system approach

Why did we need this new Water Act?



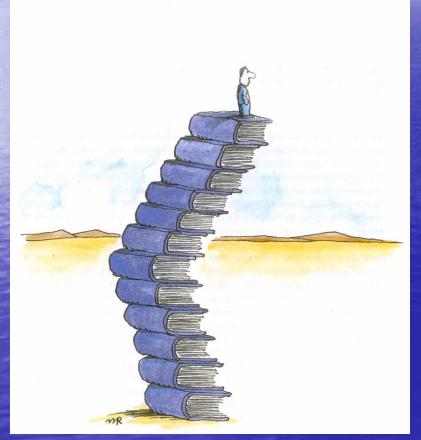
3.Dutch deregulation programmes: fewer rules and less administrative costs

Objectives of the Water Act

Quantity: prevention/mitigation of flood and droughts
Quality: protection and improvement of chemical/ecological quality

 Functions of water systems (e.g. swimming water, fishing water)

Water Act will unite various laws



- Water management Act
- Surface water pollution Act
- Sea water pollution Act
- Groundwater Act
- Flood management Act
- Land reclamation and embankment Act
- And others

Water als ordenend principe

Occupatie



Ondergrond

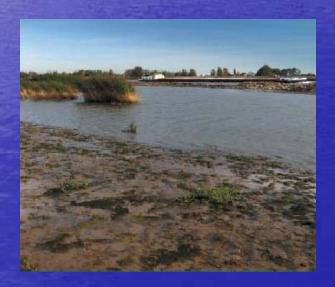


Towards an integrated approach

Flood defense



Dealing with water



Integrating water and spatial planning



Water management in the Netherlands (1) Water management in the Netherlands



Ems

Rhine

Coeldt Meuse

V&W Ministry of Transport, Public Works and Water Management
 VROM Ministry of Spatial planning, Housing and the Environment
 LNV Ministry of Agriculture, Nature and Food Quality

Water management in the Netherlands (2) Water management in the Netherlands



National authority

Provincial authorities 12

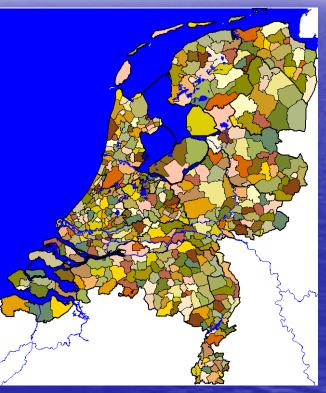


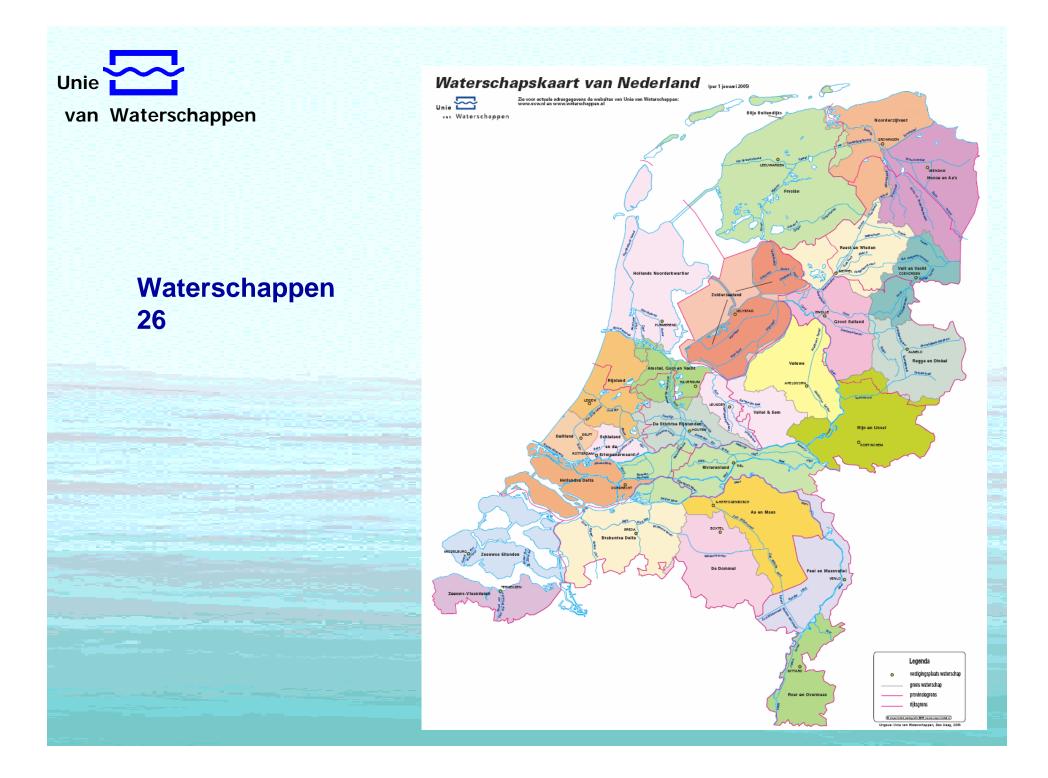
Watermanagement in the Netherlands (4) Water management in the Netherlands

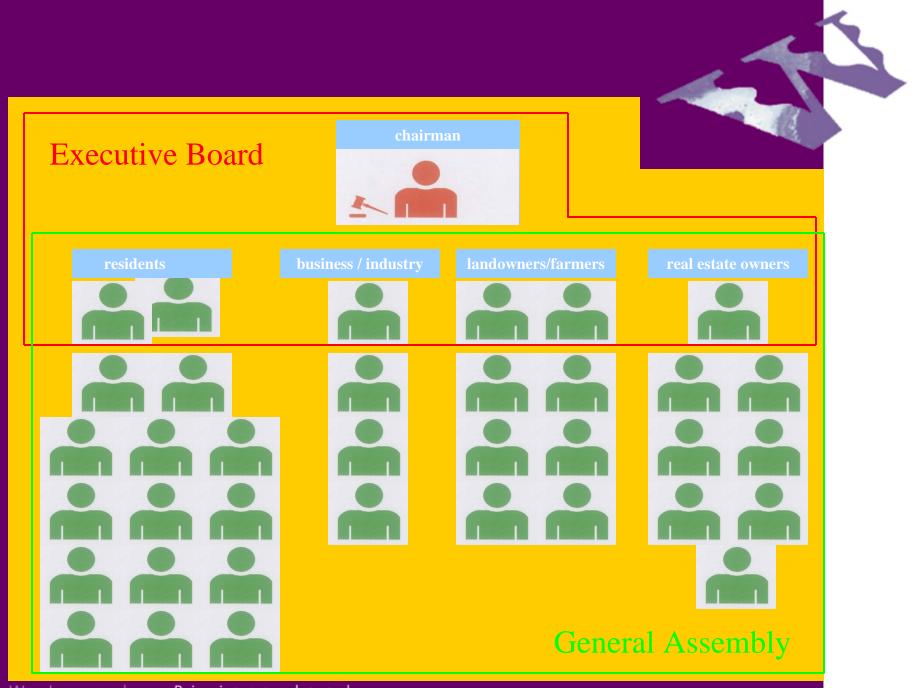
National authority

Provincial authorities

Waterboards 26 Municipalities 467







Waterschap **Rivieren land**



van Waterschappen

a dedicated financial institution

Nederlandse waterschapsbank



Multi-level governance for watermanagement



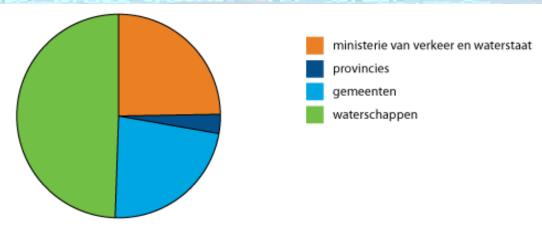


Costs of water management 2005

Total: 4,85 billion €

National government, provinces, waterschappen, municipalities







Financing principles

State General budget

Waterquality Watersystem task Starkenorderstection +water quantity)

Principle

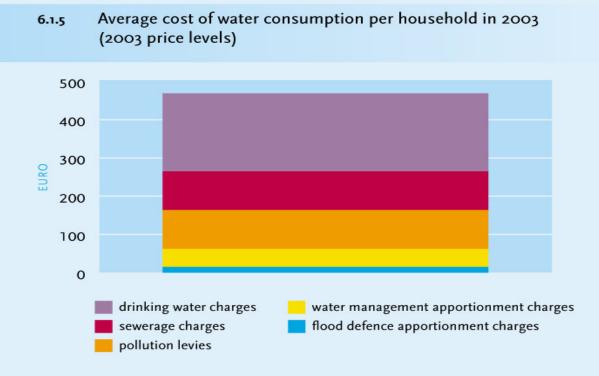
Principle

The polluter pays

Interest-pay-say



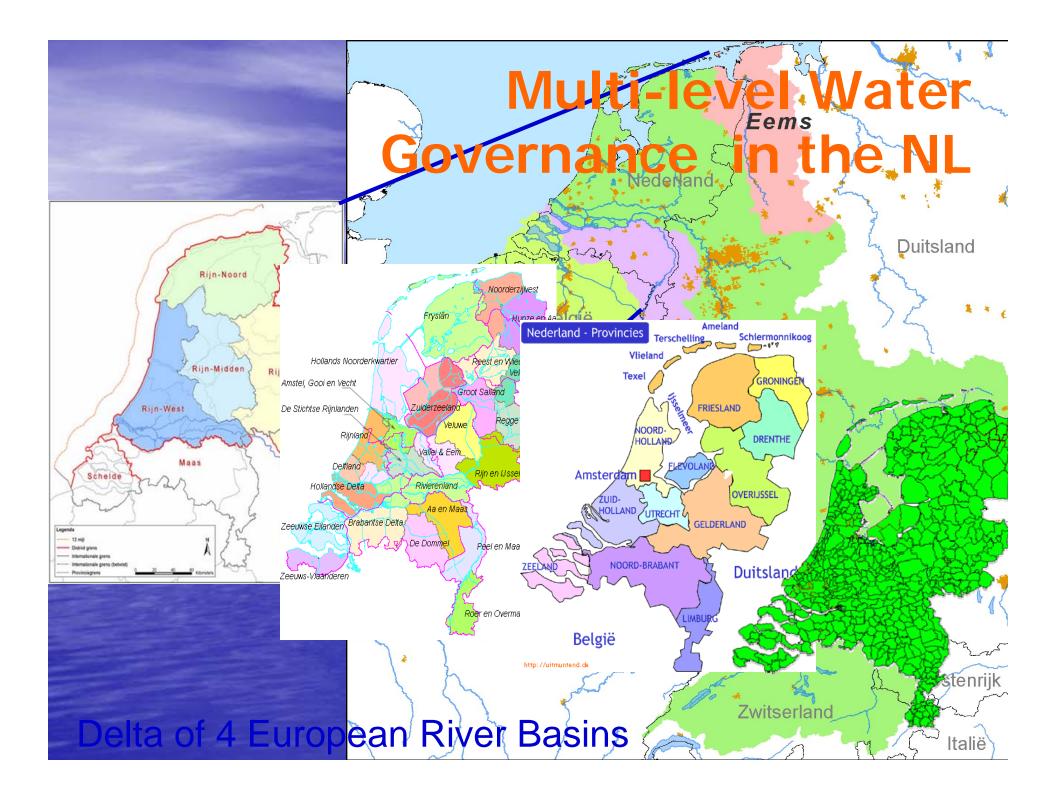
Total water costs per household



For reflection

Which Questions would you address or like to see addressed in an institutional research programme on the NL?

Thank you for your attention



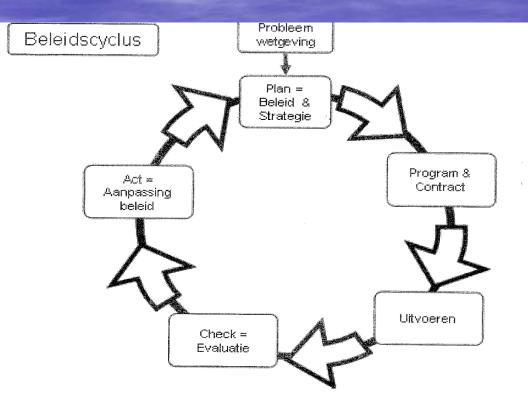
Pieken in de Delta / Hoge regionalisering

Samen *werken* met water

Een land dat leeft, bouwt aan zijn toekomst Bevindingen van de Deltacommissie 2008







Belangrijke punten die besproken worden zijn:

- Hoe sluit je de beleidscyclus?

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- Wordt de laatste stap werkelijk gezet?
- Geven van helderheid over wat de investeringen hebben opgeleverd.

Hoe hangen te bereiken effecten samen met complexiteit van processen en met interactiviteit die nagestreefd wordt?

Hebben we alle relevante zaken in beeld voor de beleidsvorming? Voldoet de monitoring? Benchmark als vorm van monitoring



6. Monitoring & Toezicht

1. Probleemanalyse & Kennismanagement

5. Beheer & Uitvoering

> 4. Bestuur & Besluitvorming

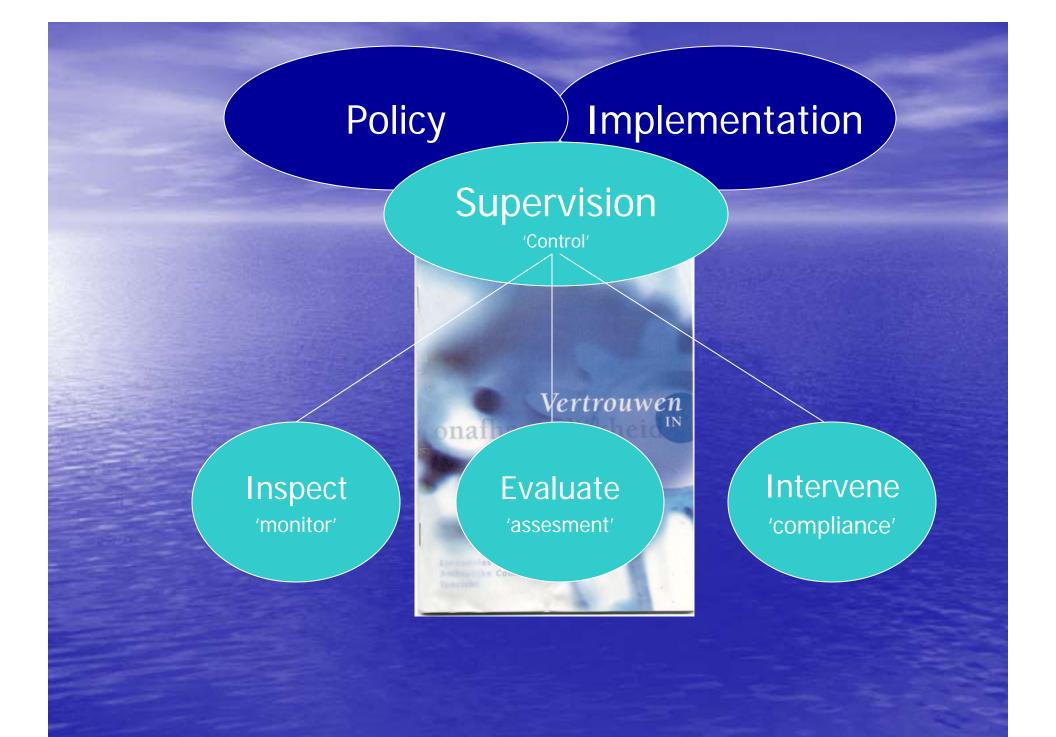
2. Strategie & Beleid

3. Maatschappelijke verantwoording & Stakeholders



'Territory Oriented' Organisation

- 1. Adequate boundaries (functional and spatial scales)
- 2. Solid and Independent Scientific Knowledgse management and a public problem analysis;
- A Governance structure based upon participation of stakeholders and relevant communities;
- 4. Broad opportunities for interest representation and low treshold mediation and conflict resolution;
- 5. An international and best available technology (bat) based strategy;
- A clear, transparant and directive national policy, which serves as a foundation and constraint for a regional ecological, social-economic and cultural-histroric territorial agenda;
- Een clear and transparant regional administrative structure, under unequivocal, externaly legitimated and preferabbly independent administrative leadership;
- 8. A Stewardship Council where the important, and for the strategic problems relevant regional 'care-takers' and executive organisations are involved;
- 9. Shared services for the efficient executive organition as a whole
- **10.** Independent evaluation, inspection/supervision mith an institutionalised capacity for learning, innovation and *adaptive governance*.



Maatschappelijke Oriëntatie

Resultaten Communicatie?



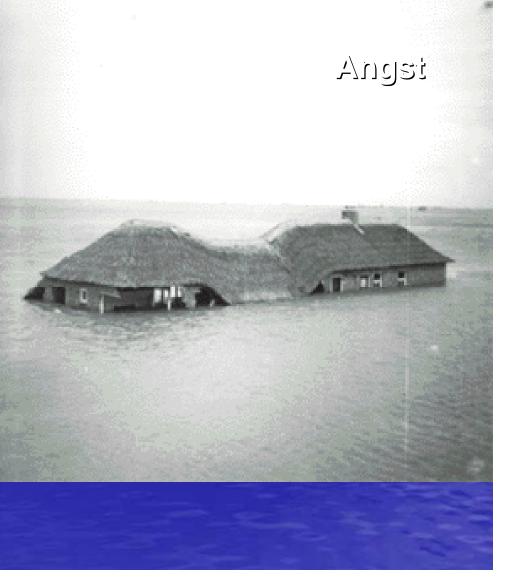




1953 flood: 1836 victims









Techniek...











...of Besluitvaardigheid



<u>Vijftien paarden in wei verdronken</u>

door André Spaansen

MARBUM, donderdag In het Friese Marrum zijn gisteren vijftien paarden verdronken, doordat hun weide onderliep bij het hoogwater in de stormnacht. Voor de ruim 100 paarden, die door het wassende water ingesloten waren, kwam gisteravond een reddingsactie op gang.

Medewerkers van defensie zouden 's avonds en afgelopen nacht proberen met pontons dieren te redden. "De troepen zijn onderweg!" aldus Jos

Nederland Leeft (echt) met water

