Water management and water governance in the Netherlands

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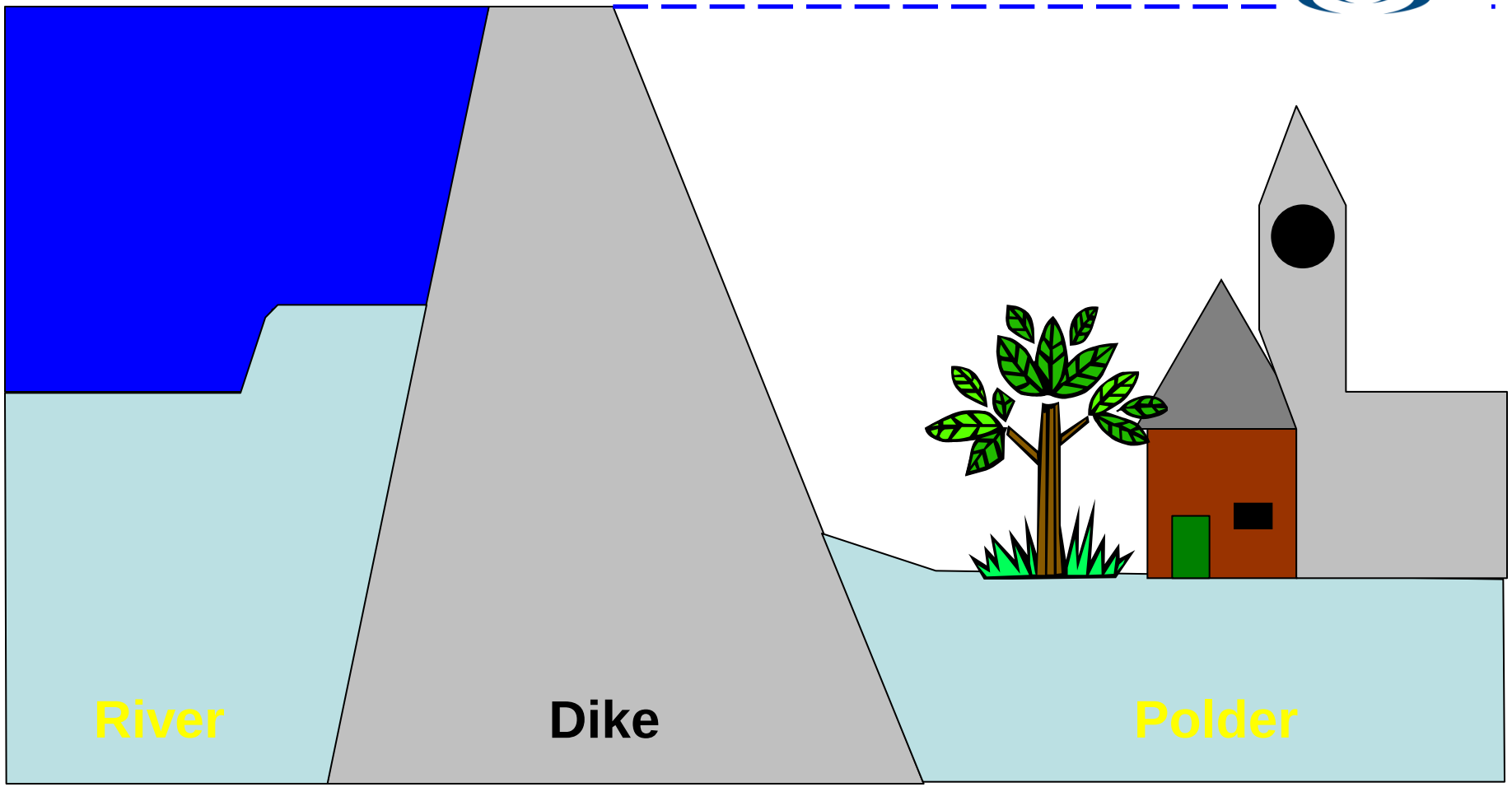
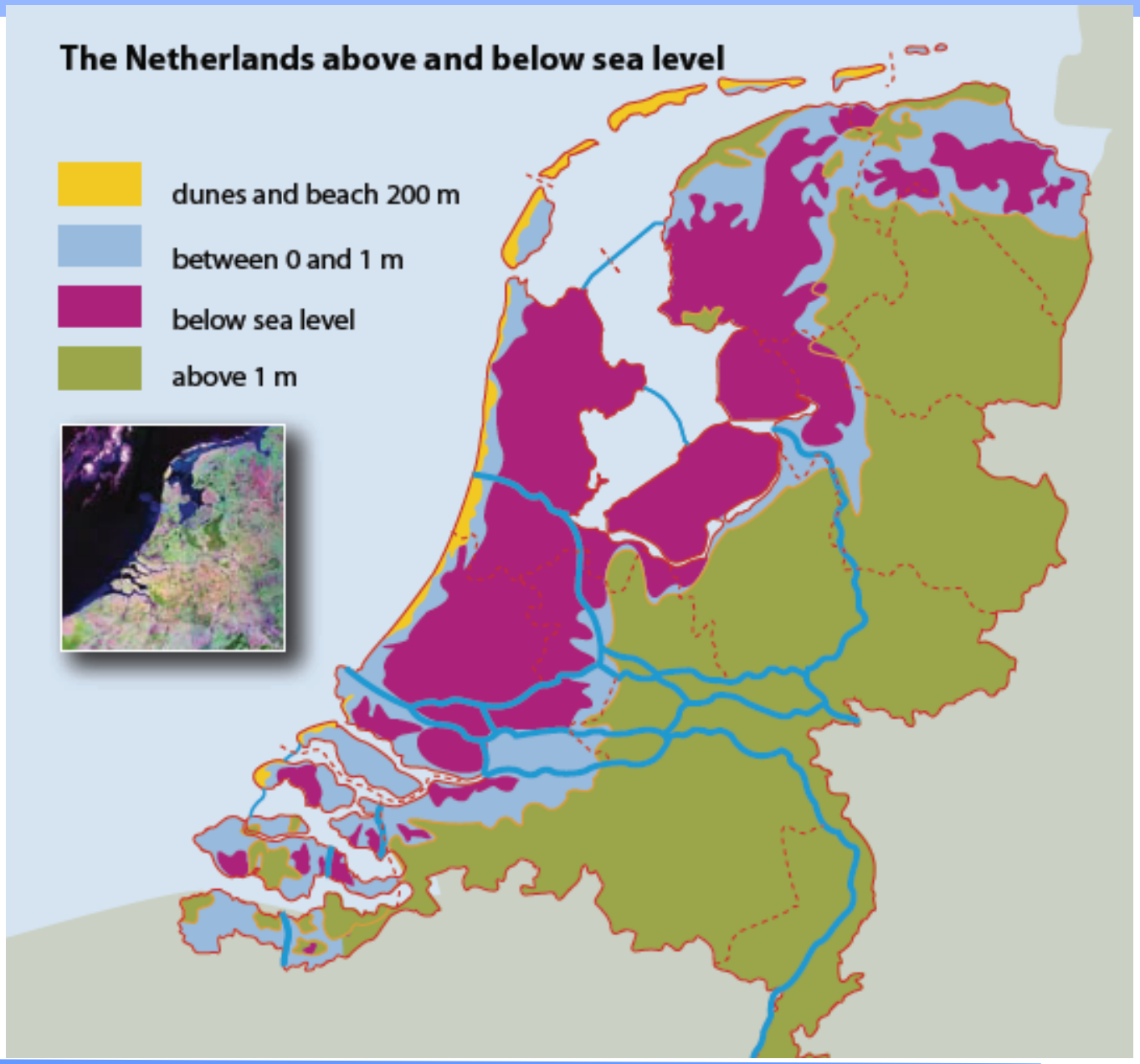
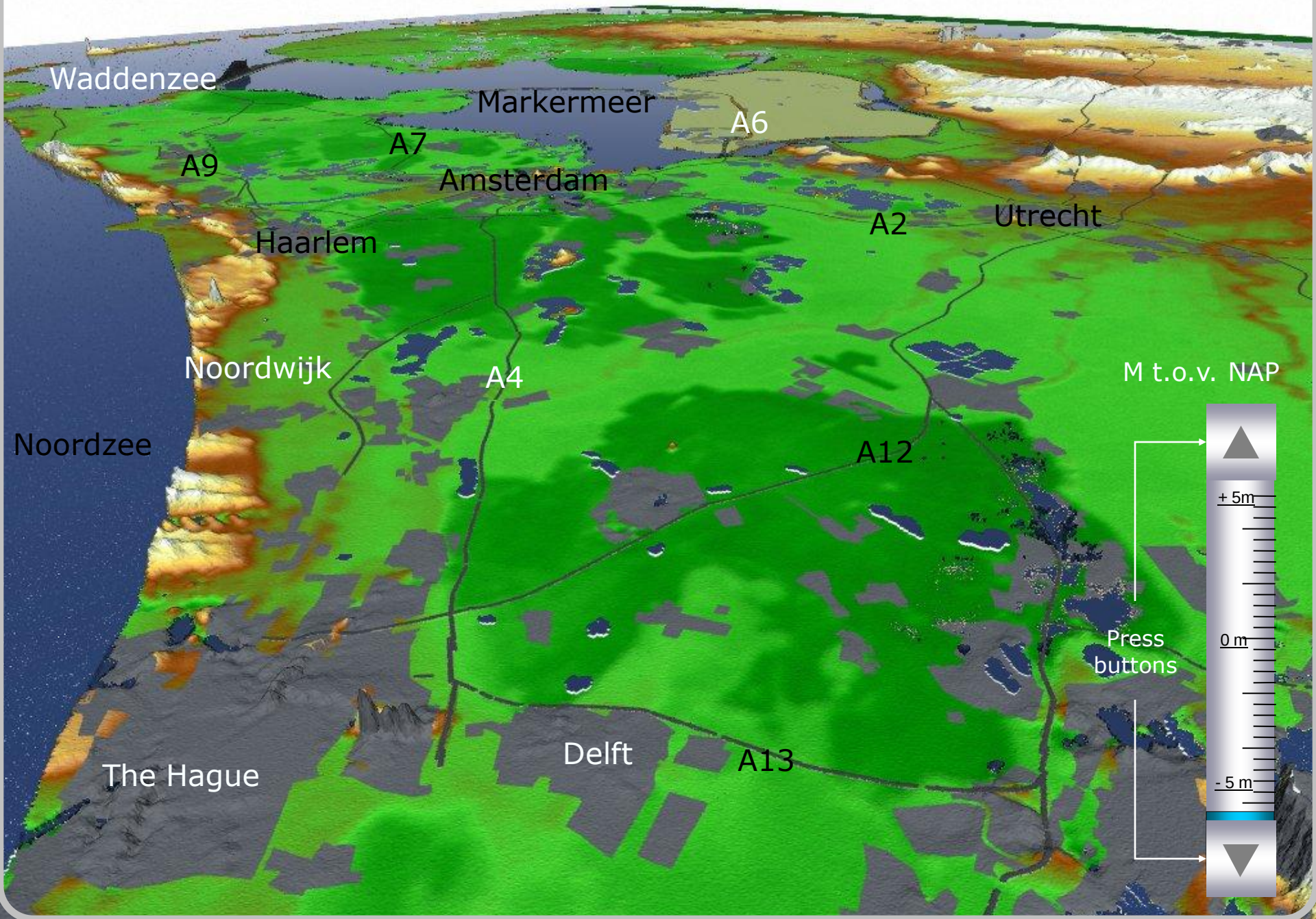
Some more about the Netherlands

Water Governance Centre

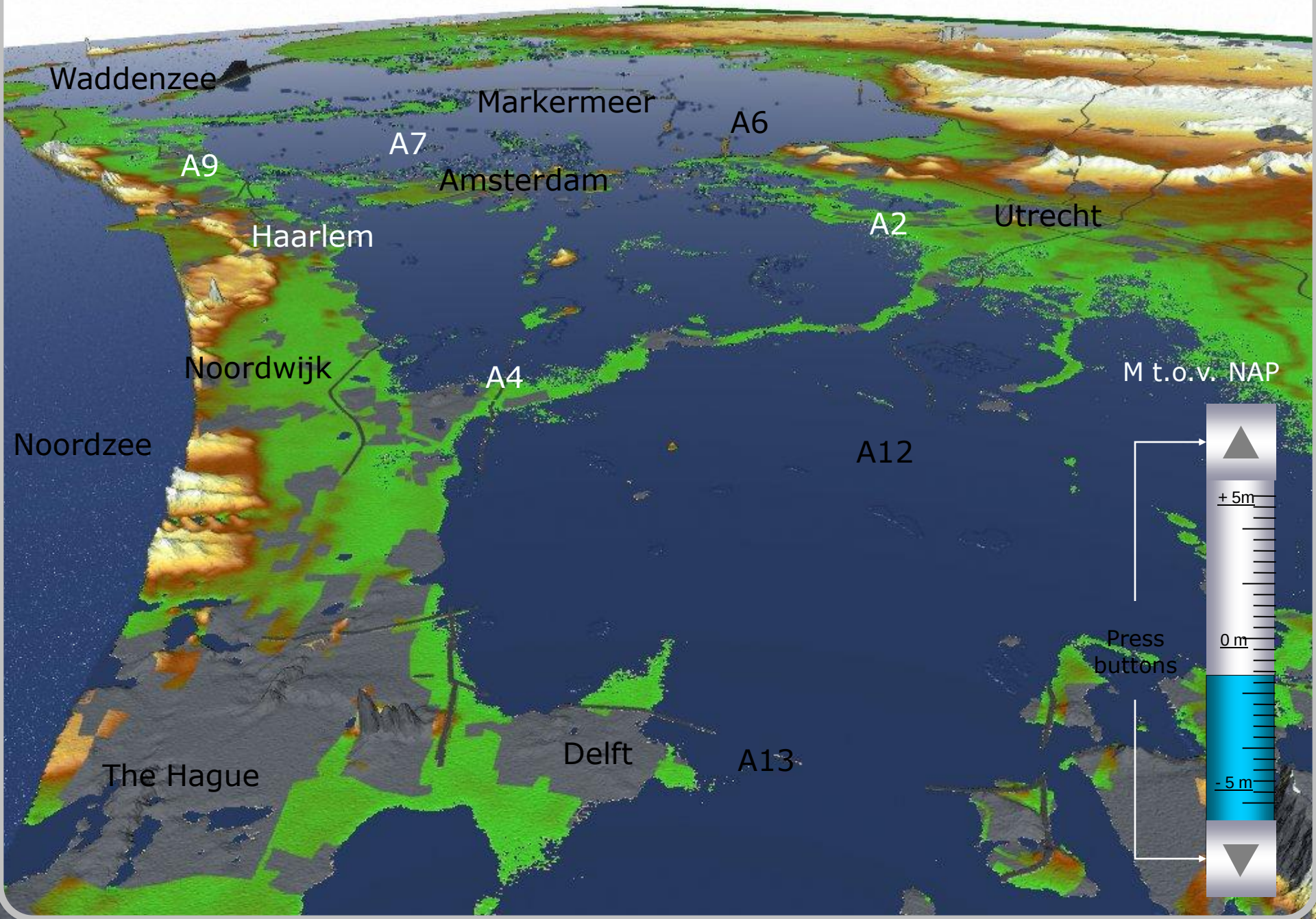


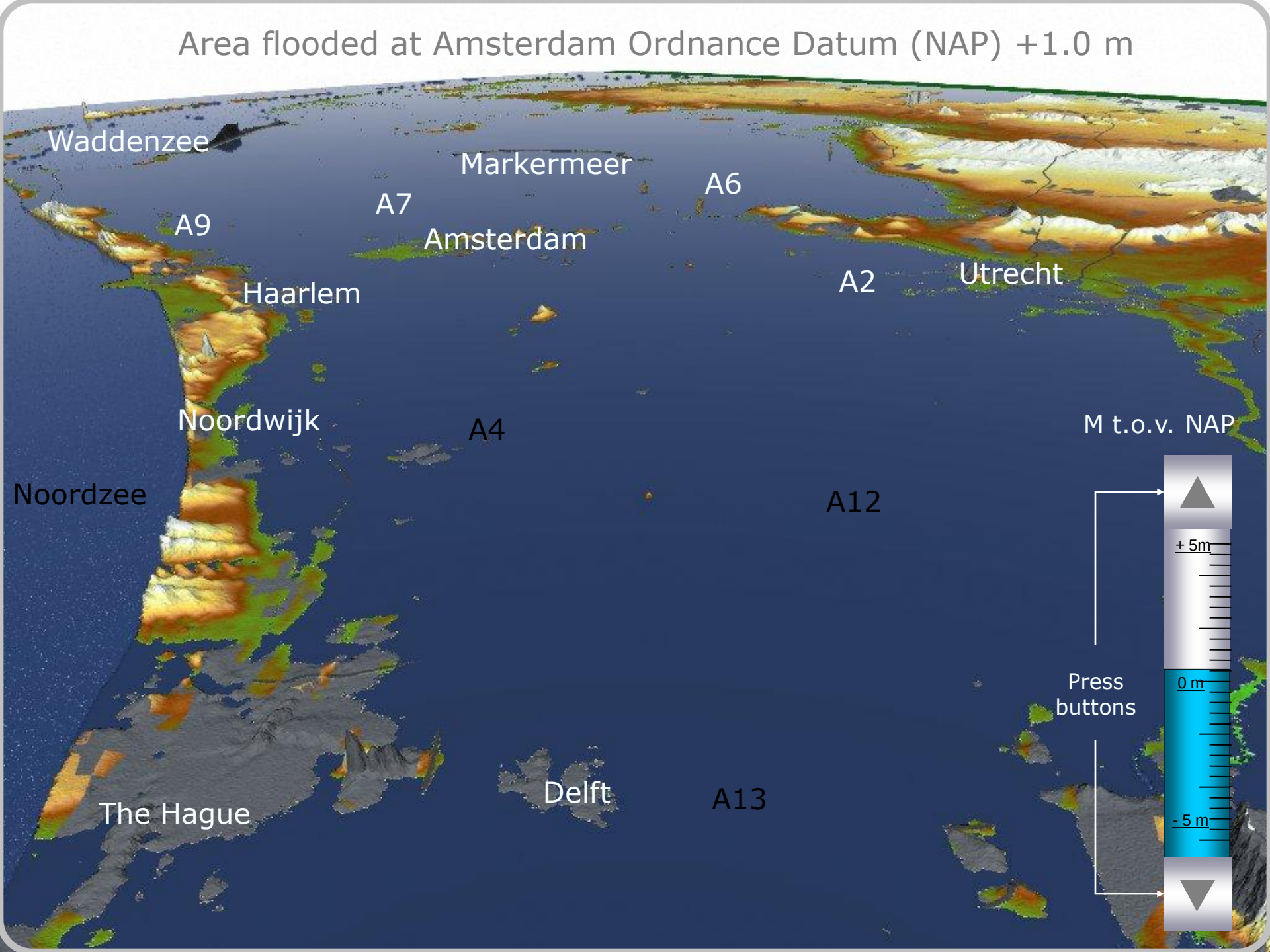

The Netherlands above and below sea level
dunes and beach 200 m
between 0 and 1 m
below sea level
above 1 m

Area flooded at Amsterdam Ordnance Datum (NAP) -6.0 m



Area flooded at Amsterdam Ordnance Datum (NAP) -1.0 m




Area flooded at Amsterdam Ordnance Datum (NAP) +1.0 m
Waddenzee
Markermeer
A6
A7
A9
Amsterdam
A2
Utrecht
Haarlem
Noordwijk
A4
M t.o.v. NAP
Noordzee
A12
+ 5m
0 m
Press
buttons
- 5 m
Delft
A13
The Hague


Too wet or
Too dry or
Too dirty
Bad ecological quality

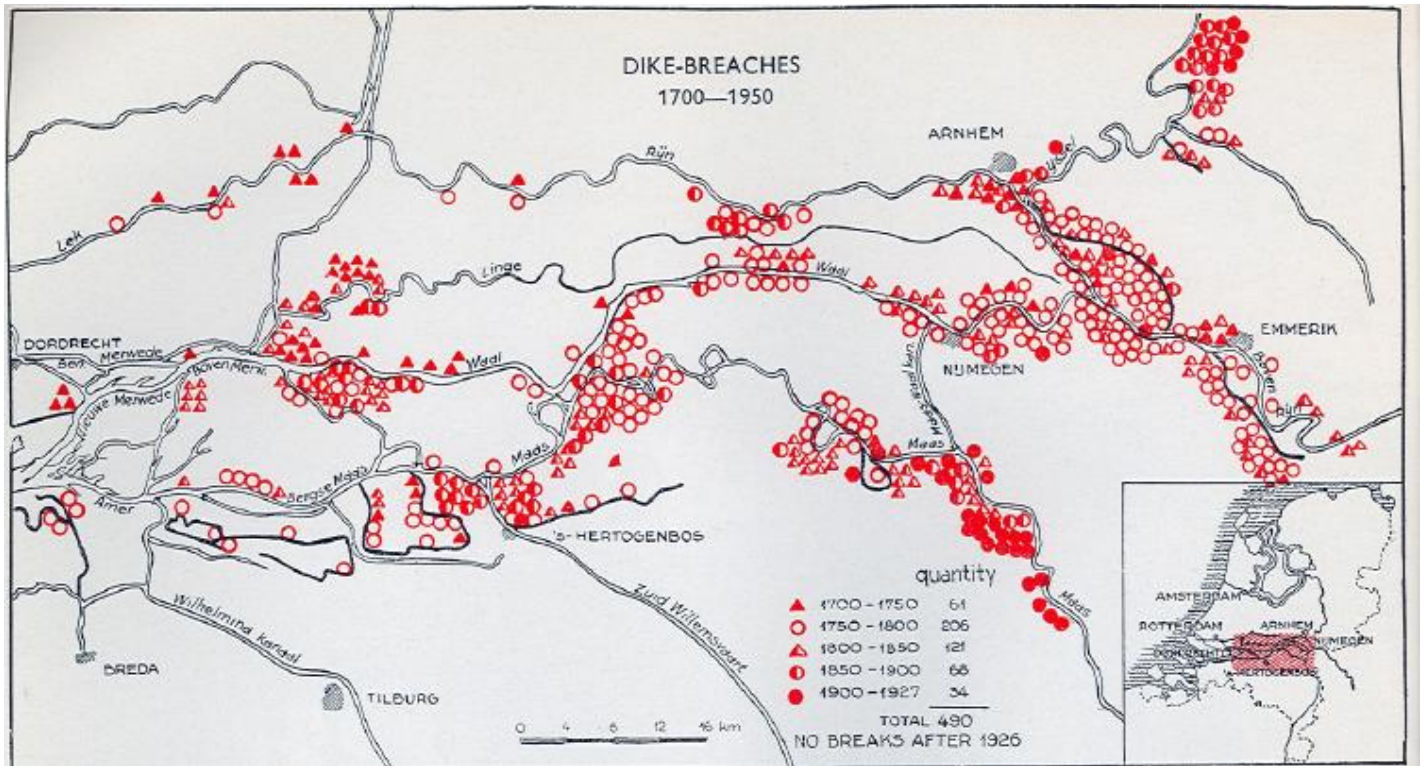
How did we develop our policy?

- We were forced to learn from mistakes
- After being confronted with the disasters we changed our policy
  - Water safety 1953, 1993/95
  - Water quality 1970, 1986
  - Excess rain 1998

Trhoughout the centuries: Many flood problems with our rivers

Regularly things went wrong

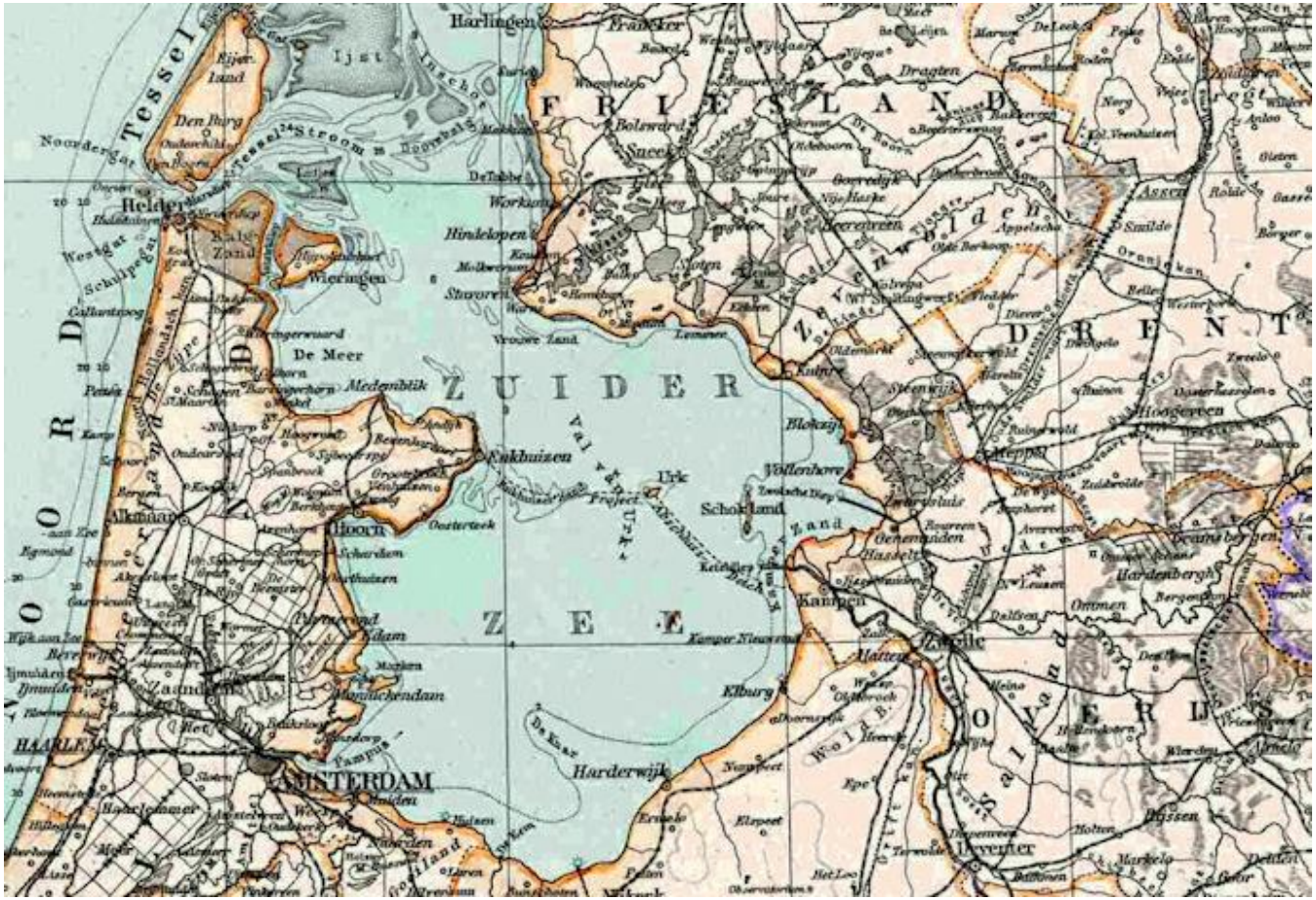
Dike breaches 1700 - 1950



Flood problems – organizational consequences

- Too fragmented river management: there were local projects but no combined approach
- Local solutions for flood problems did not solve the problems: downstreams the problems got worse
- Rivers were not managed on a river basin scale
  - A state organization became responsible for water management of the main waters (rivers, big lakes, sea) and the coordination of water management of regional organizations

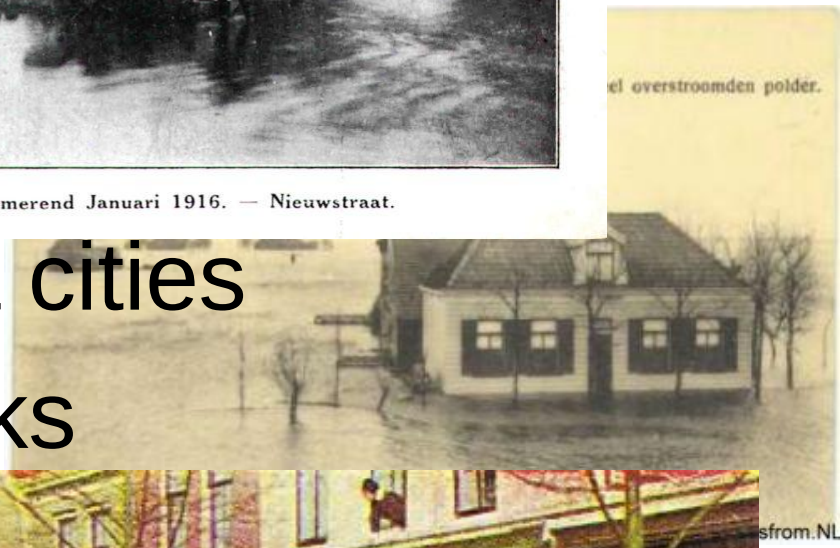
Problems with our innersea called Zuiderzee



Flood 1916

- 18 people drowned
- Big damage in different cities

Reaction: Zuiderzee works



Plan Lely

1930

1932

1948

1957

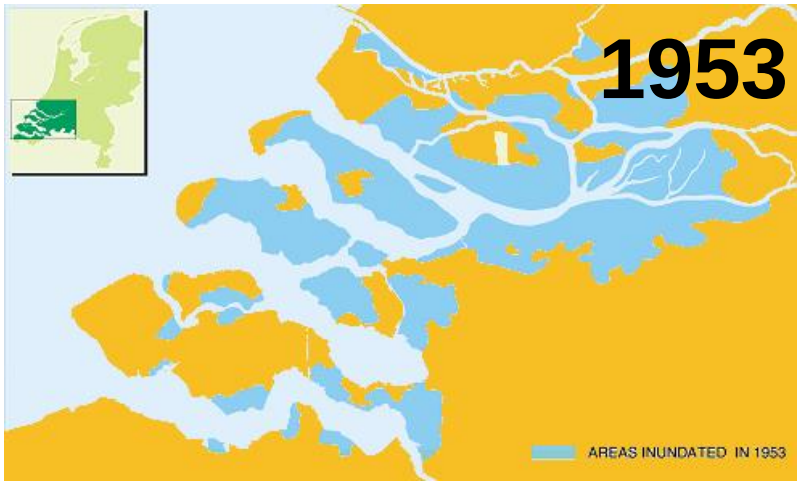
1968

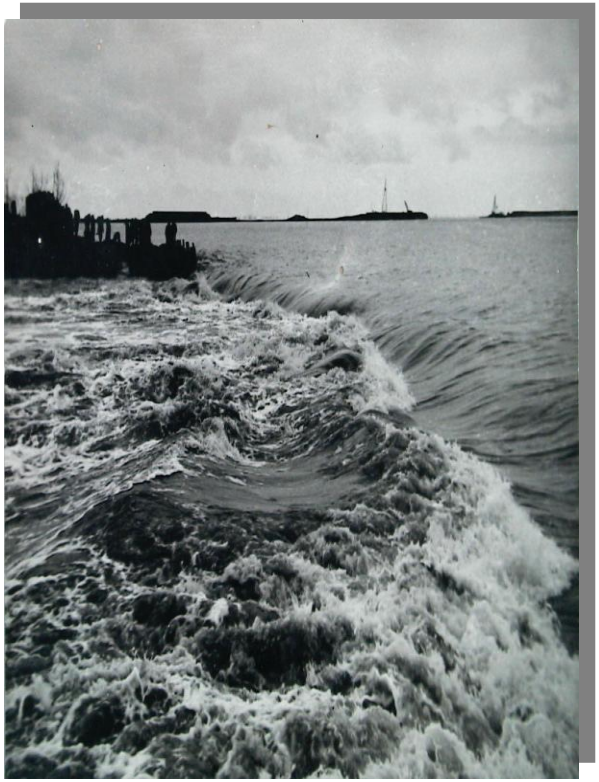
1975

-Better safety
-Better water management
-Better connections
-Soils for agriculture
-Space for cities
-Nature

1953: A new attacks by the sea

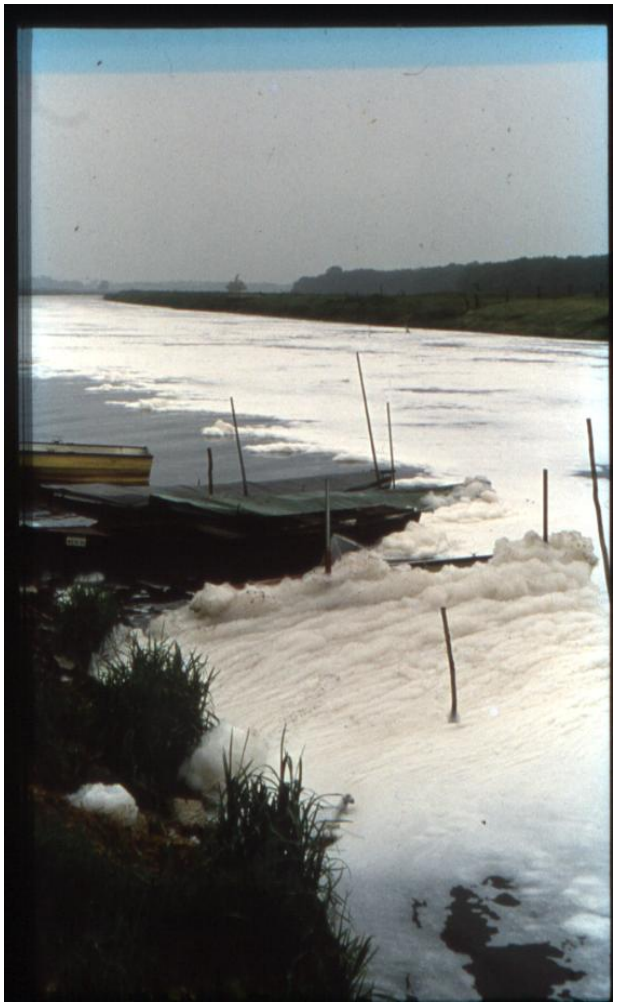
1953 The big flood: almost 2000 people killed in South West Netherlands





Reaction: **Delta Project**

Next problem: water pollution



Reaction: Water pollution act 1970

Sandoz fire november 1986

Reaction: new action plan for the river Rhine

Water pollution control

- Weak points in our policy
  - Only after problems were big the process was started
  - Disasters were necessary to give it enough priority
- Strong points of our policy (after 1970)
  - A clear long term vision
  - A dedicated law
  - Clear organizational principles
  - Financing arranged well
  - Consequent strategy of attacking pollution at the source (pre cautionary principle)

The river floods of 1993/1995

The shock of 1993/1995

- Many years of relatively low river discharges made us belief that flood problems were something of the past.
- No priority of politicians on protection against flooding
- Things went almost wrong: polders threatened to be submerged
- More than 200.000 people had to leave their houses

Excess rain in 1998

- Lack of resilience in the systems
- Urbanisation had taken place without taking care of the water situation
- Conclusions:
  - Not only fot the rivers, but also for regional and local water systems more space for water is needed
  - Water test as part of the process of spatial planning

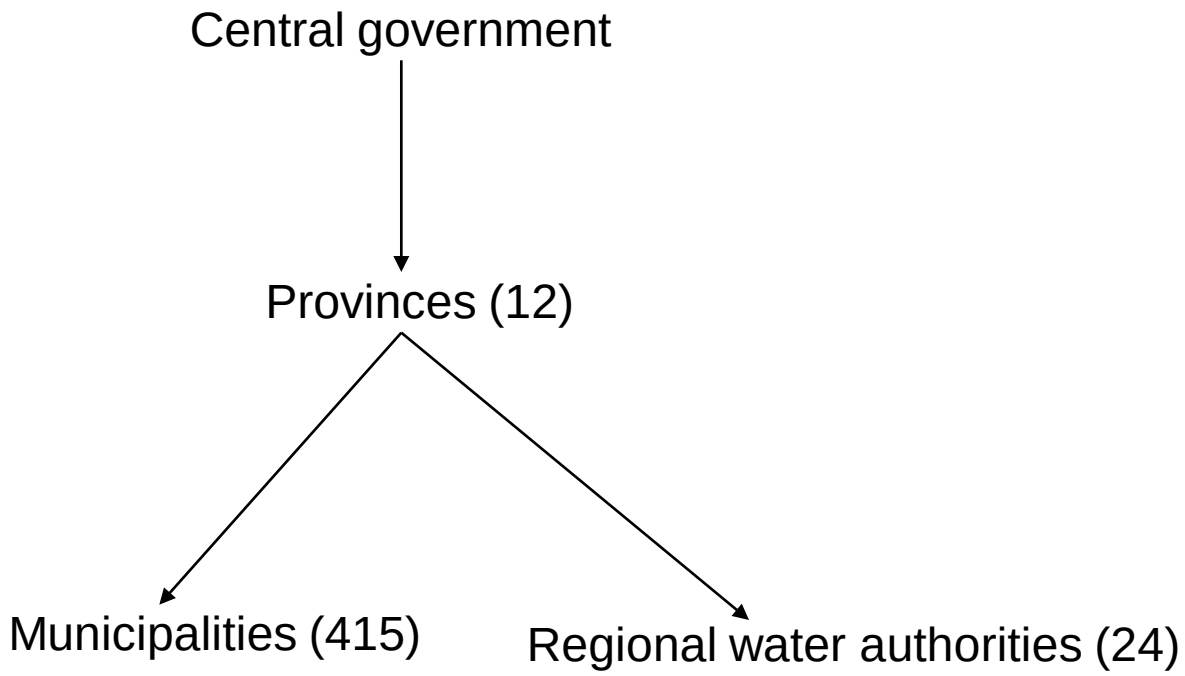
Important conclusions of experience in the Netherlands

- Too often a disaster or nearly-disaster is necessary to come policy change and new investments
- Preservation or restoration of resiliance is an essential element of integrated water management
- Water management and spatial planning need to be well connected (water test)
- River management should be dealt with on an integrated way
- Non technical aspects play an important role in getting things done

Institutional strenght

- Organization
- Financing
- Legislation

Organization of water management

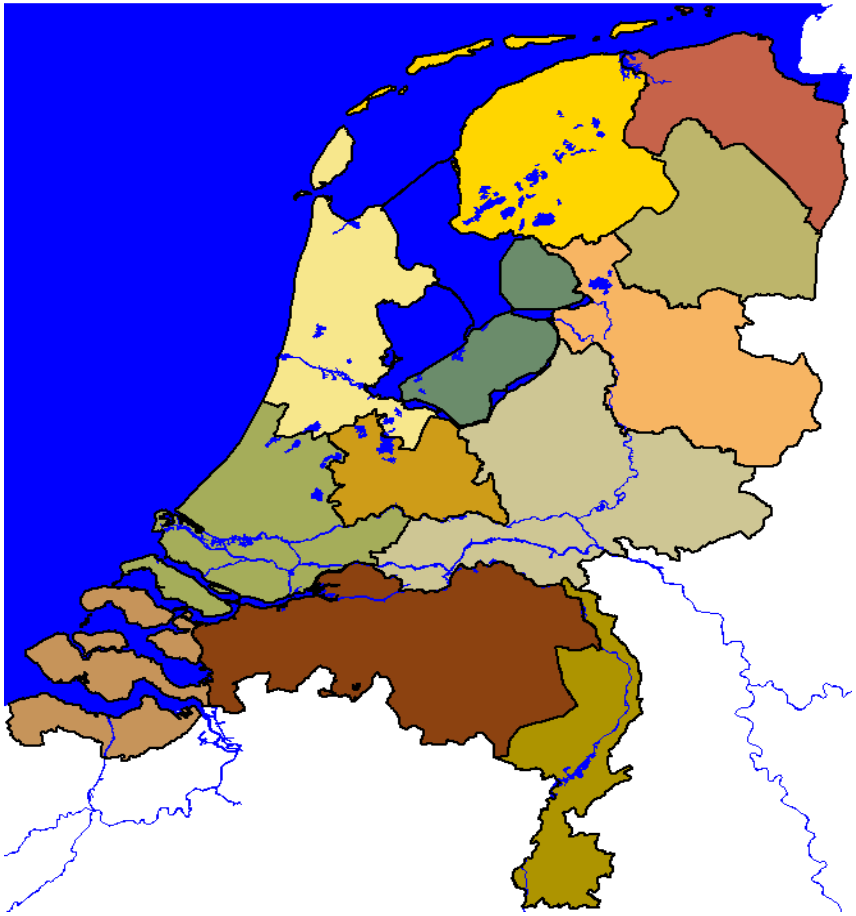


National government

Main responsibility:

- *Ministry of Infrastructure and Environment*
  - National policy and supervision
  - National standards (flood protection, environmental standards)
- *National water authority (Rijkswaterstaat)*
  - *Operational tasks national water infrastructure*

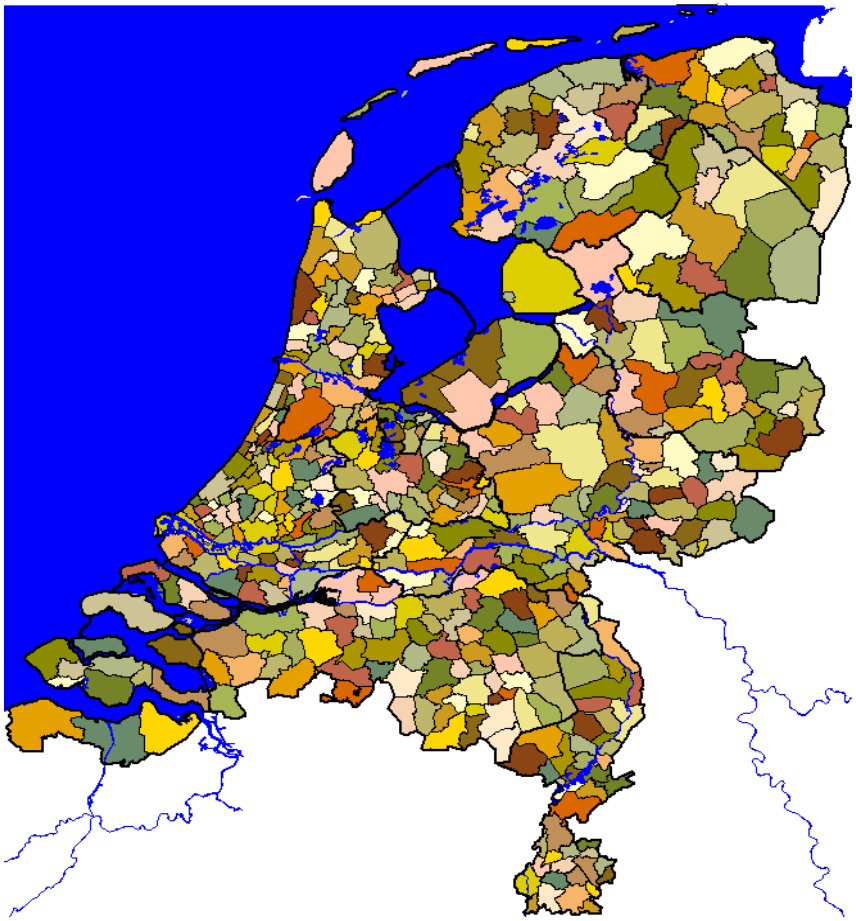
Provinces (12)



Water management tasks

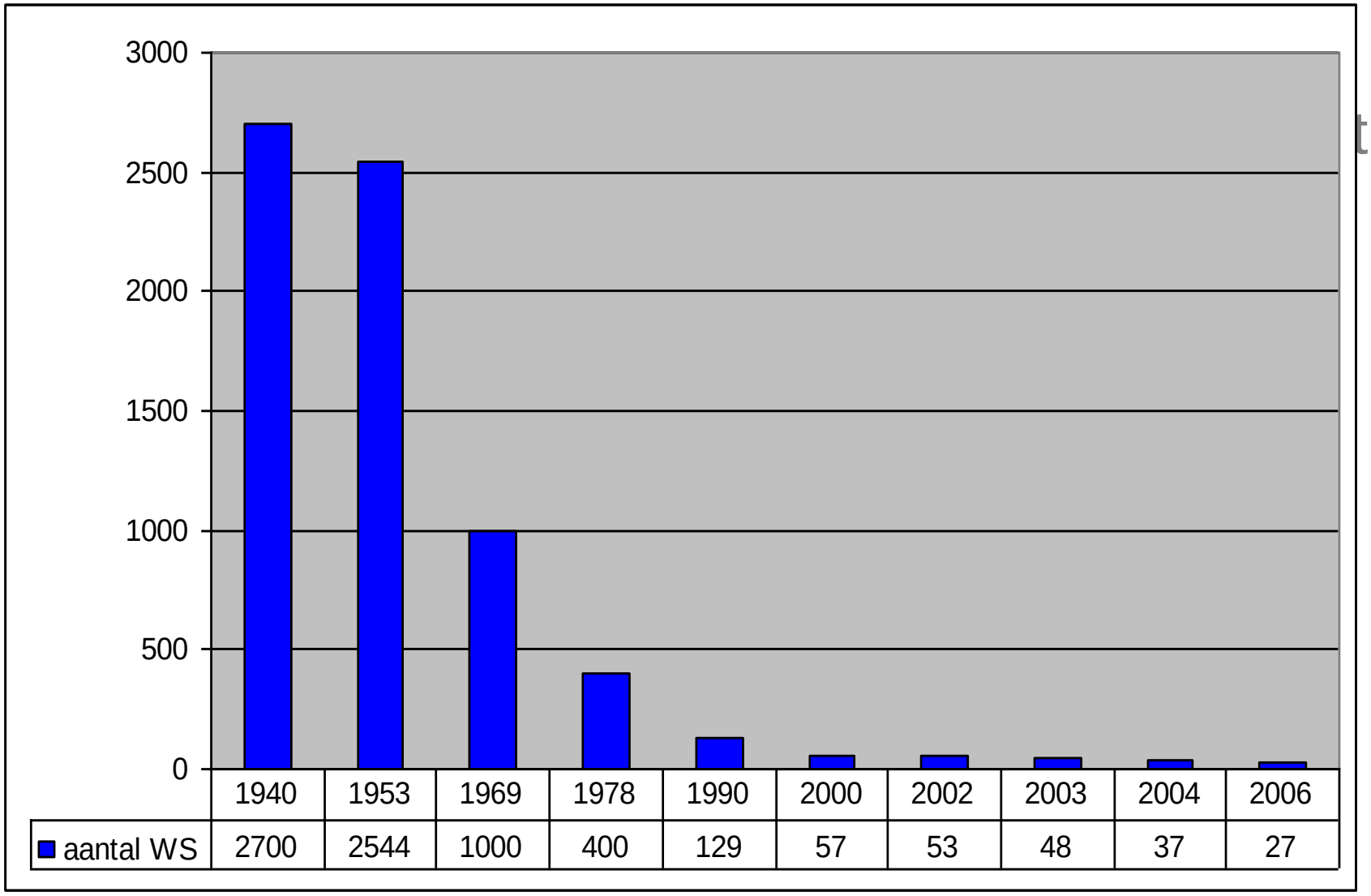
- Integrated planning at regional level
- Related regional environmental objectives
- Supervision waterschappen
- Supervision municipalities

Municipalities (415)



- Water management tasks
- Operational integrated planning
- Stormwater collection
- Sewage system
- Urban groundwater

Waterschappen (24)



	1940	1953	1969	1978	1990	2000	2002	2003	2004	2006
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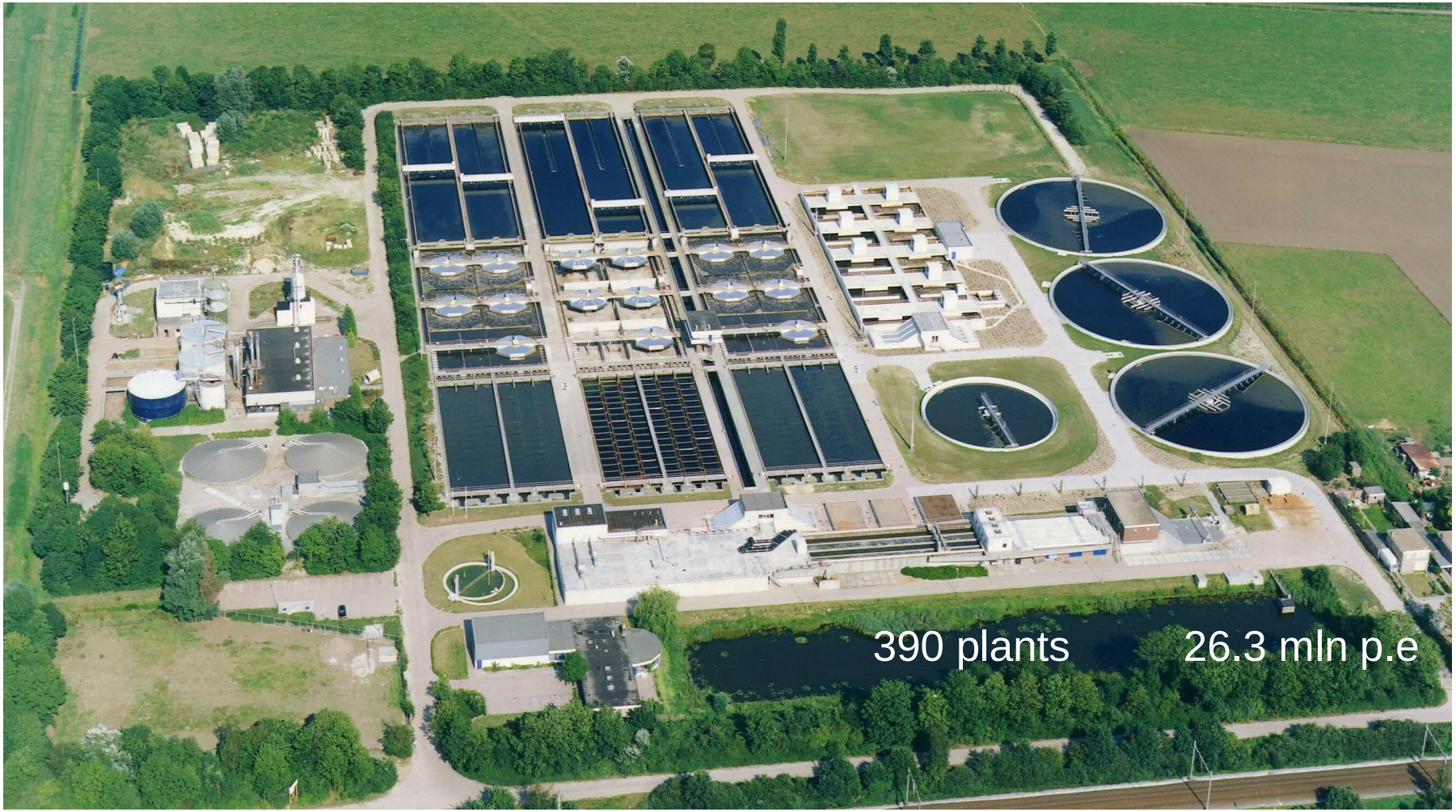
Surface water quantity and quality

Urban wastewater treatment



Coverages in the water chain

- water supply
  - 100% coverage
- sewerage
  - 97% coverage
- urban waste water treatment
  - 99.9% coverage

- efficiency-figures of uwwt-plants

02	98%
P-tot	80%
N-Kjel	87%
N-tot	74%.

The Financing Principles

Flood protection/
Water quantity

Principle

Interest-pay-say

Water quality /
Wastewater
Treatment

Principle

The polluter
pays

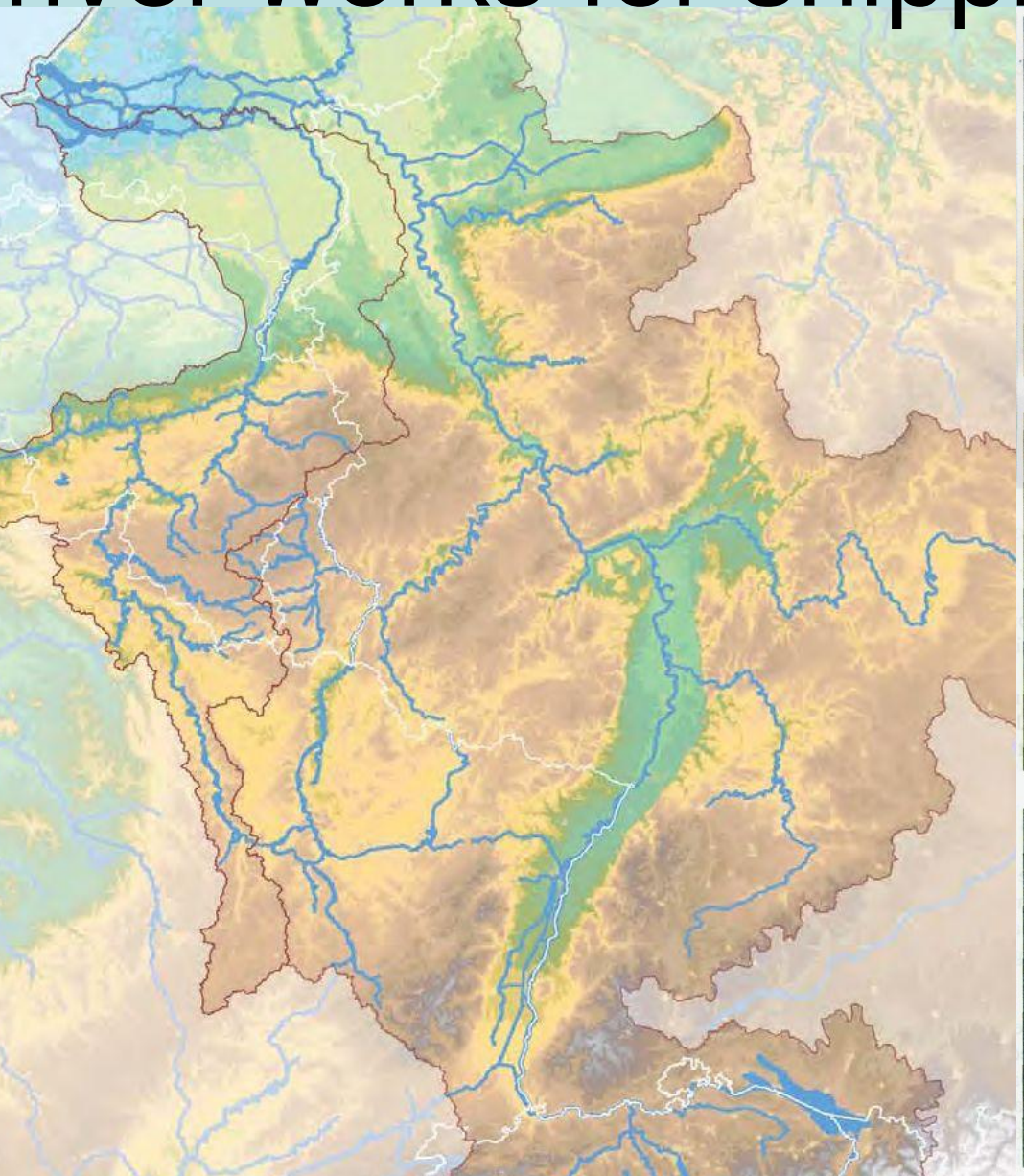
Representation

- Interest-pay-say
- Stakeholder democracy:
  - residents
  - industries
  - farmers
  - nature conservation
- Residents always have the majority

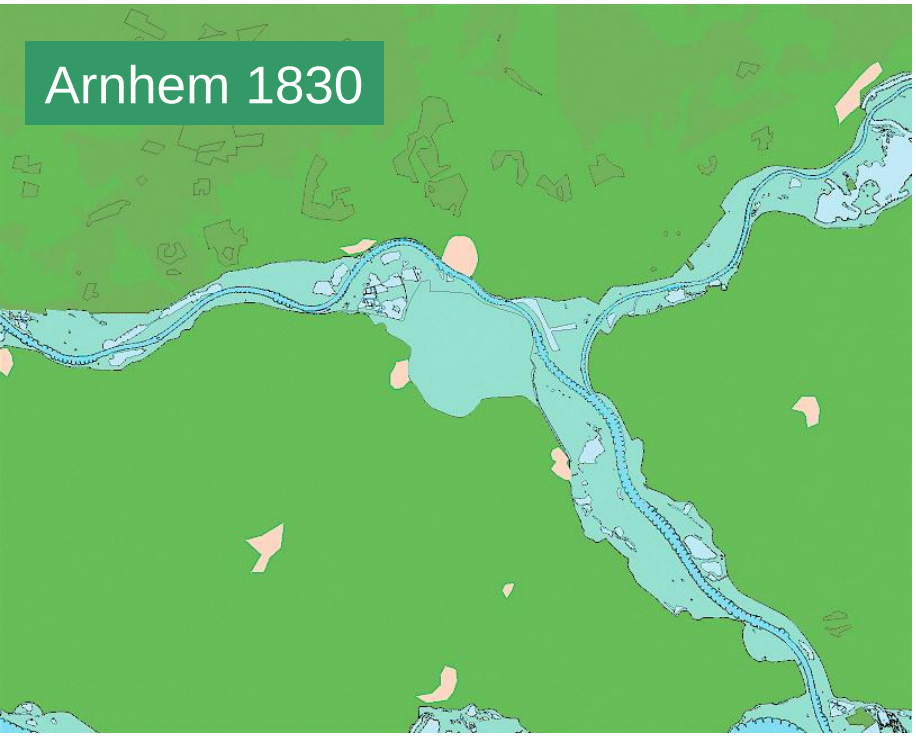
An important principle

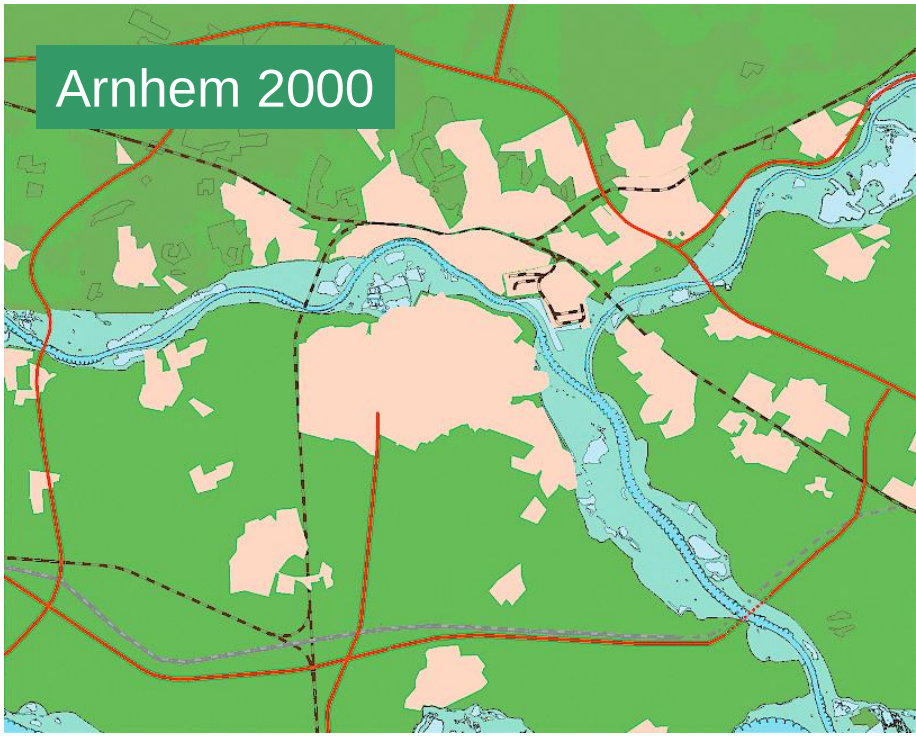
- River basins or water bodies should be managed in an integrated way
  - Internal integration/coherence:
    - water quantity and water quality
    - surface water and ground water
  - External integration/coherence
    - spatial planning, environment, nature prservation

Increased flood risks because of river works for shipping and land use



In time less space for the river





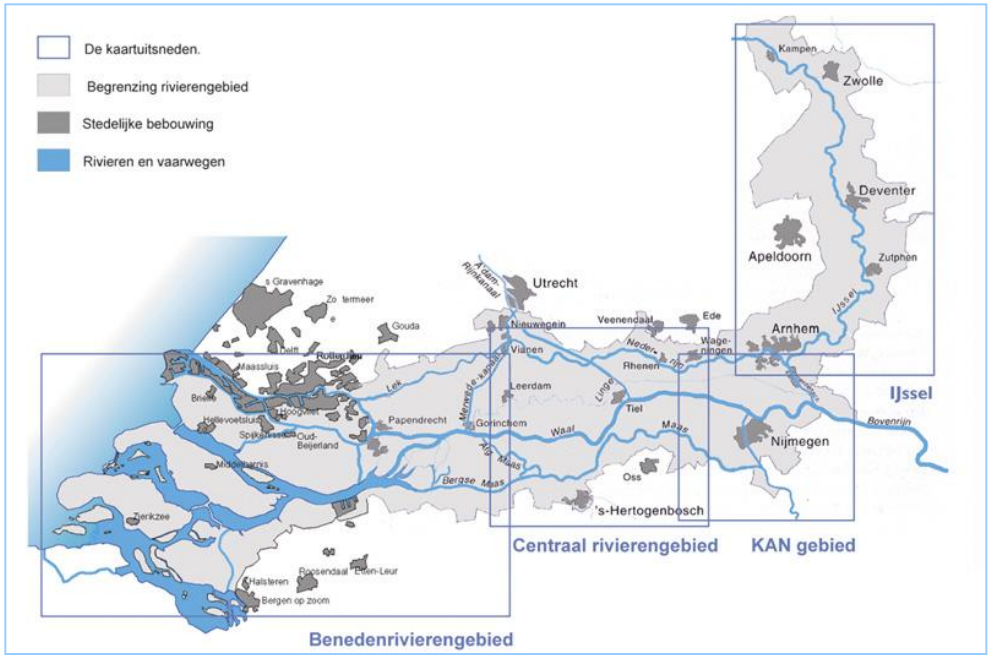
Double aim of Room for the River

1. Safety

Double aim of Room for the River

2. Spatial quality

The Room for the River planning area



- 3 ministries
- 5 Provinces
- 16 Waterboards
- 100 Municipalities

39 projects carried out along the river branches of the Rhine

All governance levels are involved in implemetation of the projects

Room for the river:
An integrated Approach

- Involve all governmental levels
- Communicate with the stakeholders
- Consider all relevant aspects
- Consider all possible measures
- Use Policy Analysis as a tool

But what if climate change goes on?

- In stead of reacting when the next crisis or disaster happens we have to look forward and develop our strategy for the long term.

…… to advise on a sustainable future for the Dutch delta

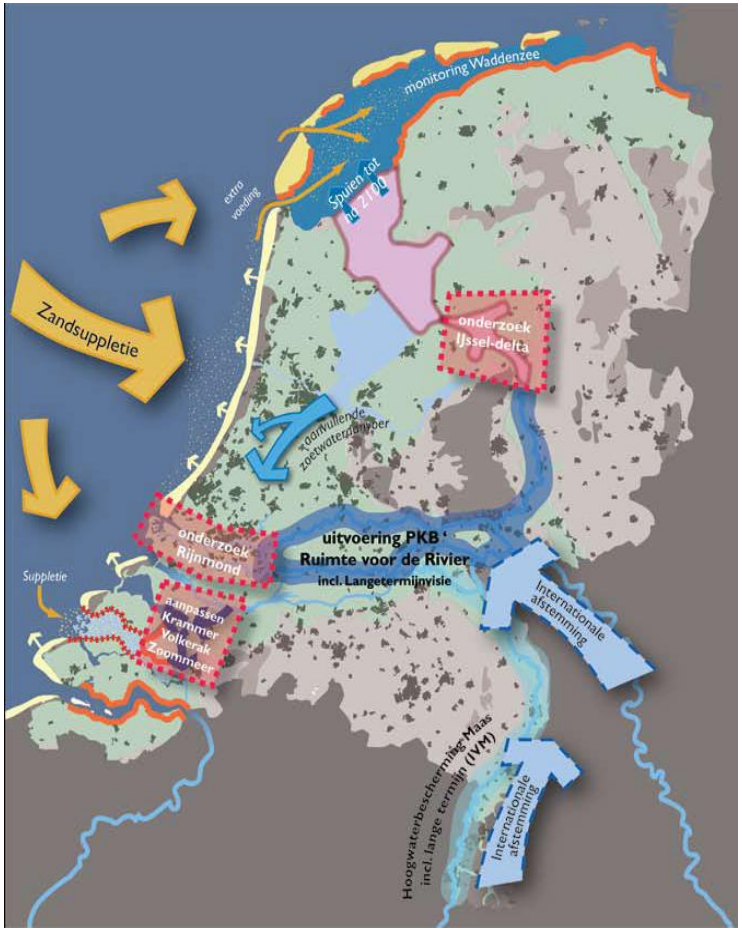
Without a flood disaster!

Driving force: climate change

Main message Delta committee

Main message:

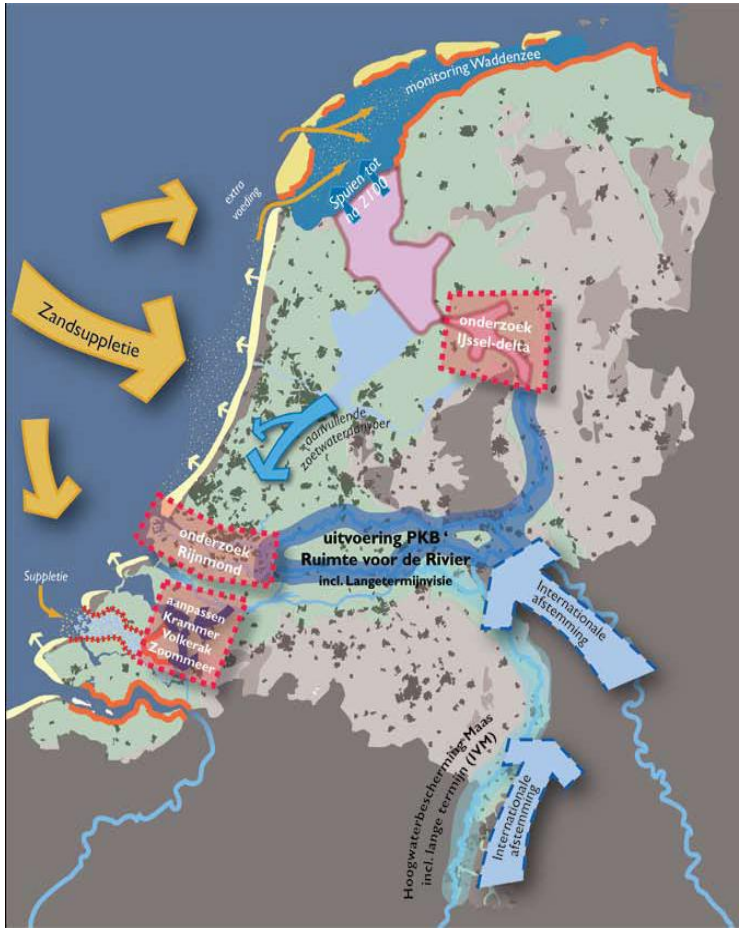
The threat is not acute, but the task for water safety and fresh water supply is urgent!



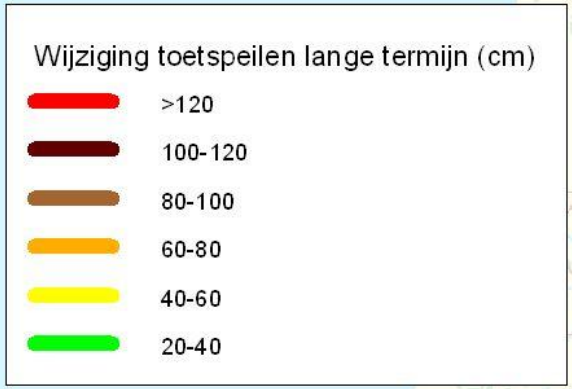
Recommendations Delta committee

Recommendations:

- Technical:
  - *Delta programme*
    - Flood protection
    - Fresh water supply



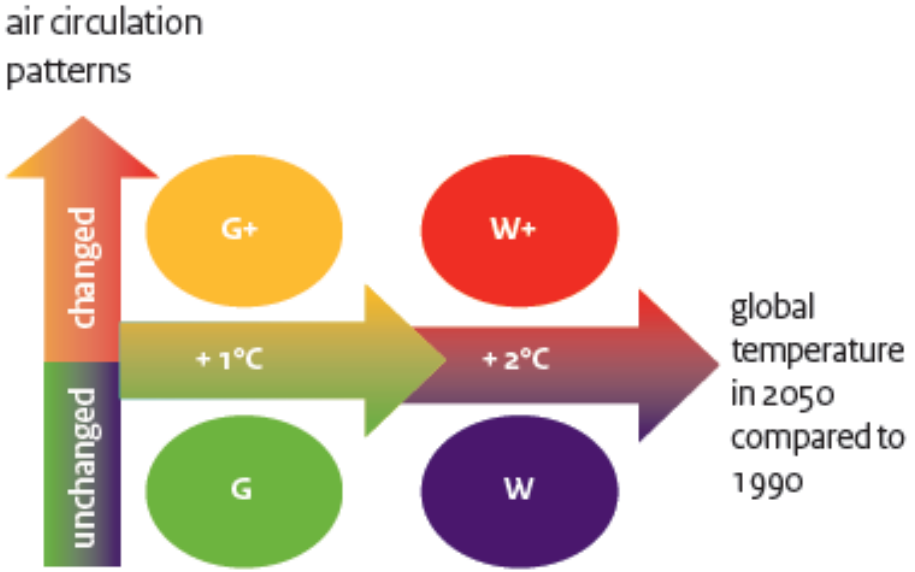
Potential Increase of the Water level Long term (2100)



Discharge 18.000 m^3/s

The Delta Programme: A national dialogue

- Preparing ourselves for the possible effects of climate change a national dialogue is started that should lead to a shared vision on the future and political decissions in 2015

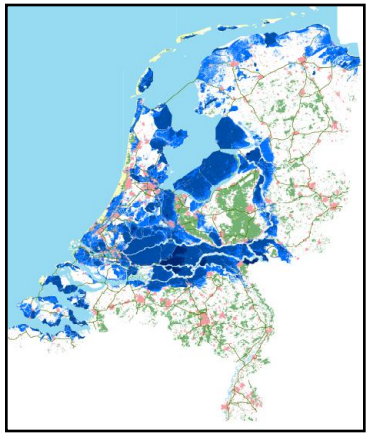


decissions

Flood protection standards 2014

Strategy fresh water supply 2014

New legislation spatial planning domestic areas 2014



Protection Rotterdam area 2014

Water level management IJsselmeer, 2014

Some lessons learned

- Do’nt wait for the next disaster to act.
- Integrated water resources management means that the river is treated in an integrated way: There should be one organization responsible for the decision making process, and good communication and stakeholder involvement are vital.
- One of the most important relations is the relation between water management and spatial planning. Often they are not eneough connected. In urban planning water should be an important steering element
- Natural ways of water management are not only a blessing for the ecololgy but mostly are also effective en efficient in the perspective of integrated water management
- Good water governance asks for an open eye for not technical aspects of water management policy and practice (institutional ans relational aspects)


Thank you
for
your attention