



Rijkswaterstaat
*Ministry of Infrastructure and the
Environment*

Watermanagement in the Netherlands

**Roles and Responsibilities
of
Rijkswaterstaat**

**National
Watermanagement Centre**





Geographical conditions the Netherlands

Main water systems

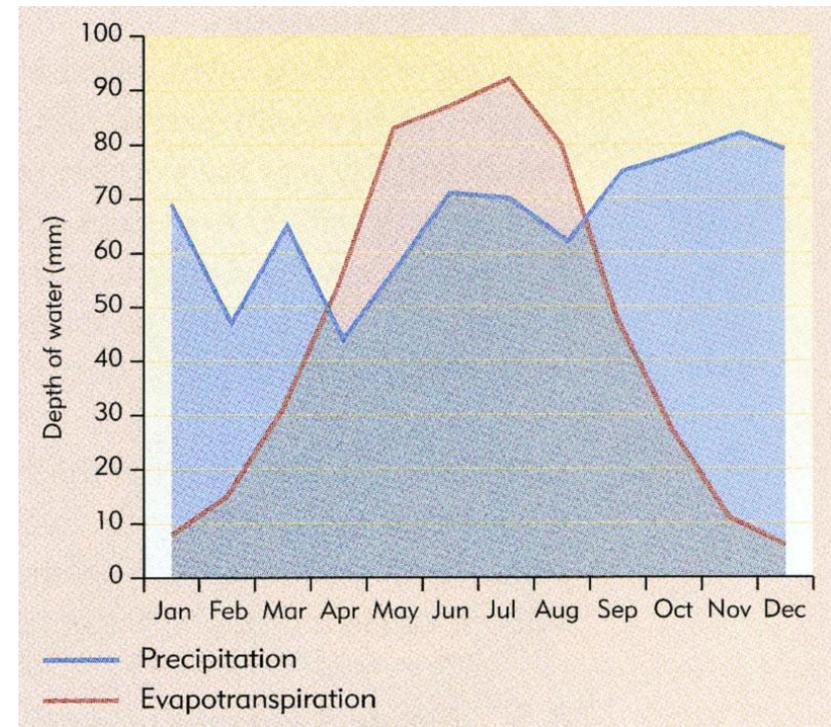
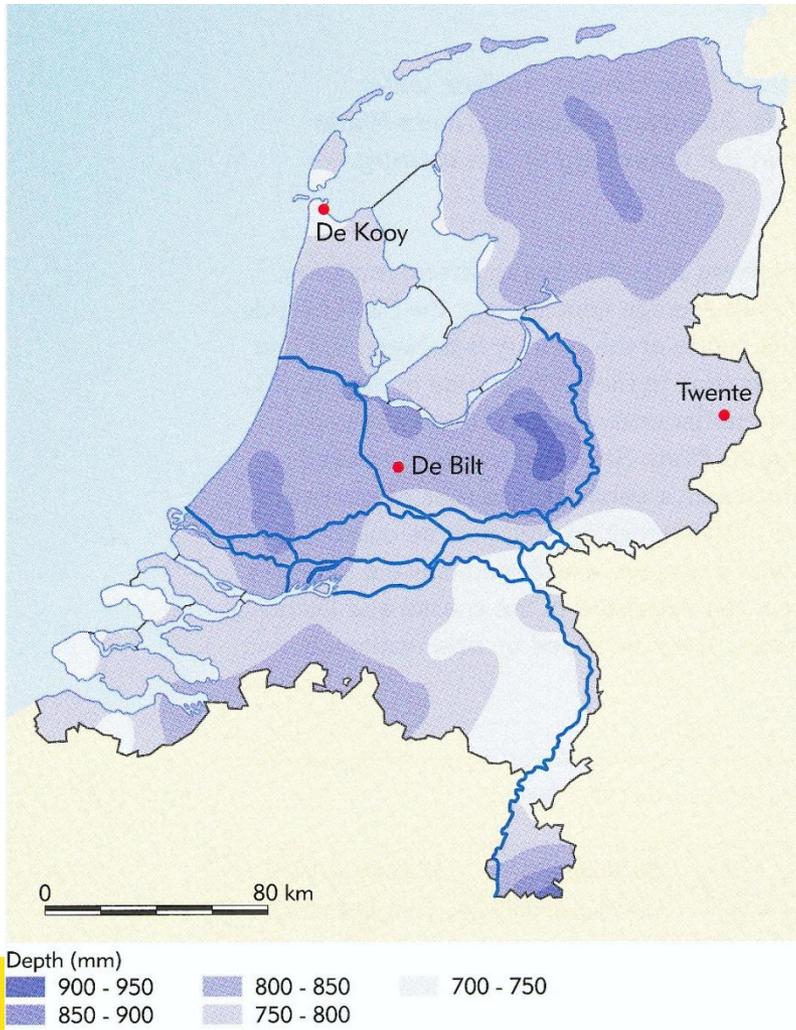


Soil types, elevations





Precipitation and evapotranspiration



4 major Rivers and their catchment areas

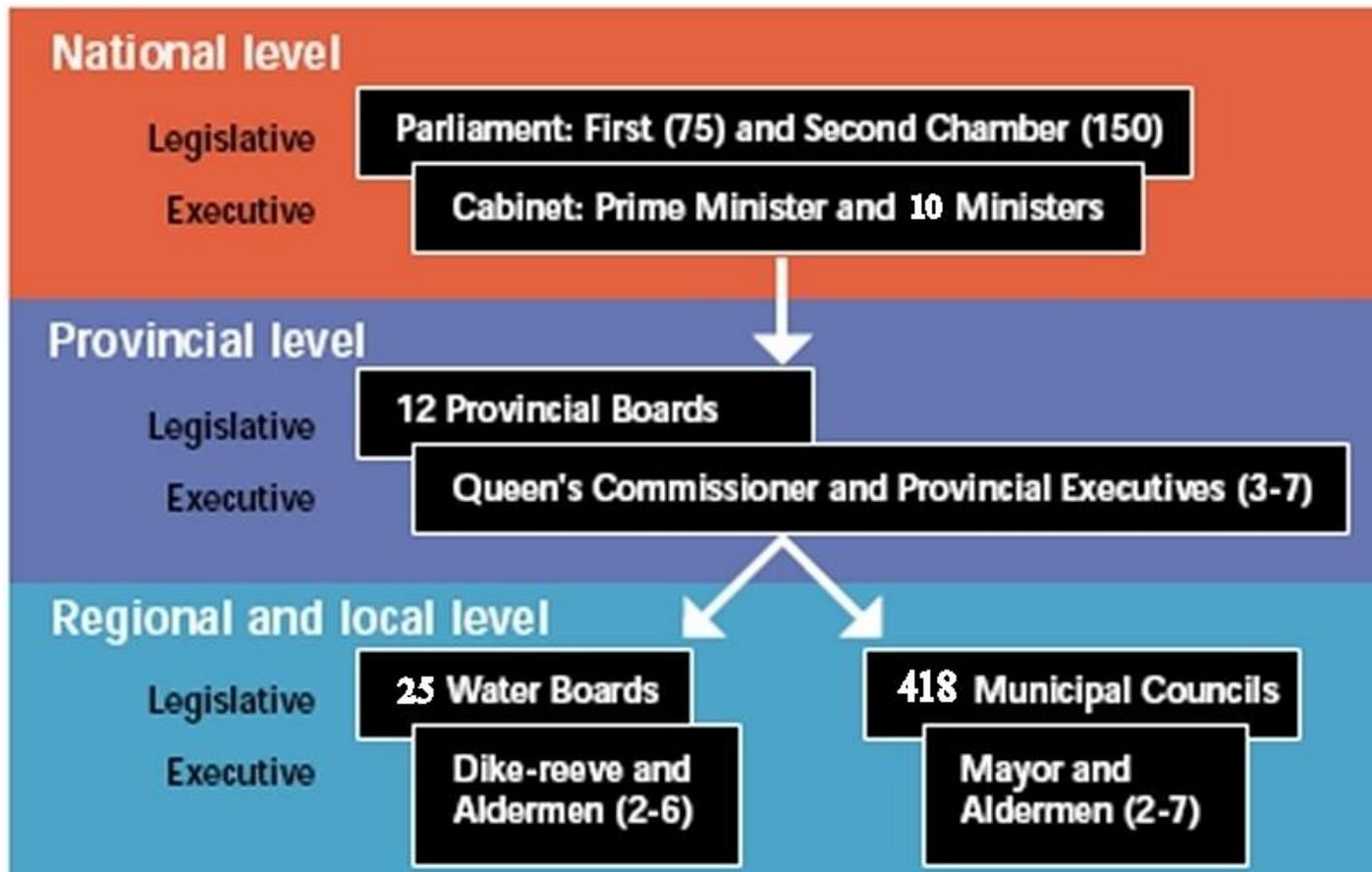
- Rhine
- Meuse
- Scheldt
- Ems

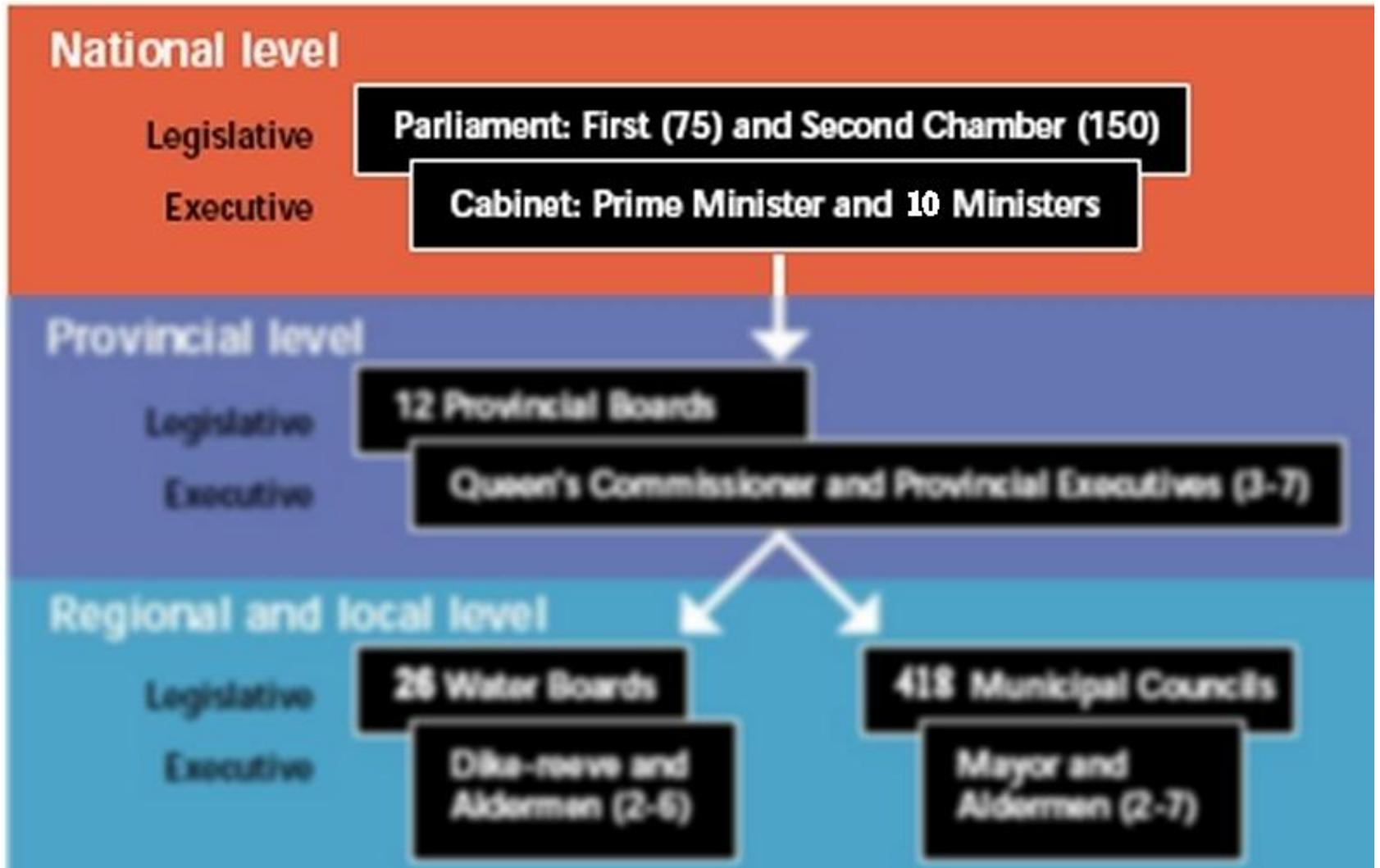




Organisation and Responsibilities

three levels of Government in the Netherlands:

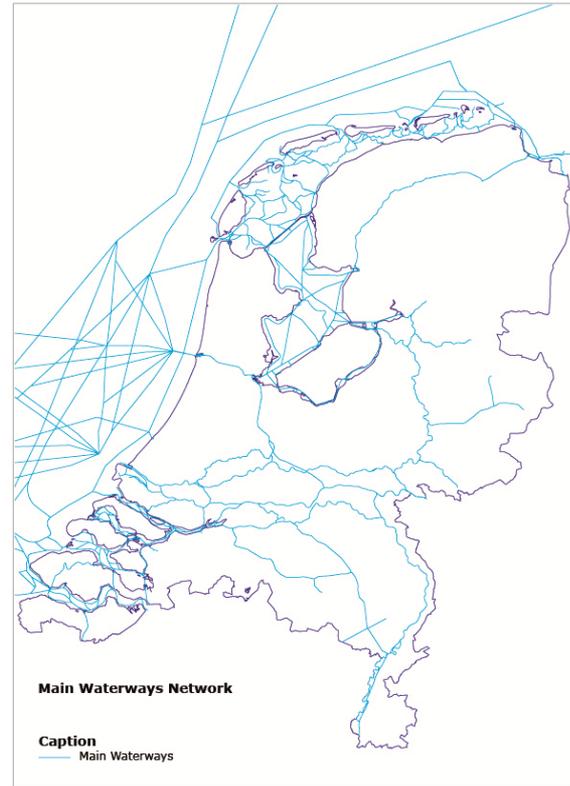






Rijkswaterstaat's area of management

RWS is the operational manager of 3 national infrastructure networks





National level (1)

Rijkswaterstaat (since 1798), the implementation agency of the Ministry of Infrastructure & Environment, is responsible for:

- State Waters;
65.250 km² of surface water
(incl. the North Sea)
- 44 kilometres of sand dunes
- 325 kilometres of dykes and dams
- 2706 kilometres of banks
(along the rivers and canals)
- 16 weirs;
- Closure dykes (e.g. Afsluitdijk);
- 4 storm surge barriers;





National level (2)

National Water Management tasks include:



Sand supply, coastline maintenance



Inland shipping and transport



River management



Distribution of water



Rijkswaterstaat

organization 2013

Specialized Departments:

- RWS BS
- RWS CD
- RWS CIV
- RWS GPO
- RWS PPO
- RWS RVR
- RWS VWM
- RWS WVL

Regional Departments:





Landreclamation works

- Wieringermeerpolder : 20,000 ha's (1927 – 1932)
- North East Polder : 48,000 ha's (1936 – 1942)
- Eastern Flevoland : 54,000 ha's (1950 – 1957)
- Southern Flevoland : 44,000 ha's (1959 – 1968)

Enclosed dam (1927 – 1932)



The Zuiderzee project



The new land is used for:



Housing



Farming



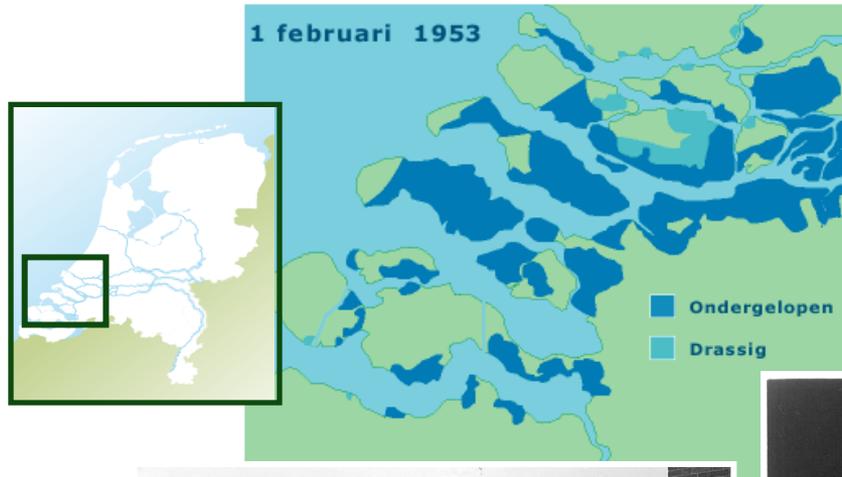
Forests



Nature



Storm surge 1953



175.000 ha's flooded and
1.800 deaths

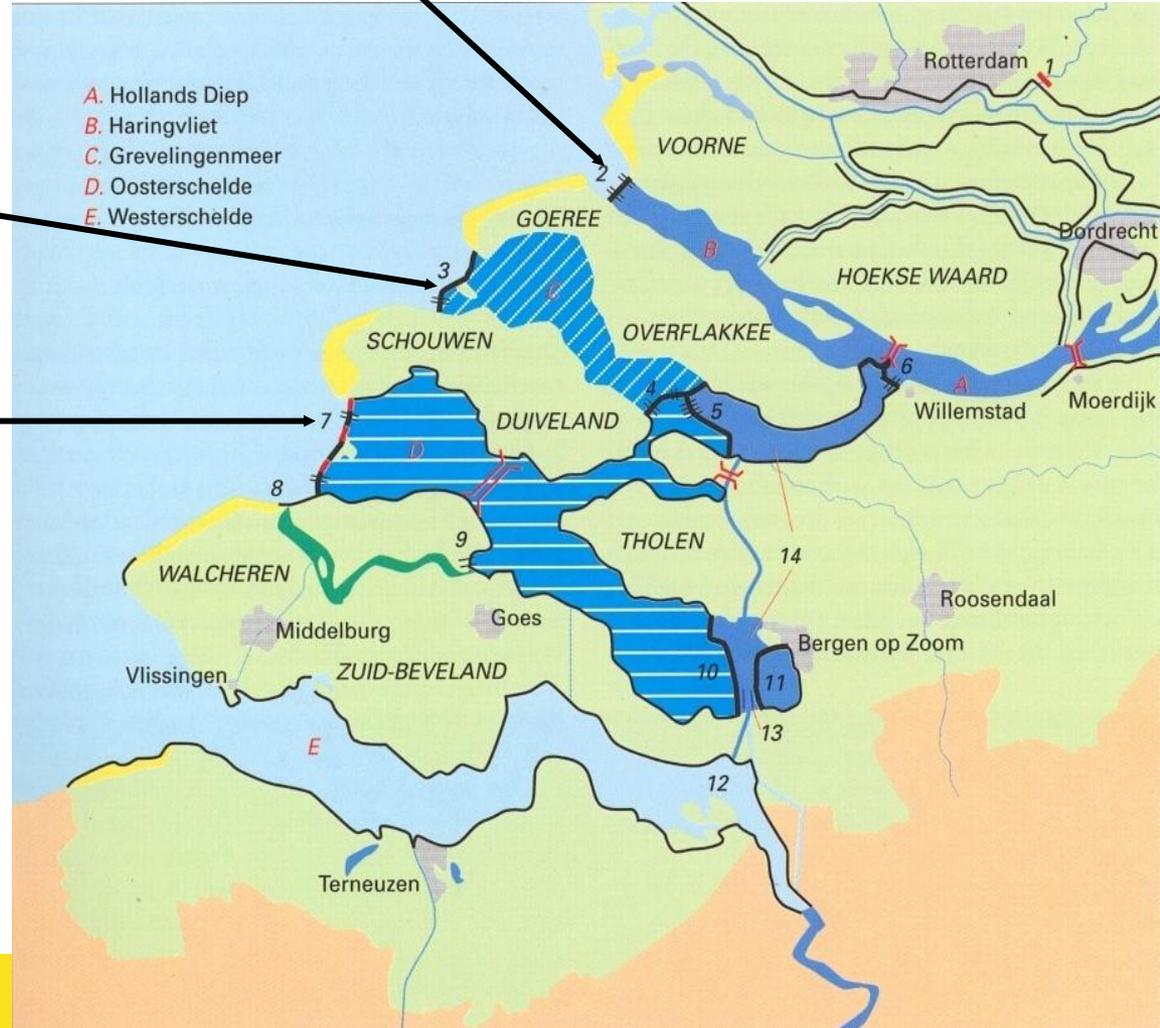




The Delta project

Haringvlietdam

Brouwersdam



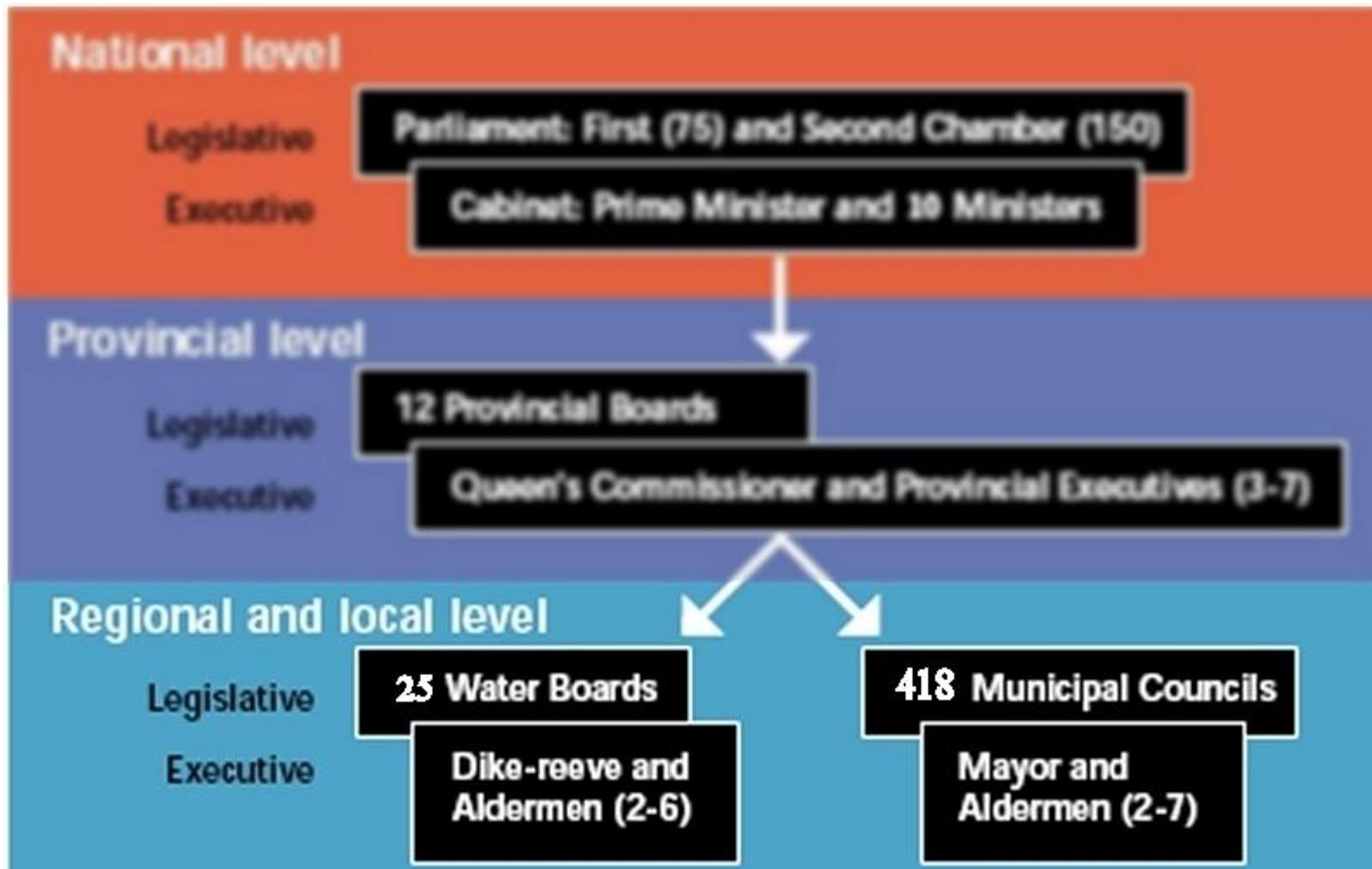
Storm surge barrier in the Eastern Scheldt



High waters in the Rivers

- 1993
- 1995







Regional level (1)

25 Waterboards (2013)

Waterschapskaart van Nederland
1 per 1 januari 2009
UNIC VAN WATERSCHAPPEN
De voor actuele adresgegevens de website van Unie van Waterschappen
www.unic.nl en www.waterschap.nl



Only Water Management tasks:

- Flood protection (dykes, dunes)
- Surface water quantity
- Surface water quality
- Urban wastewater treatment
- In some cases: management of rural roads and inland waterways
- Operational groundwater management
- Boundaries are (natural)-basins, drainage areas, dike rings.



Regional level (2)

Waterboards

Waterschapskaart van Nederland

(per 1 januari 2009)

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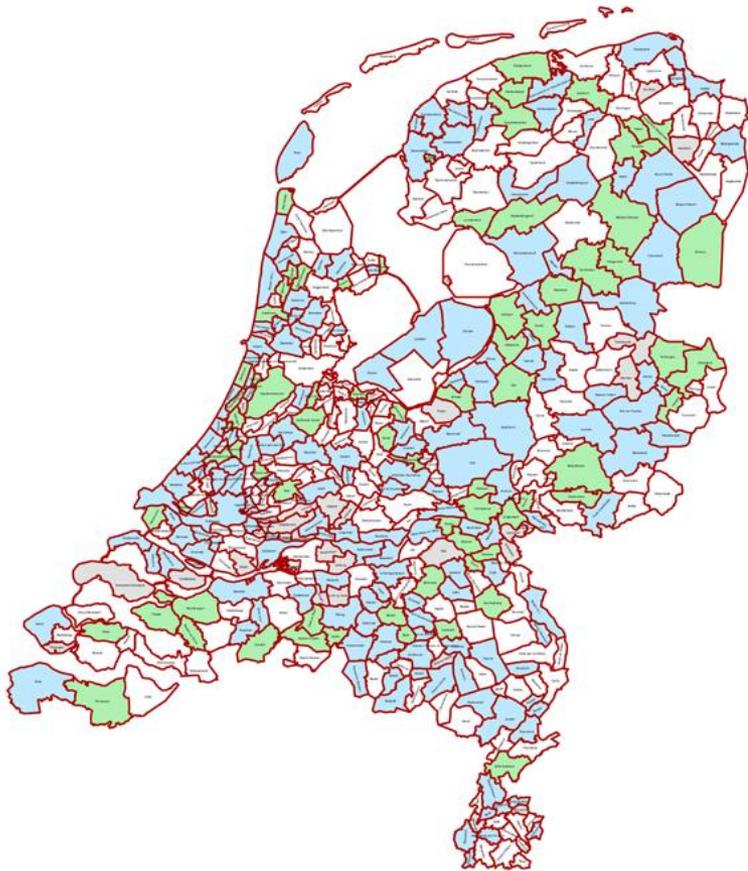


- Waterboards are the oldest form of **democratic government** in the Netherlands (as from the 13th century);
- **Financially independent**: raise waterboard charge and water pollution levy on all inhabitants;
- **Elections** for members of the Waterboard assembly every 5 years;
- The **Chairman** (*Dyke reeve*) of the assembly is appointed by the Crown for a period of 6 years;
- Total **Staff**: ±10500 employees.



Local level

418 Municipalities



Water management tasks:

- Stormwater collection
- Urban groundwater
- Sewage collection system



Municipalities raise taxes to fund the sewage collection system
Elections every 4 years members of the local councils



RWS, Lelystad

- Water, Transport and Environment, tasks on water management:
 - knowledge and expertise for a reliable, clean and safe main water system in the Netherlands, and
 - providing efficient and effective water management for all users, today and in the future;
- Using the expert knowledge from a.o. the Deltares institute





Deltares

Enabling Delta Life



Deltares

- Formed January 1st, 2008 as an independent institute for applied research and specialist advice in the field of deltas, coasts and rivers
- Formed out of:
 - parts of Rijkswaterstaat (*± 150 staff*)
 - WL | Delft Hydraulics
 - GeoDelft
 - part of TNO Built Environment and Geosciences
- More than 800 employees
- The Centre for Water Management coordinates and manages the knowledge demands from Rijkswaterstaat as carried out by Deltares.



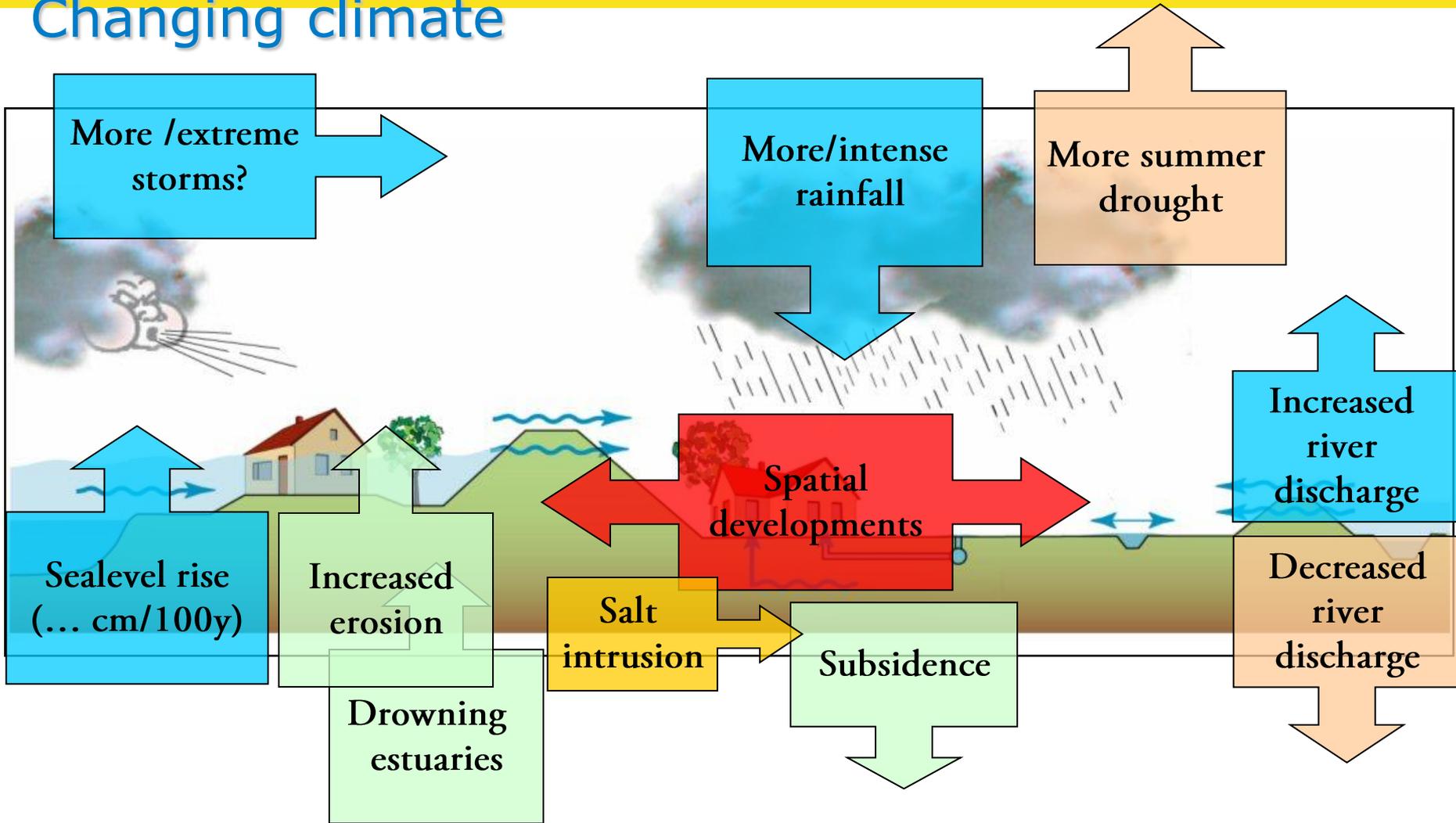
Total Costs of Water Management (2010)

	Million €	%
National Government <i>Safety against flooding and the management of waterbodies</i>	1070 <i>(general taxation)</i>	21
Provinces	230	4
Waterboards	2600	50
Municipalities	1300	25
Total:	5200	100

Source: 'Water in beeld 2010'



Changing climate





Questions?

