

Introduction



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Hoogheemraadschap van
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Source: wikipedia

Climate adaptation in action

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The Netherlands without flooddefense

29% of the Netherlands under sealevel

55% of the Netherlands will flood

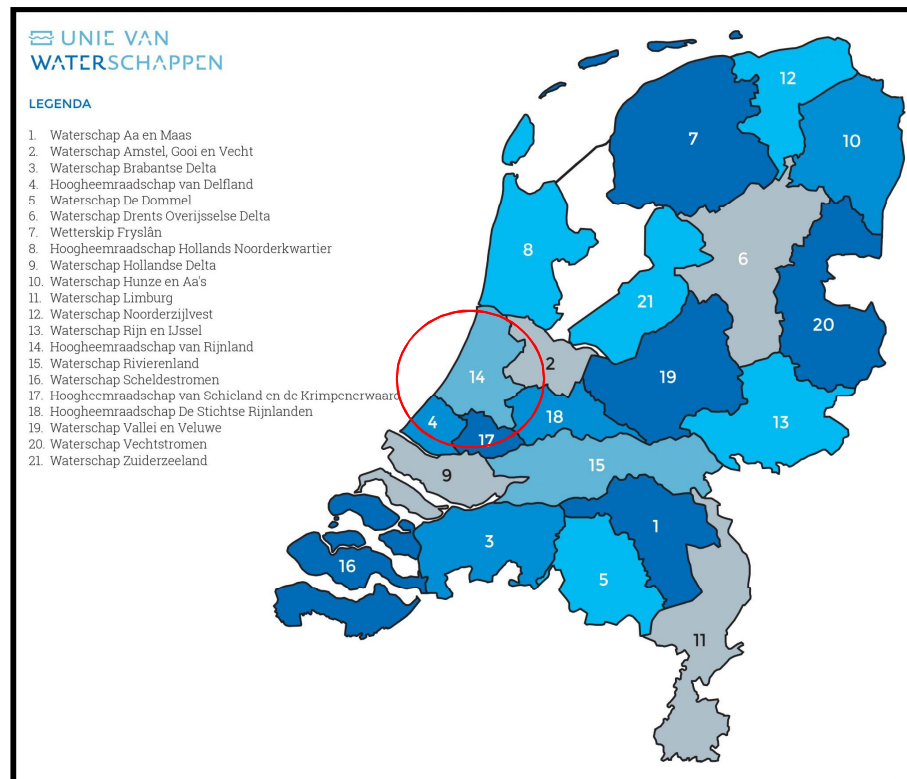
9 million people

70% of GDP

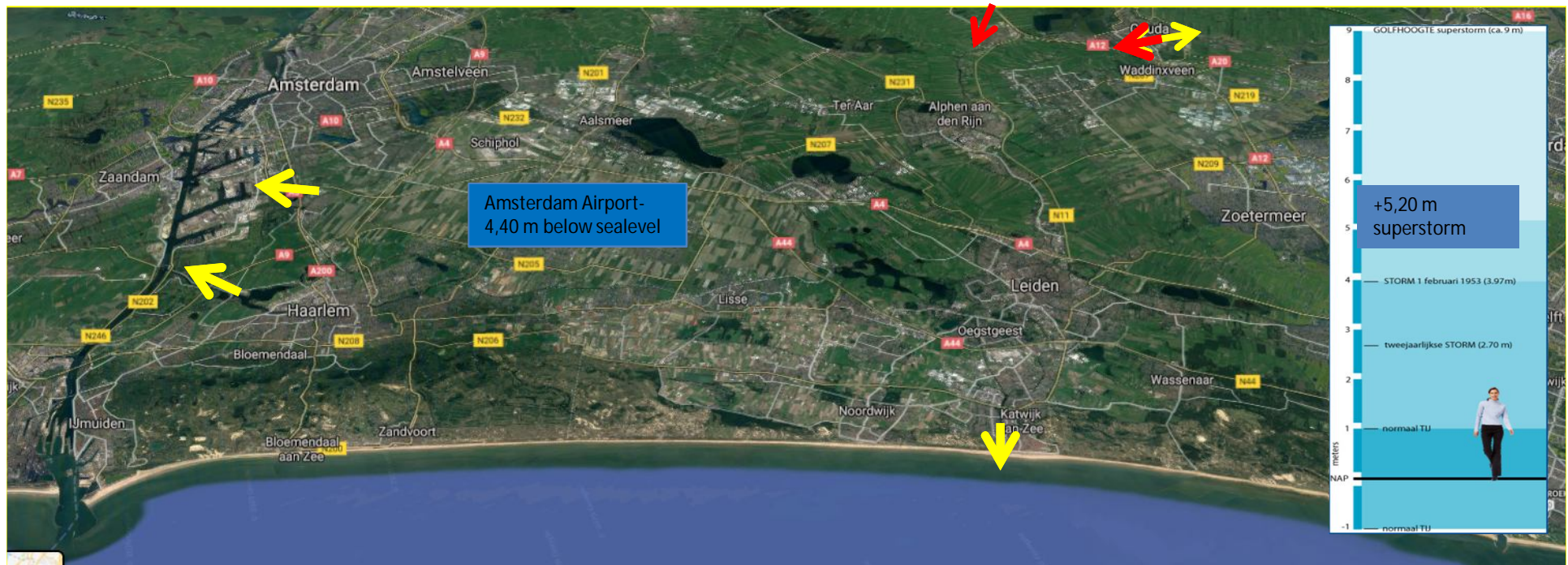


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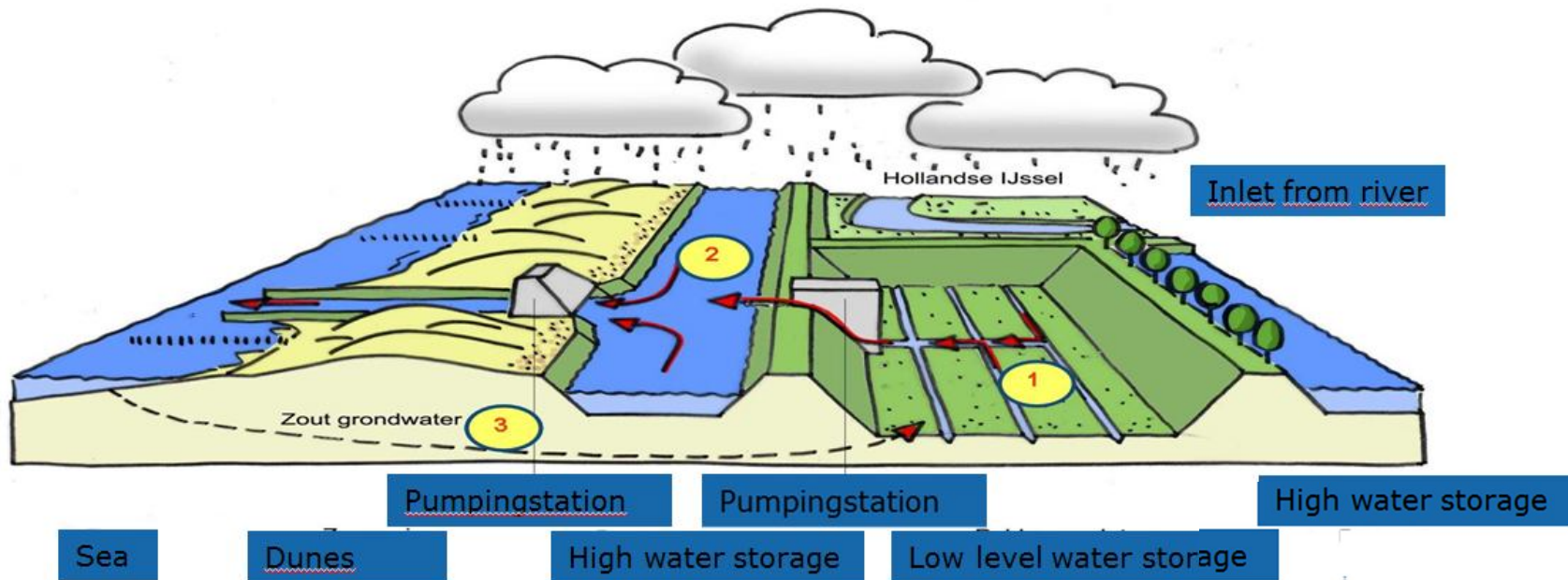
21 Regional Dutch Water Authorities



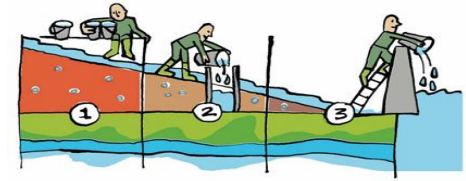
Primary pumping stations (4) and inlets DWA 14



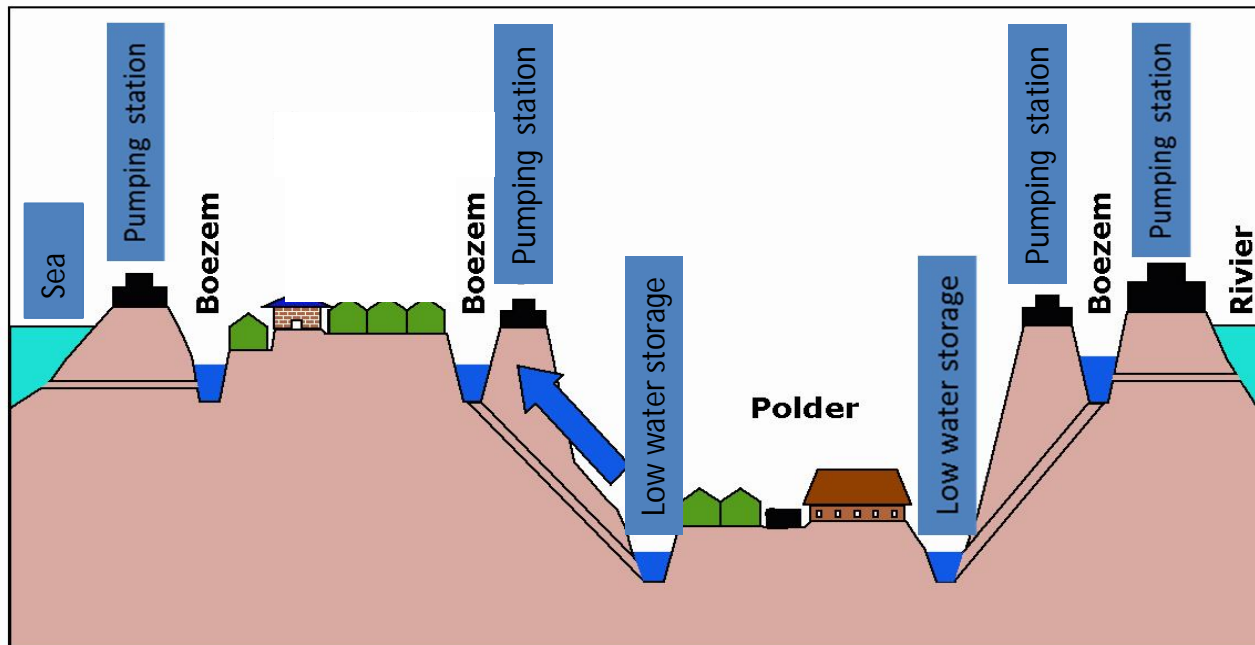
Watersysteem DWA 14 (winter)



Watermanagement principle:



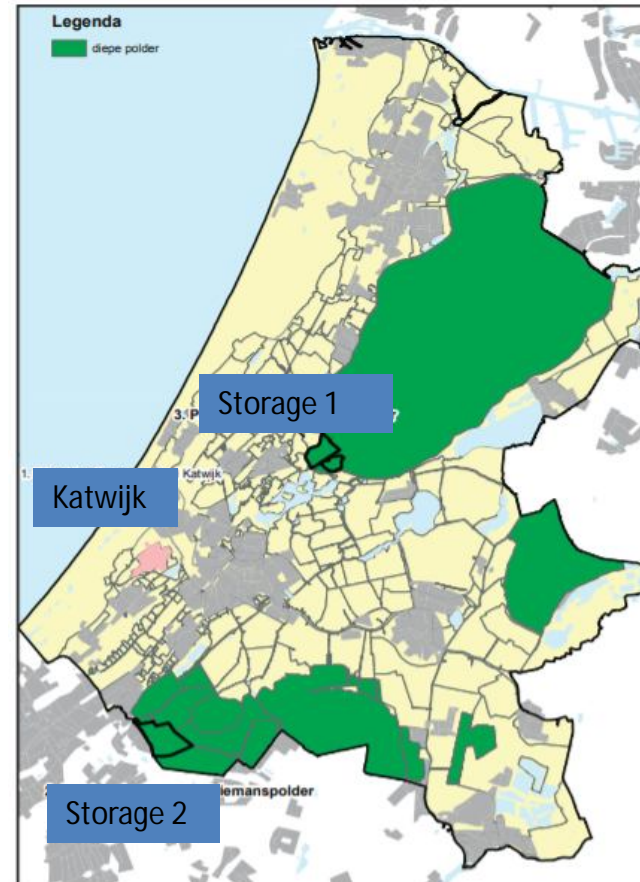
1. Store, 2. Retention, 3. Pumping



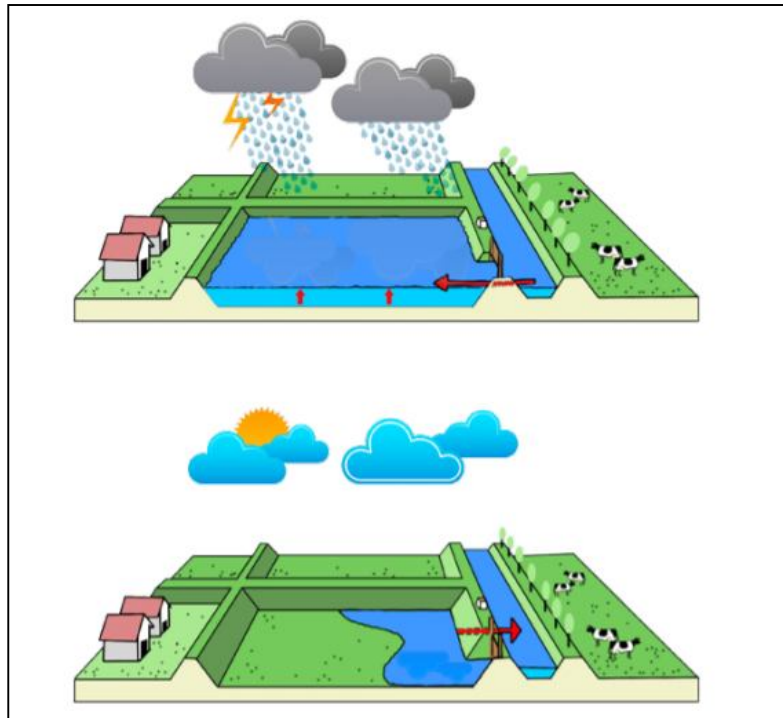
Waterstorage
(boezem): 4.5
million m³
(tolerance: 0.10 m)

Climate adaptation DWA 14

- Storage 1: 1 million m³ (planned)
- Storage 2: 2 million m³ (finished 2020)
- Doubled pumping capacity Katwijk (2011)
- 2010: reduction 10 cm in 6 days
- Future: reduction 10 cm in 2 days



High peak storage reservoir

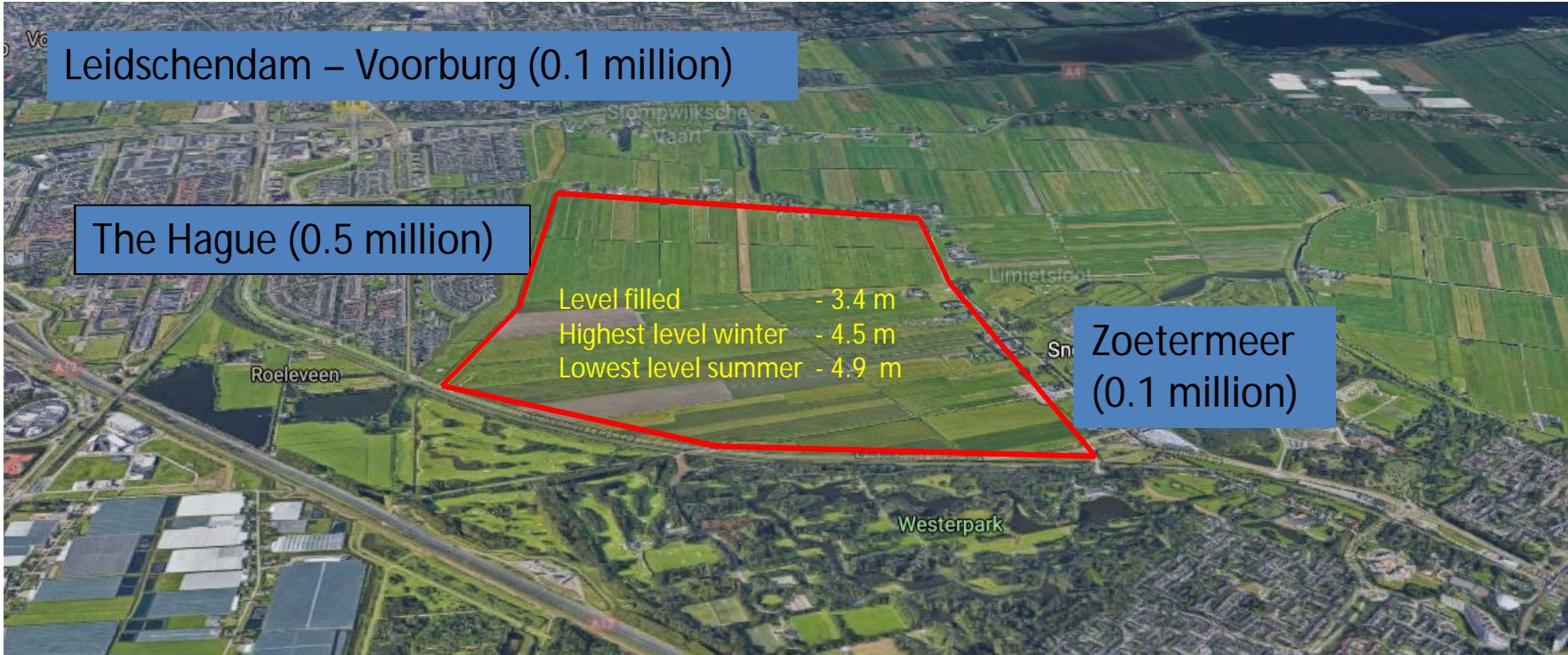


2 high peak
storages:
3 million m³
(1 million in
construction)

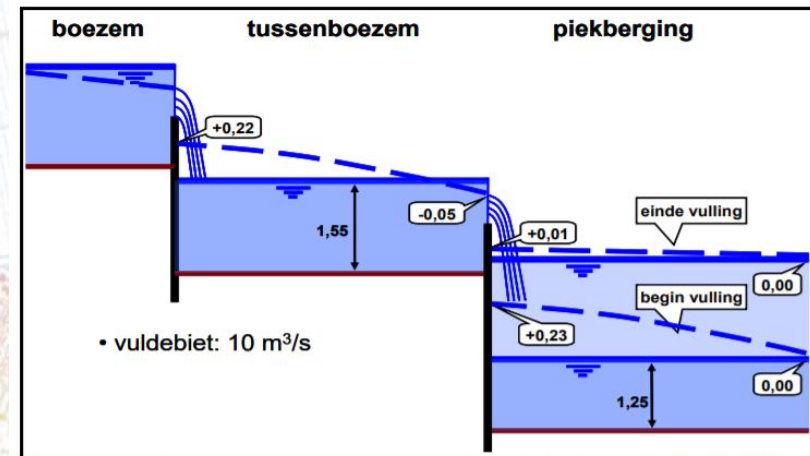
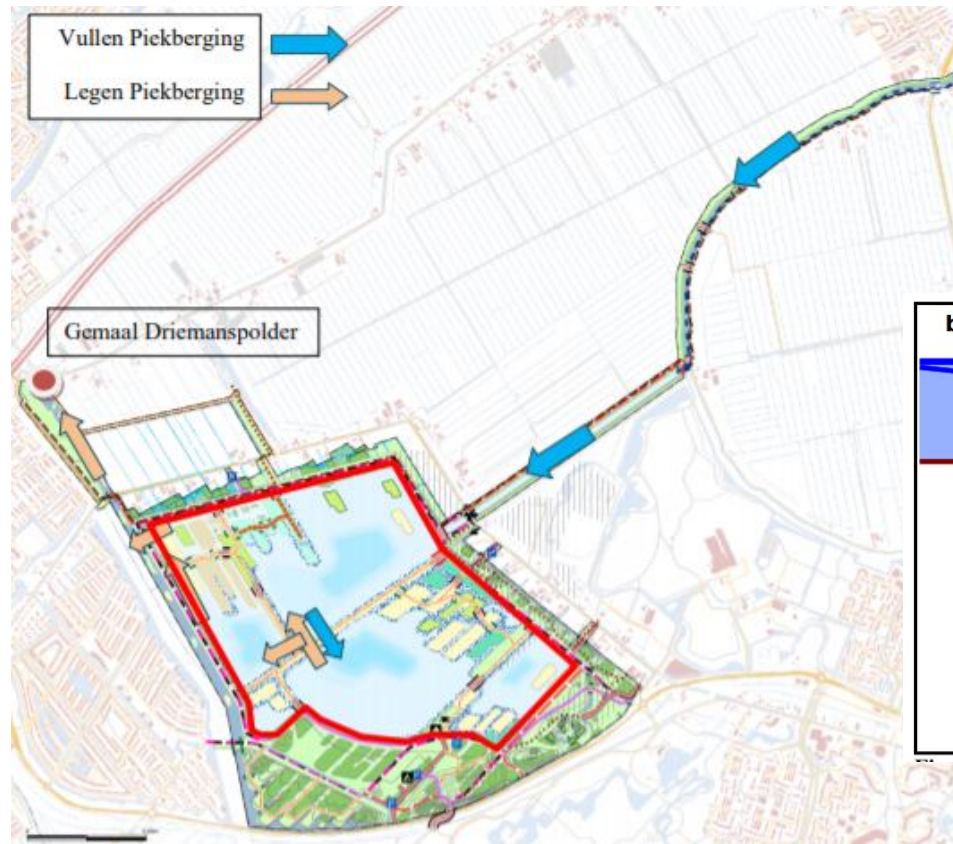
High peak storage reservoir Driemanspolder 2020



- 2 million m³
- 350 ha new recreation/nature
- Lake: 200 ha
- Filling time: 2 days
- Budget € 80 million



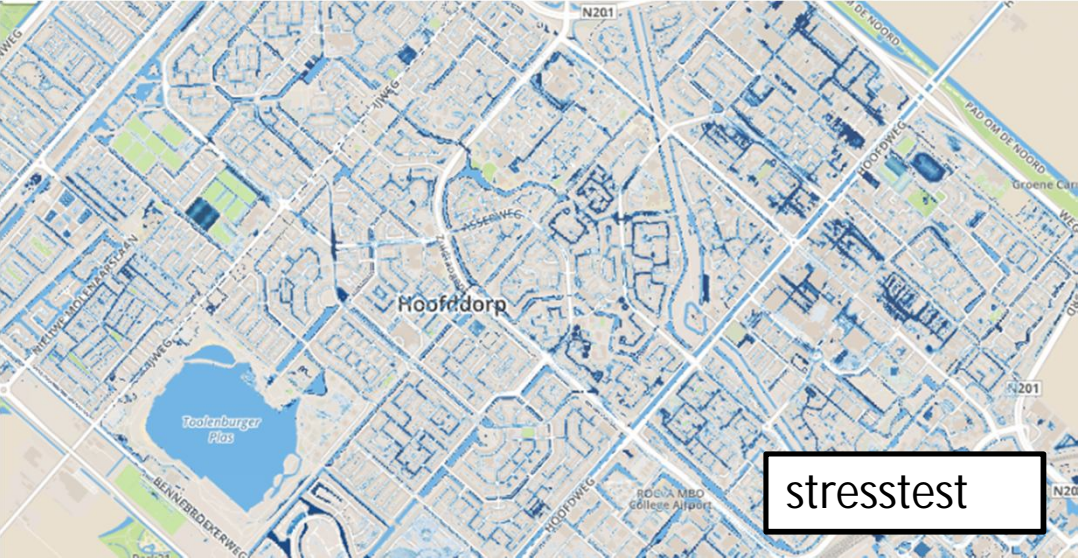
Inlet and outlet



The second high peak reservoir



Deltaplan Climate Adaptation



Flooding



Drought



Subsidence

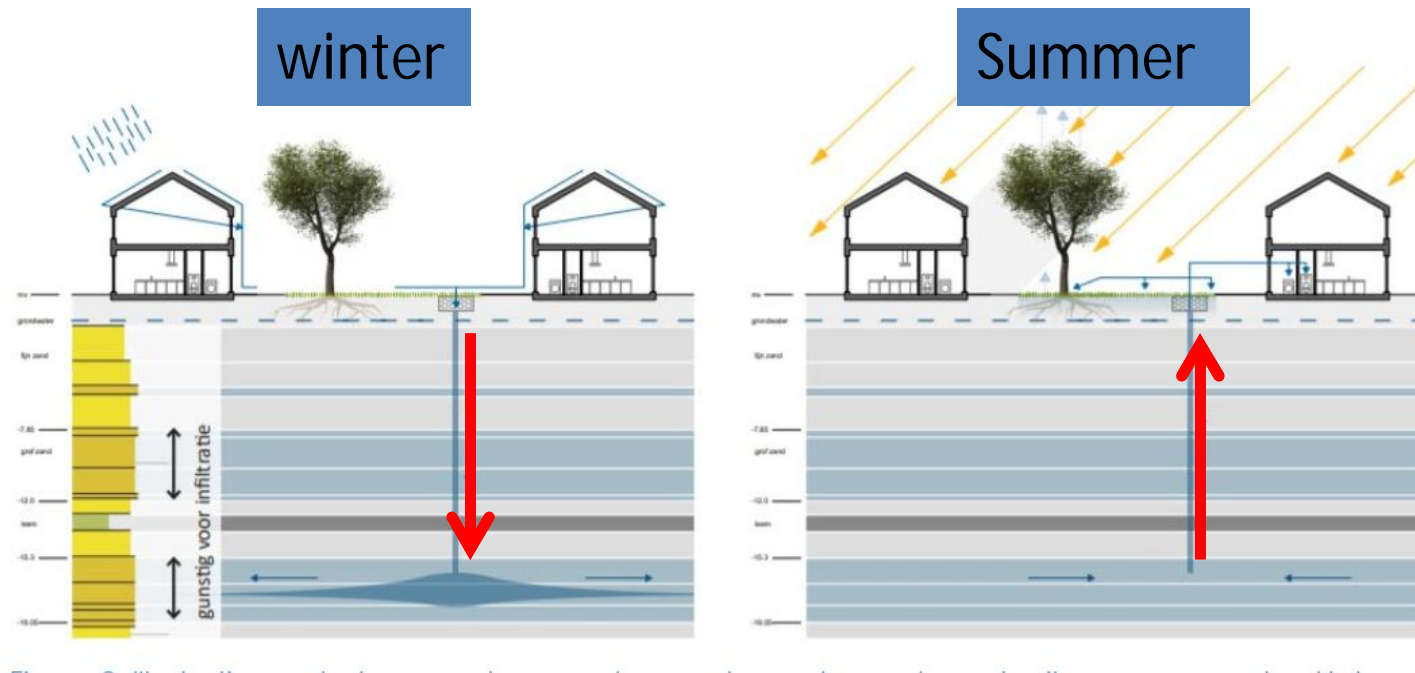


Green roof retention



Source: adcdak.nl

Storage fresh water



Source: Alphen aan den Rijn



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