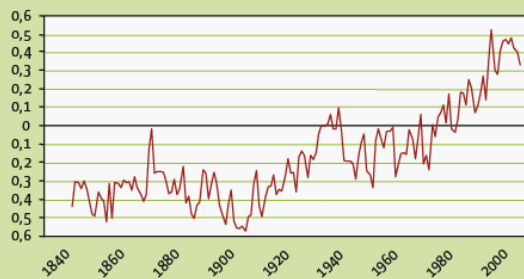


Climate Copenhagen Adaptation and Environment



Temperaturanomali (°C)



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Environmental and climate planning

The presentation consist of three cases:

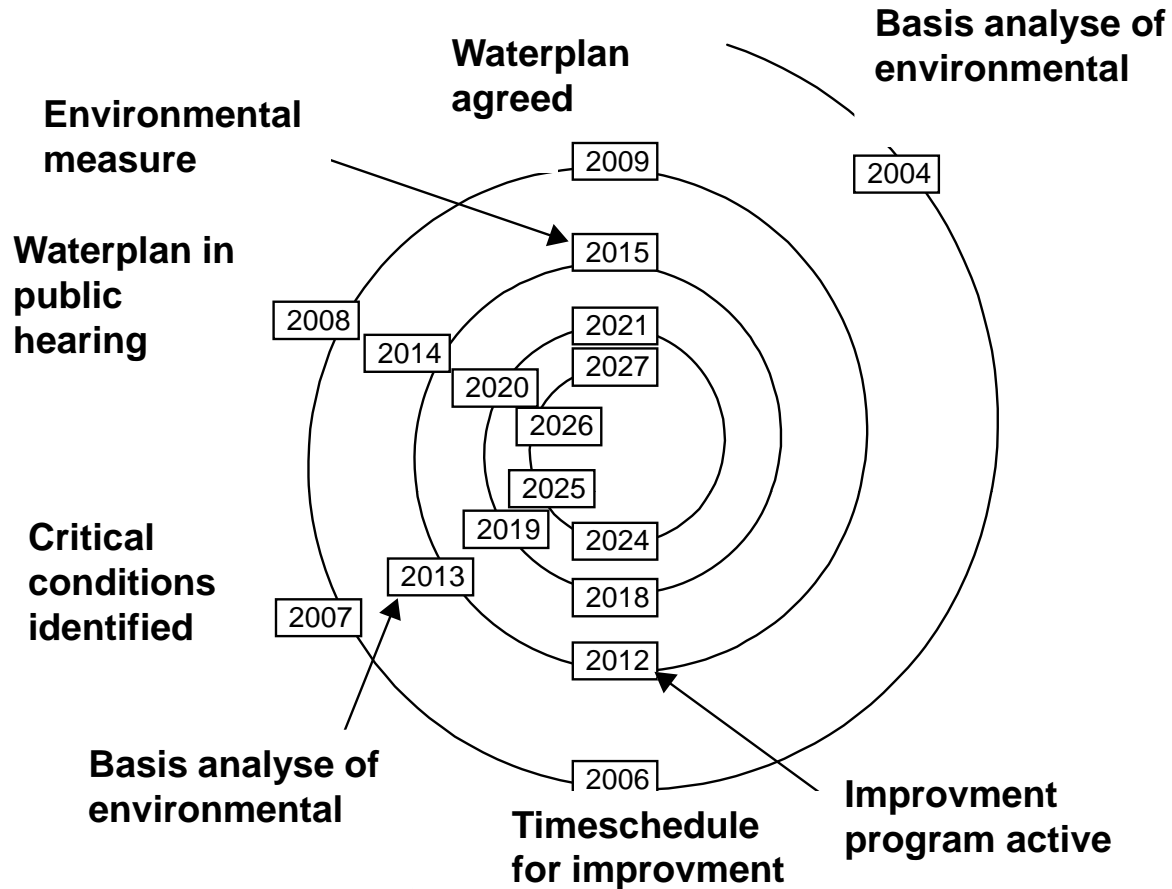
- 1: Environmental planning process in Copenhagen
- 2: How to manage more and intense rainfall (harbour bath)
- 3: Sustainable city development ("Nordhavn")



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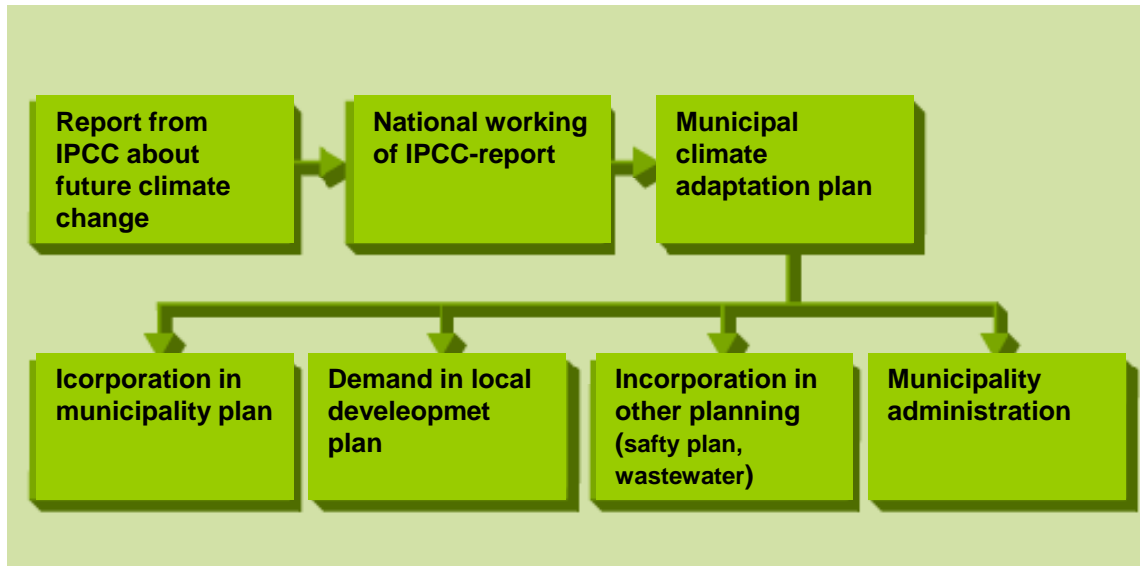
The water planning cycle



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Municipal climate adaptation plan



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Municipal plans

Climate plan

Climate adaptation plan

Wastewater plan

Groundwater plan

Plan for polluted soil

Municipal waterplan

Municipal plan



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Mitigating more rain and and developing a recreativ waterfront in Copenhagen



- **Main problem: A combined sewage system**
- **A plan for reducing sewage owerflov was made an accepted by the city administration in 1992**
- **The plan contains an assessment of every source in the harbour**
- **Expenses and time periods to solve the problems were calculated and a plan of action was established**



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Tools

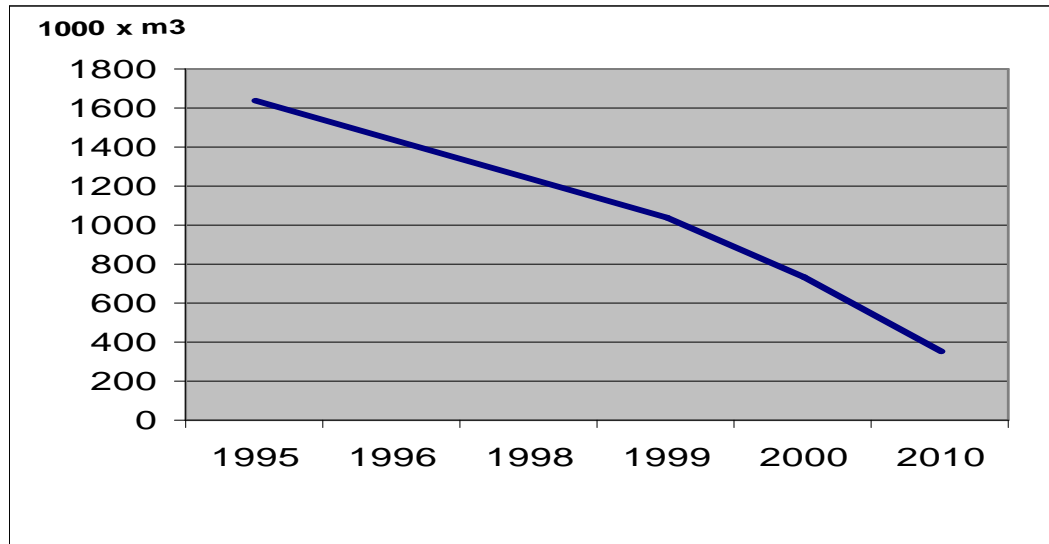
- **Construction of rain- and sewagewater reservoirs**
- **Reduction of rainwater to the sewage**
- **Cleaning of run of from roads**



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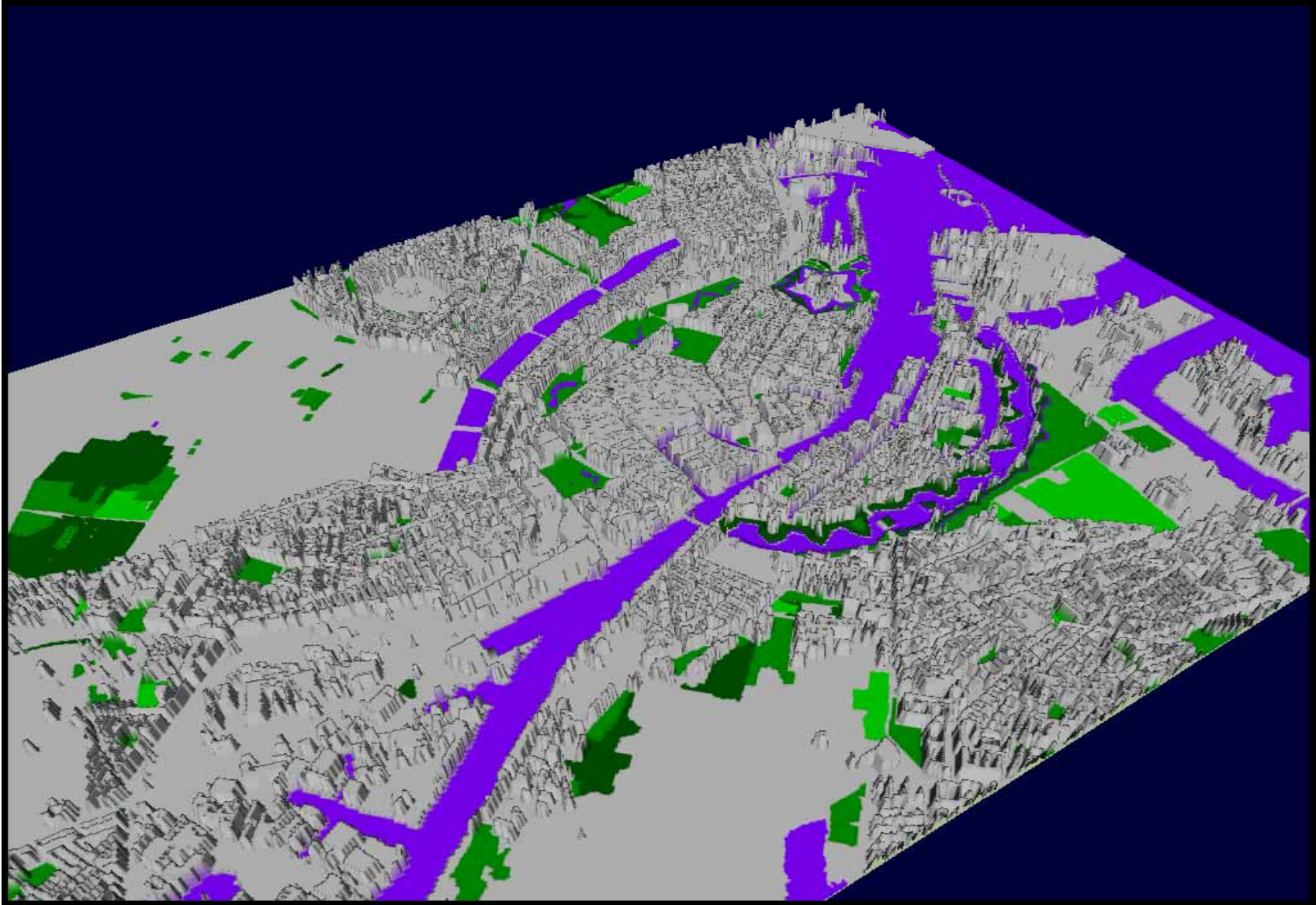
Reduction in wastewater from overflows to Copenhagen harbour



- **Whit the reduction it is now possible to bath in the harbour whiteout getting sick**
- **Reduction to zero level is not economic possible**
- **Therefore a early warning system is established**

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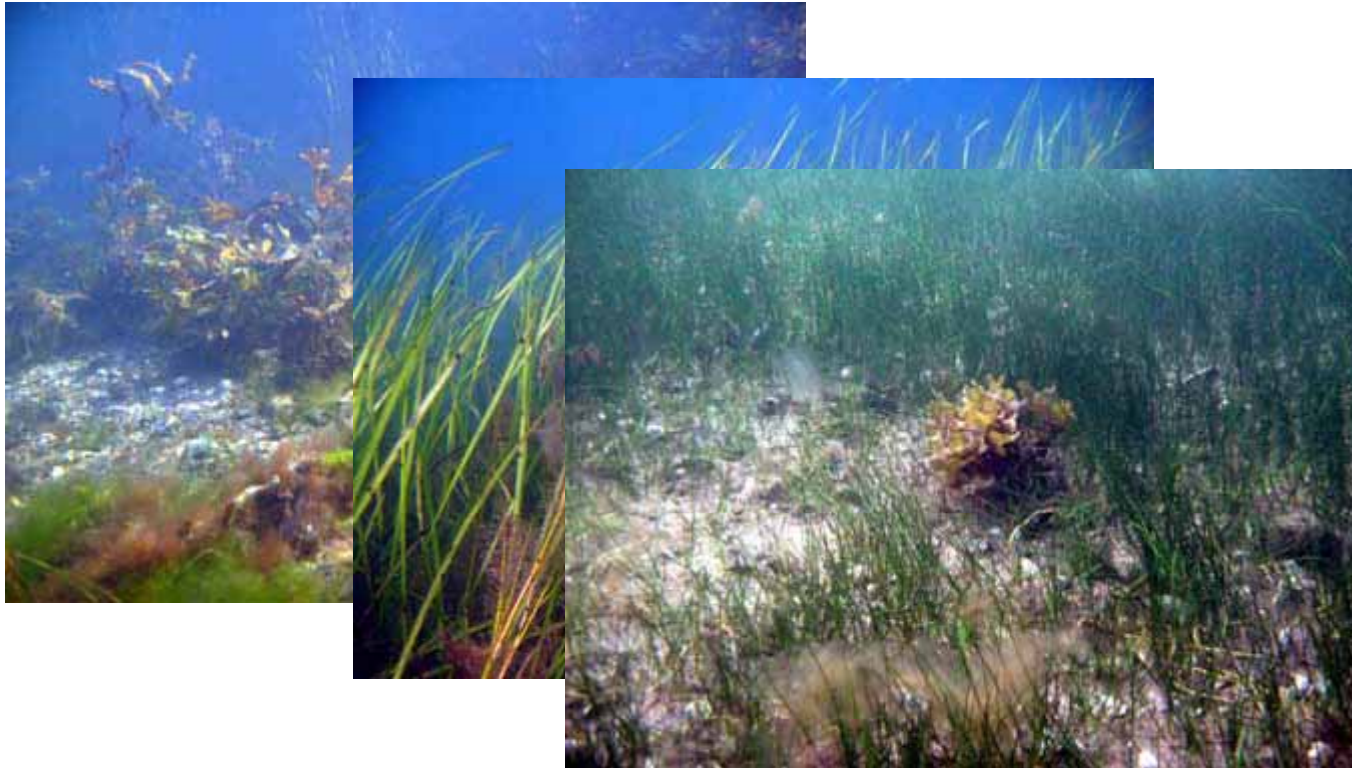
The new harbour bath



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Environmental improvment



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Lessons from harbour project

- Don't establish a combined sewer systems!
- Water is a resource store the rainwater and reuse it, clean it if necessary
- Make socio economic calculation of projects
- Carry out long-term planning



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Nordhavnen

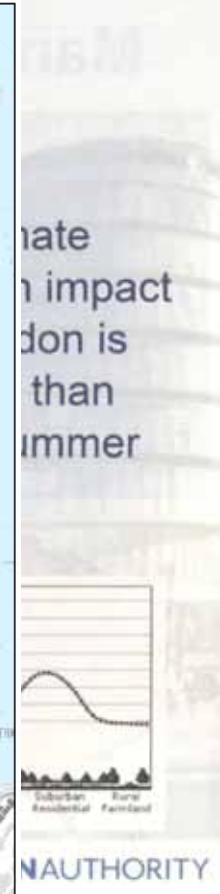
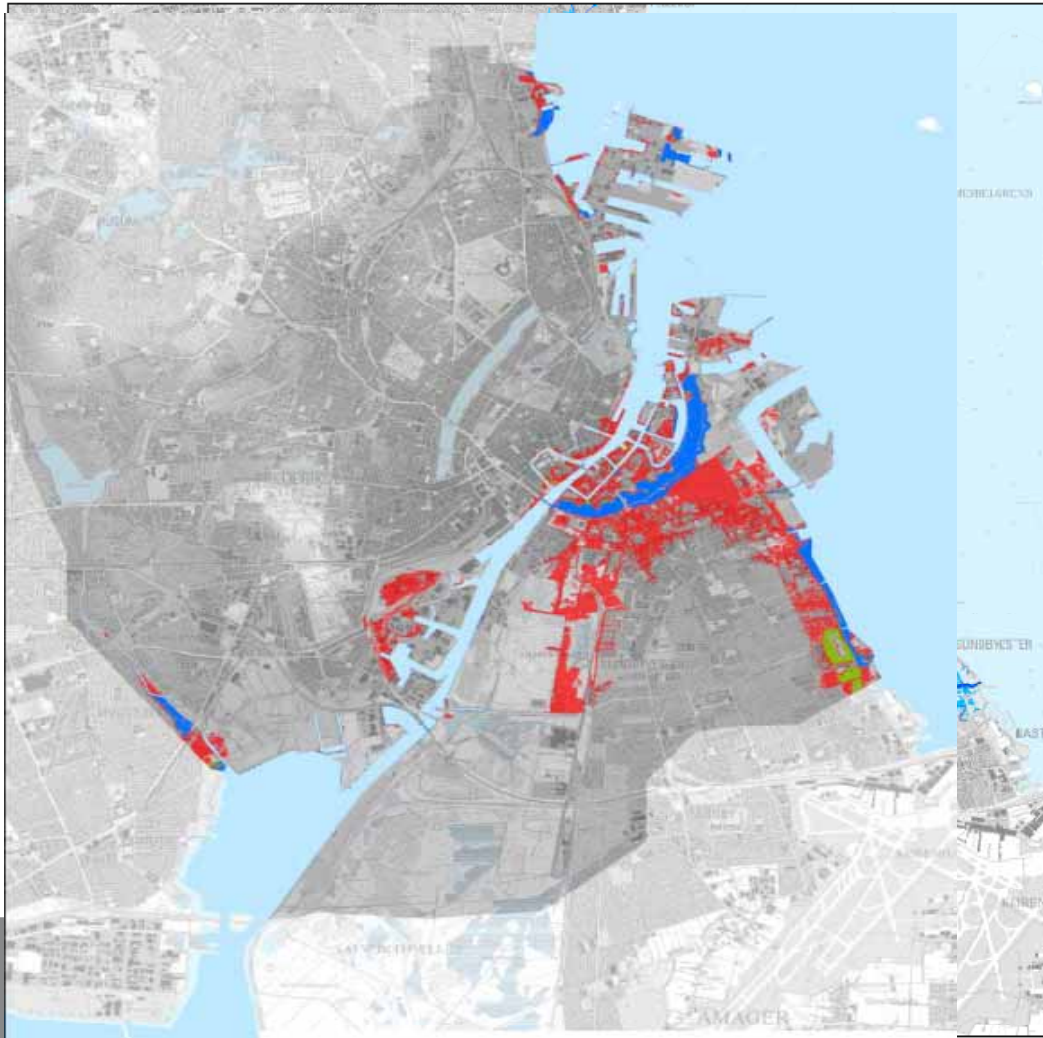


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Changes to adapt to

Up to ~~More~~ ~~than~~ ~~big~~ ~~er~~ ~~sea~~ ~~level~~ ~~in~~ ~~100~~ ~~years~~



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Sustainable city

Cooling green roofs
and walls

Reuse of rainwater from roofs

Cooling green structure

Recreational areas

Environmental friendly transport



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Thank you for your attention

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