

TOO
LITTLE

TOO
MUCH

A proposition for Bay Area Resilience

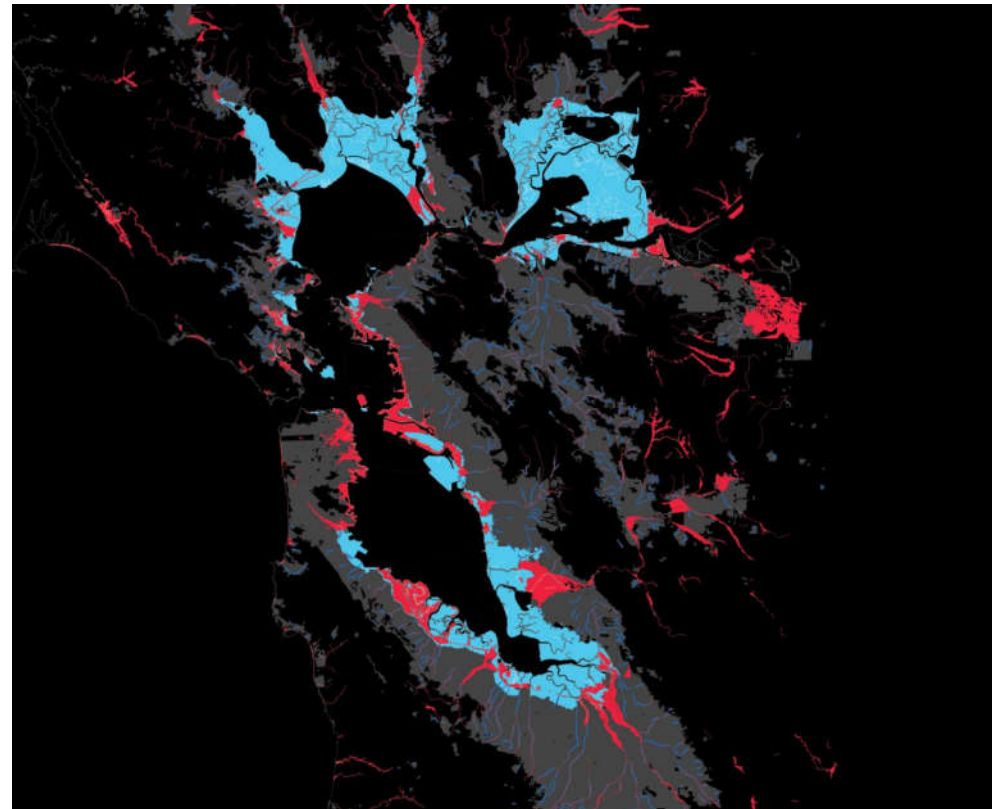
Experiences from the Netherlands: applied to the San Francisco Bay Area
By Kees Nederhoff (Deltares USA) on behalf of Roelof Stuurman (Deltares)



Similarities: Holland and San Francisco Bay



The sea threatening 'Zuiderzee' in the 15th century



The sea threatening SF Bay currently

But also a lot of differences...



Zuiderzee closed off with 'Afsluitdijk' in 1927



Downtown San Jose in 2018

'Dutch' approach: collective large infrastructure

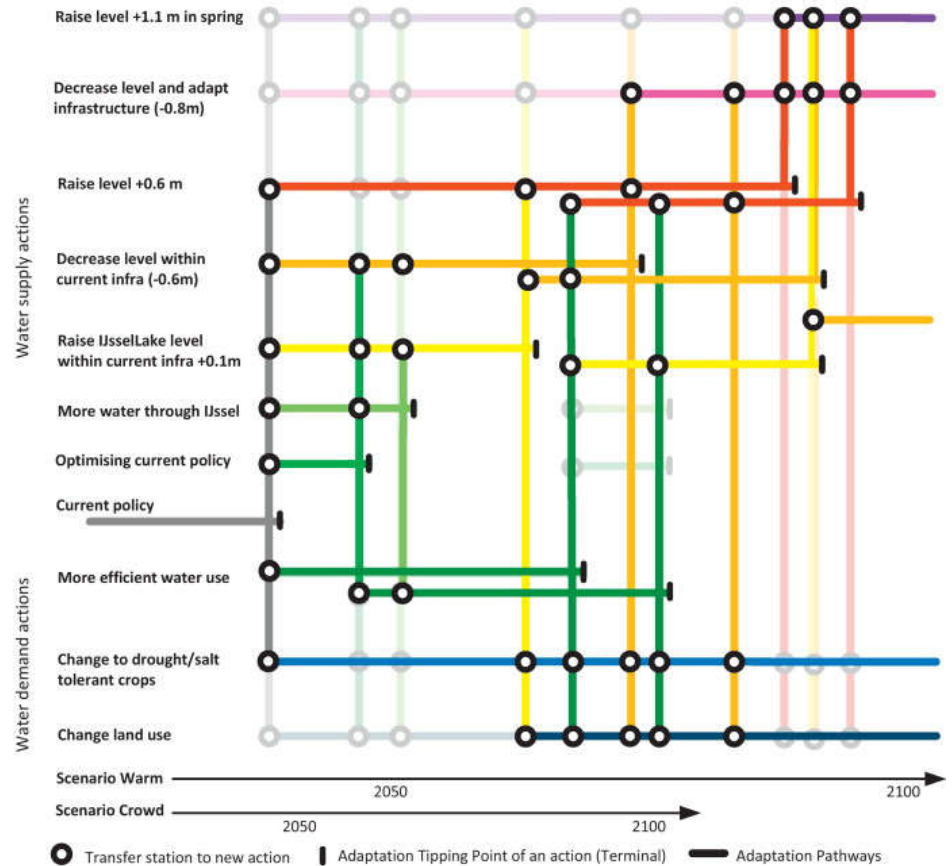
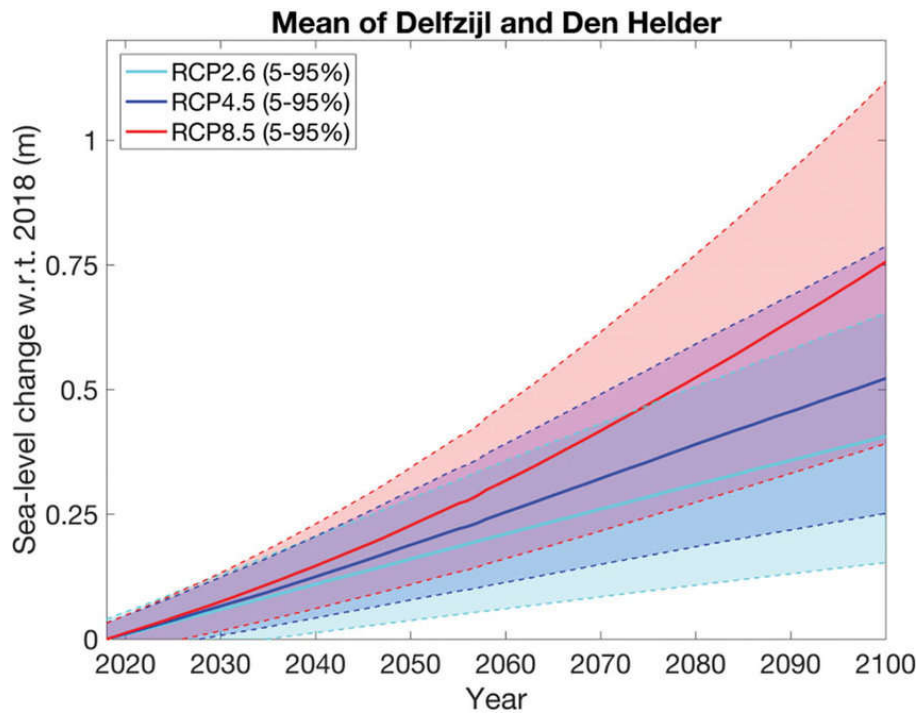


Enclosure dam created fresh water Lake IJssel



Delta Works: closed off major rivers with permant and flexible barriers to protect against flooding

Plans are adaptative and take into account uncertainties

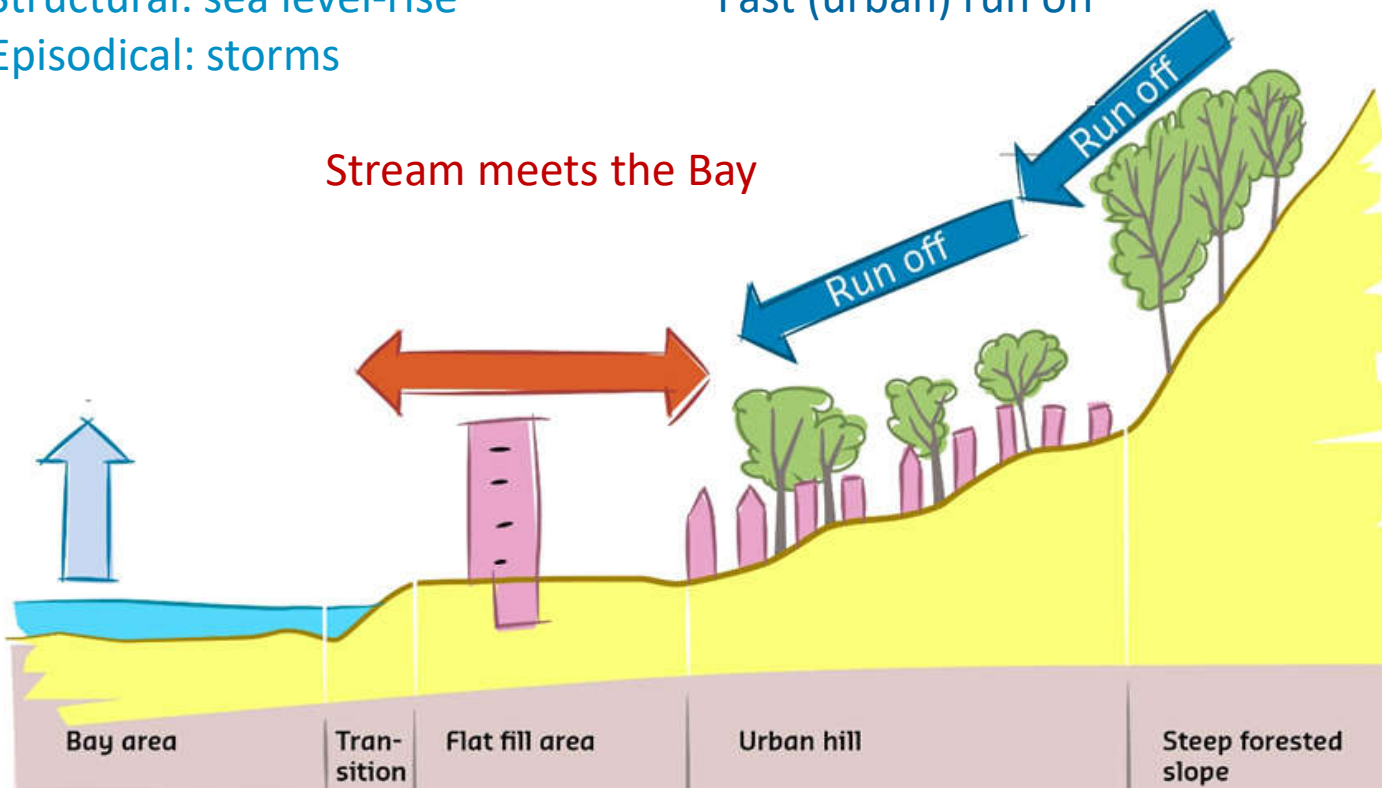


'Urban water stress' during storms

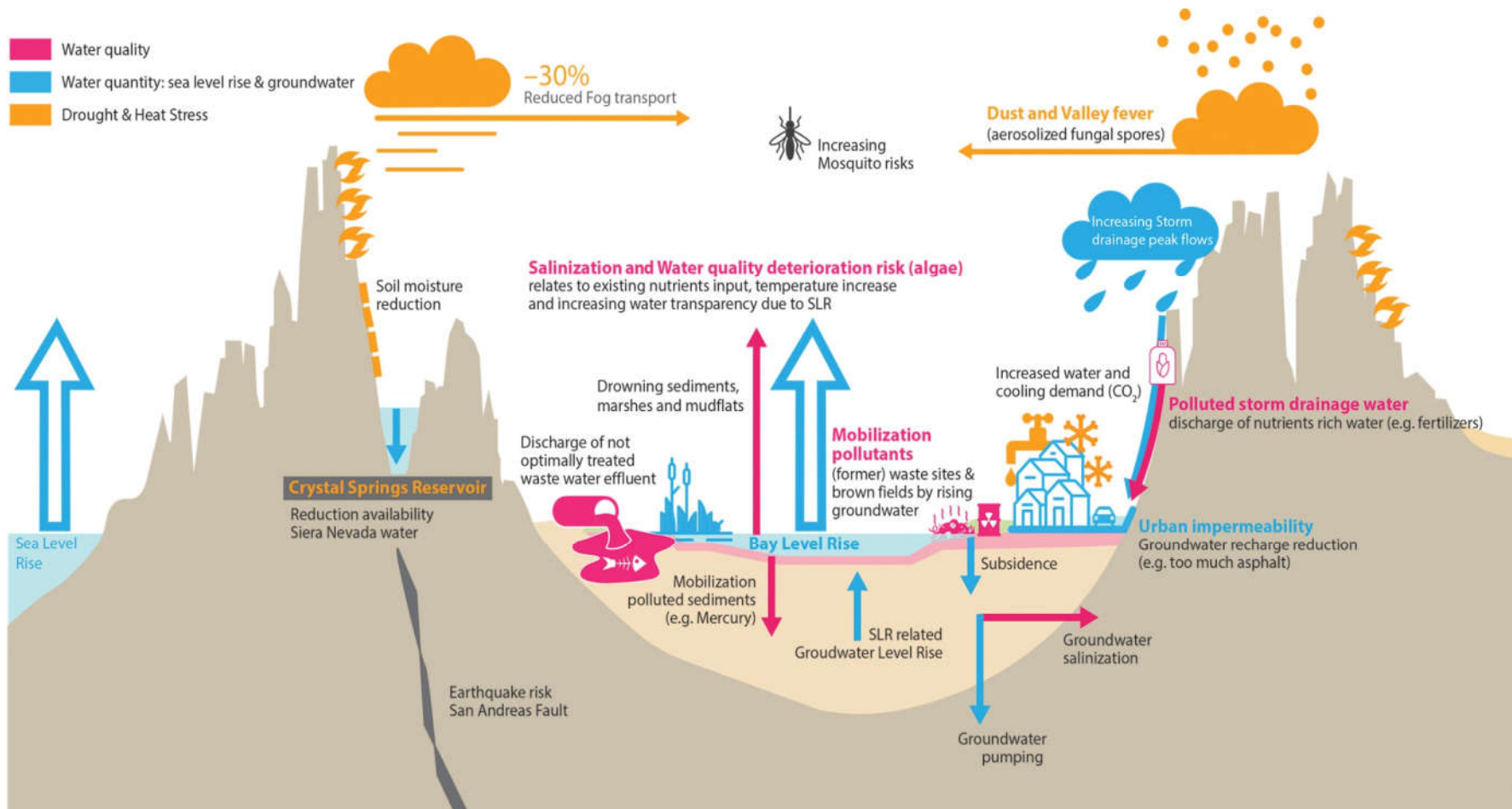
Structural: sea level-rise
Episodical: storms

Fast (urban) run off

Stream meets the Bay



SF Bay suffers from *several* subsurface and water-related risks



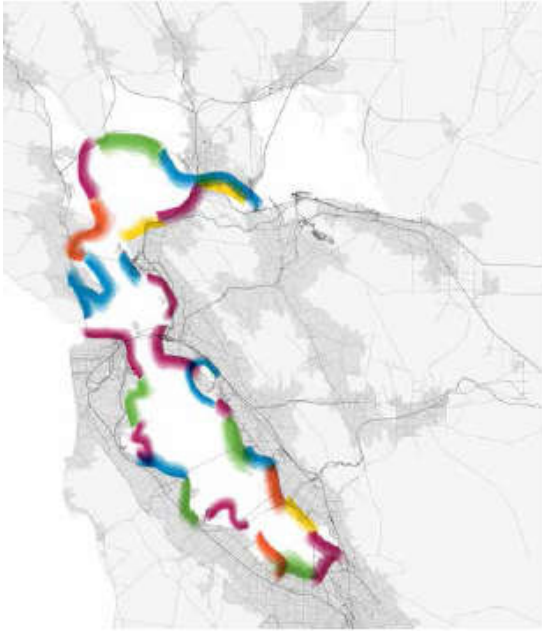
Five suggestions for a more resilient Bay

1. Update plans to include water management and climate adaptation
2. Increase our understanding of the system
3. Collective develop a set of design principle for local communities across the Bay
4. Install a Bay Area Resiliency Commissioner
5. Start both big and small

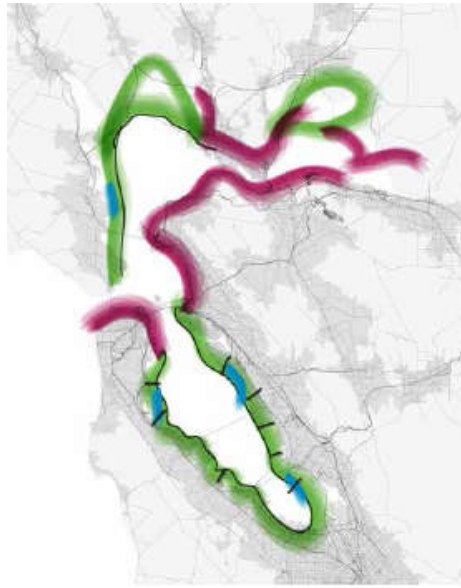


Three possible approaches for the San Francisco Bay?

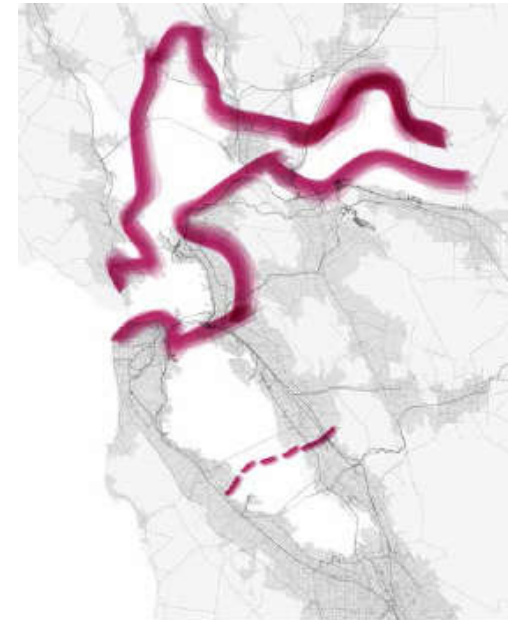
Individual: business as usual



Collective: Nature-based




Collective: Zuiderzee





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More information: contact me on Kees.Nederhoff@Deltares-USA.us

