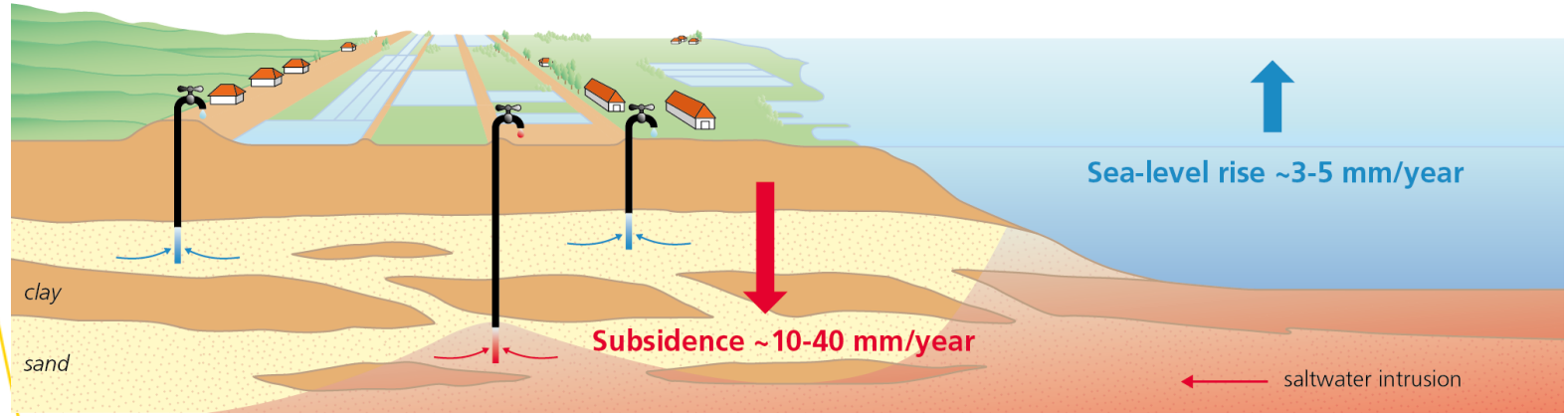
Universiteit Utrecht

Land subsidence in deltas: causes and impacts



Esther Stouthamer
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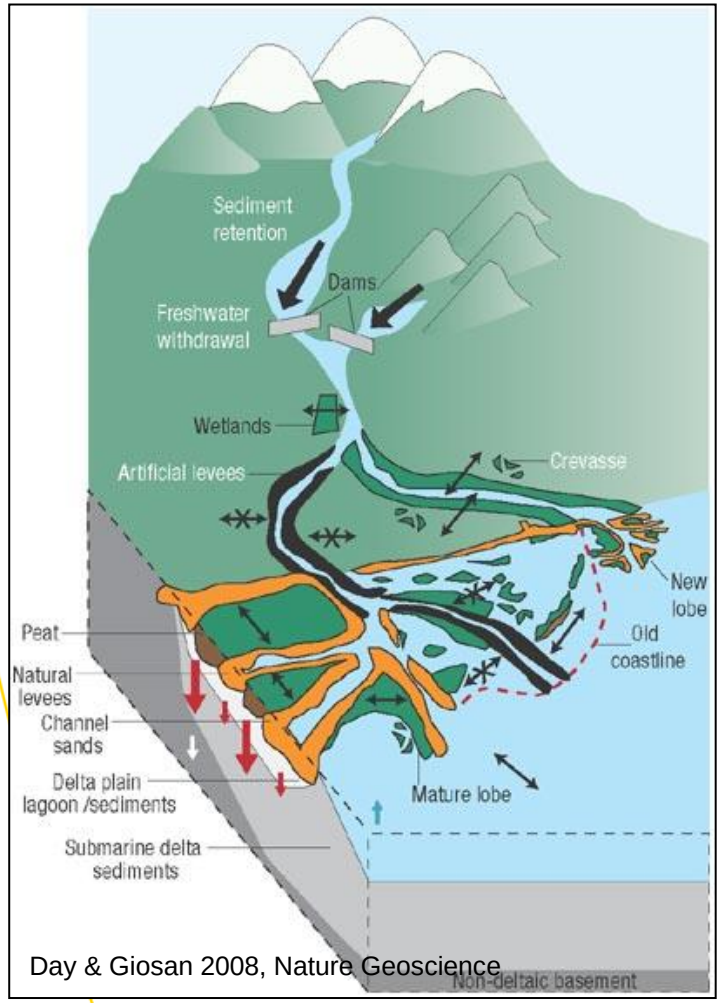
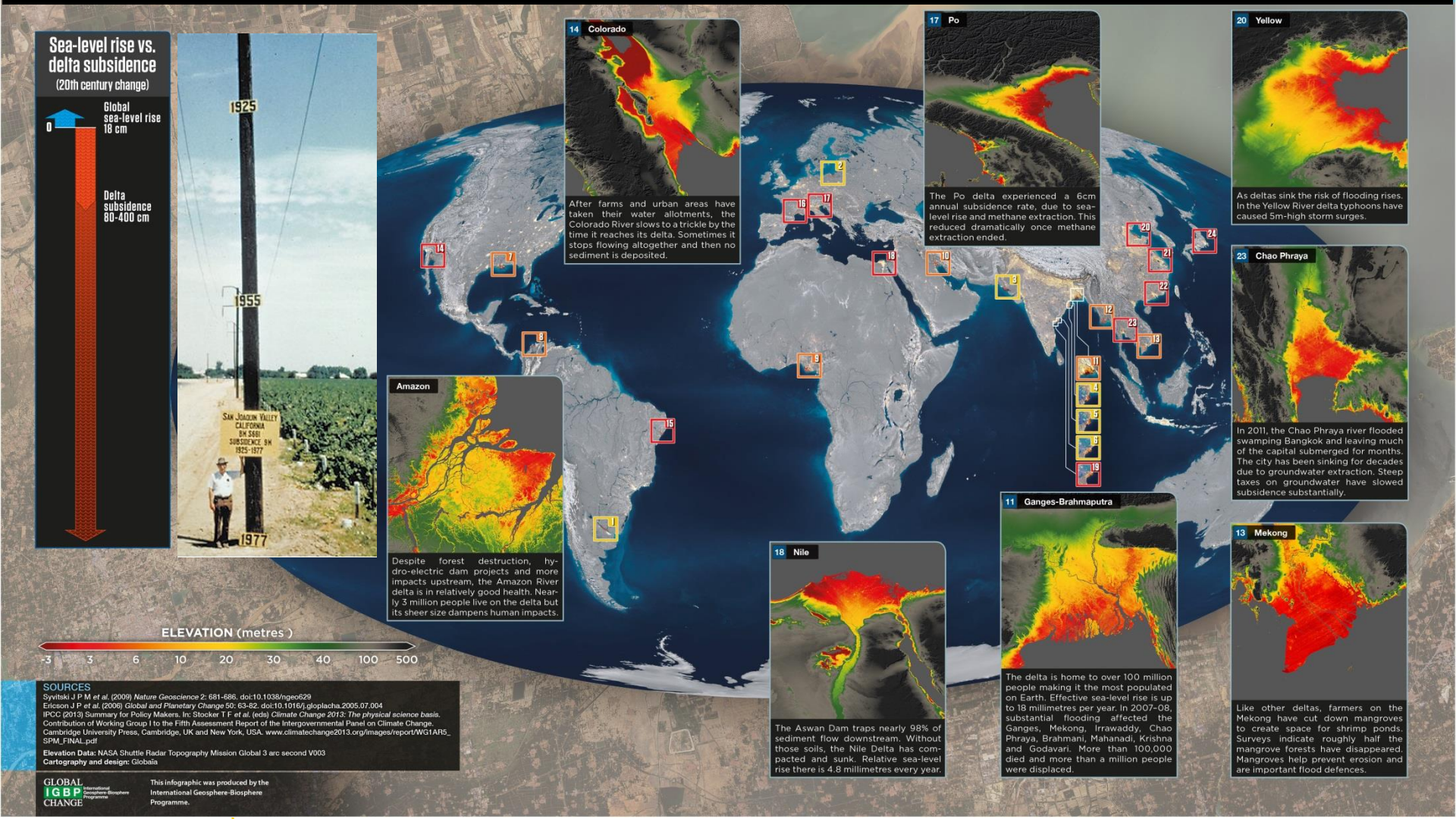
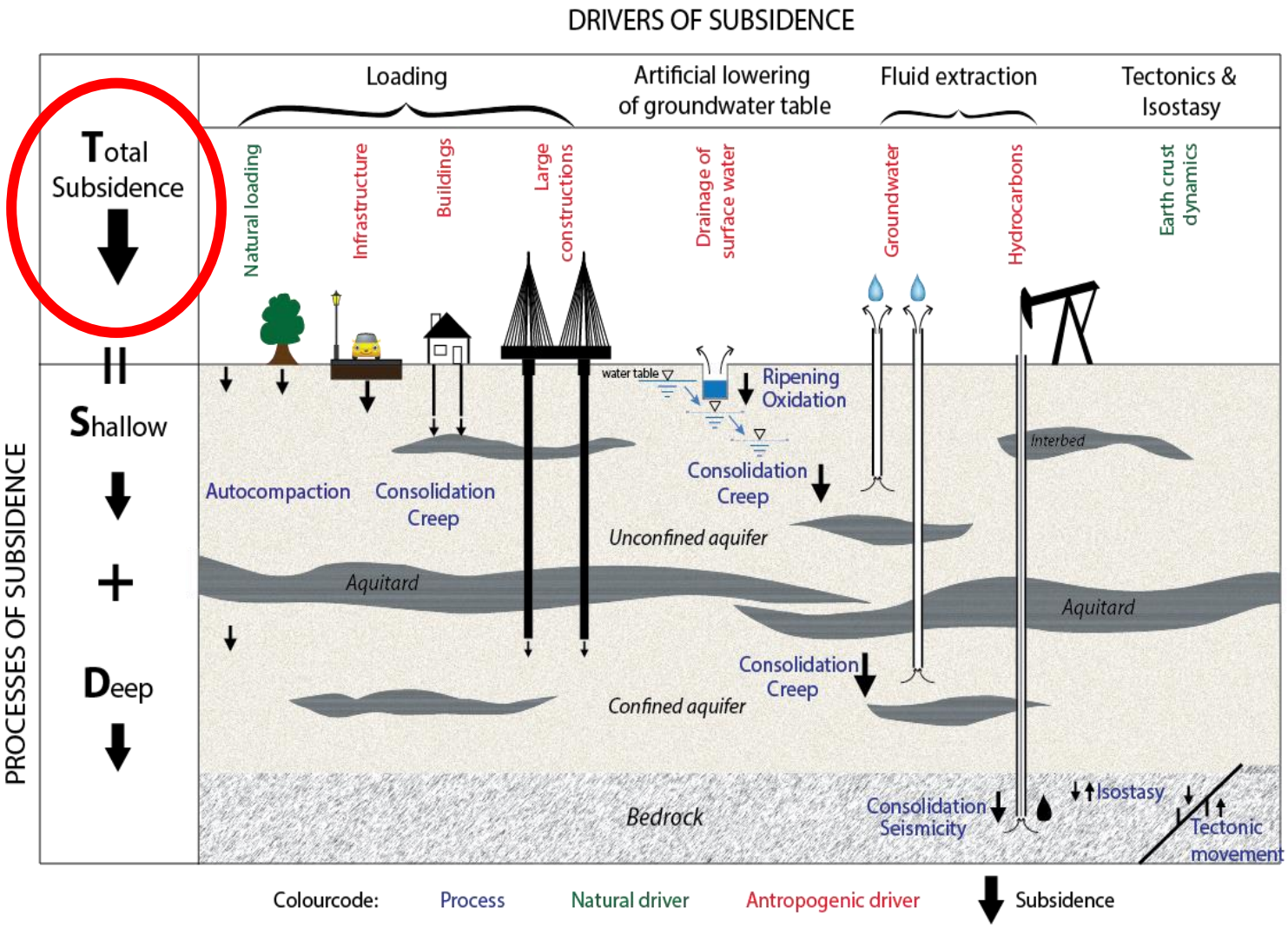
Delta's



Day & Giosan 2008, Nature Geoscience

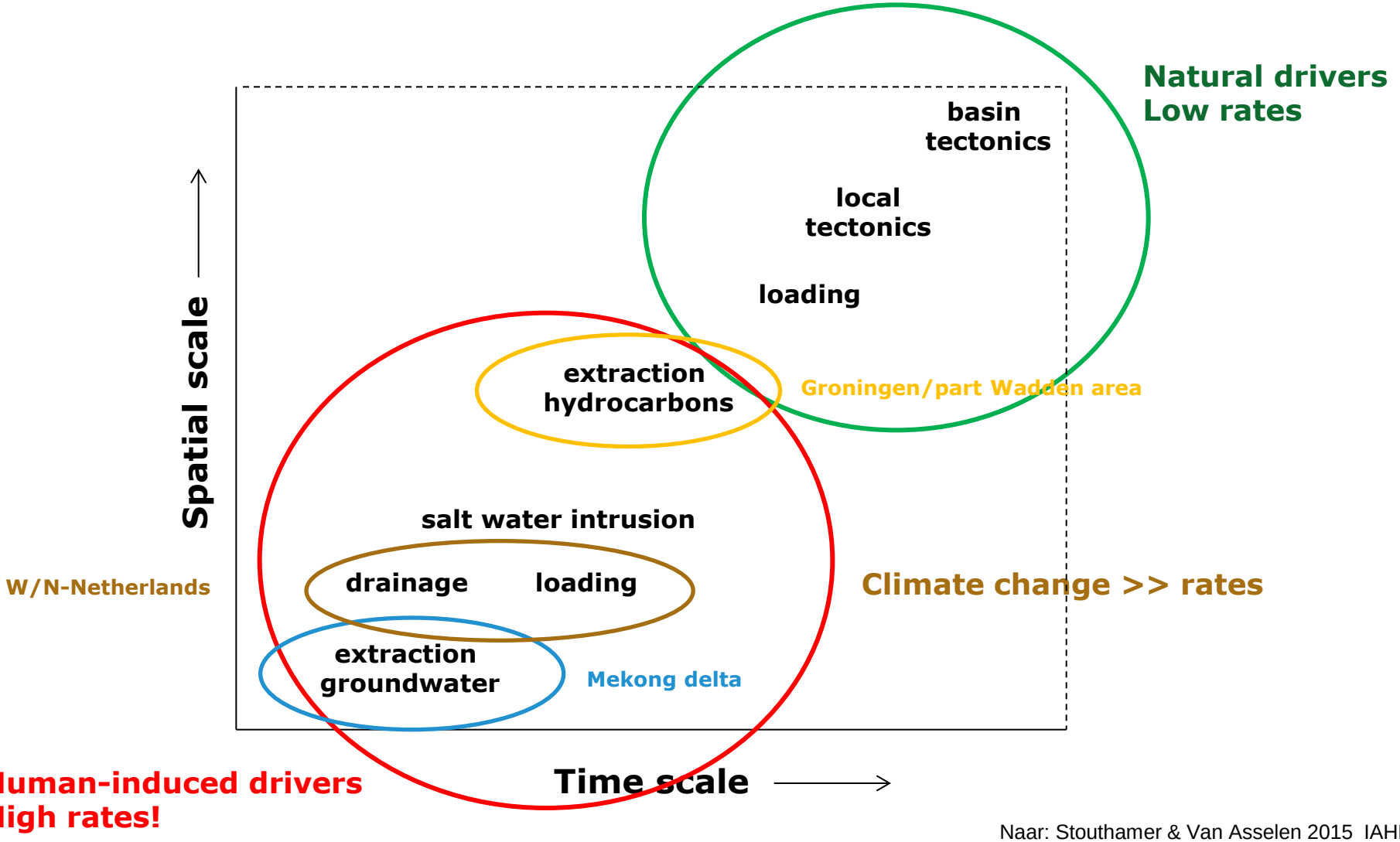
Subsidence: a local problem at global scale





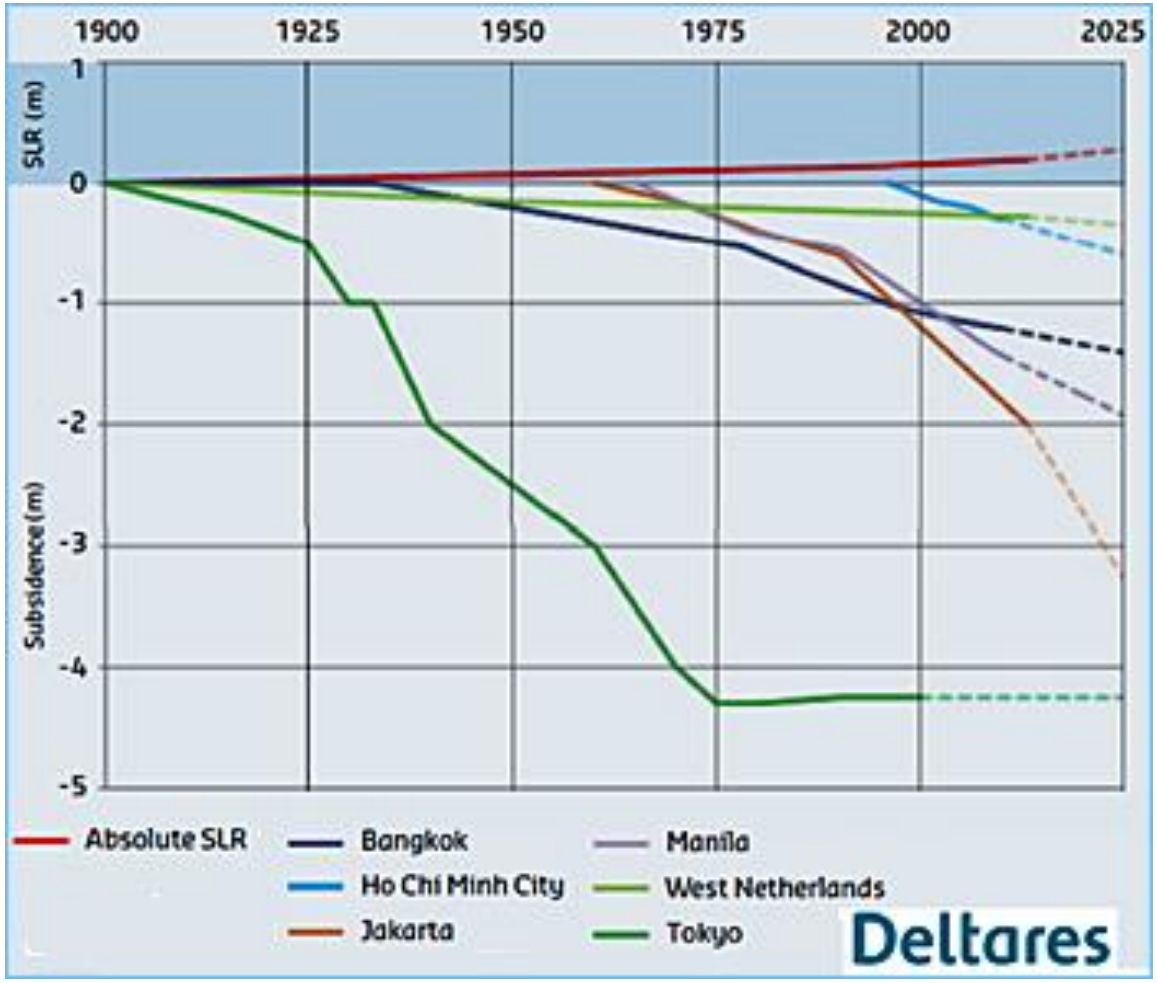
Minderhoud et al. 2015 NISOLS

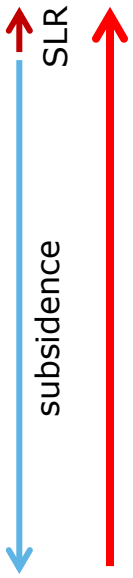
Drivers are location specific!



Naar: Stouthamer & Van Asselen 2015 IAHR

How much?





RSL Tokyo
4,5 m!

Impacts

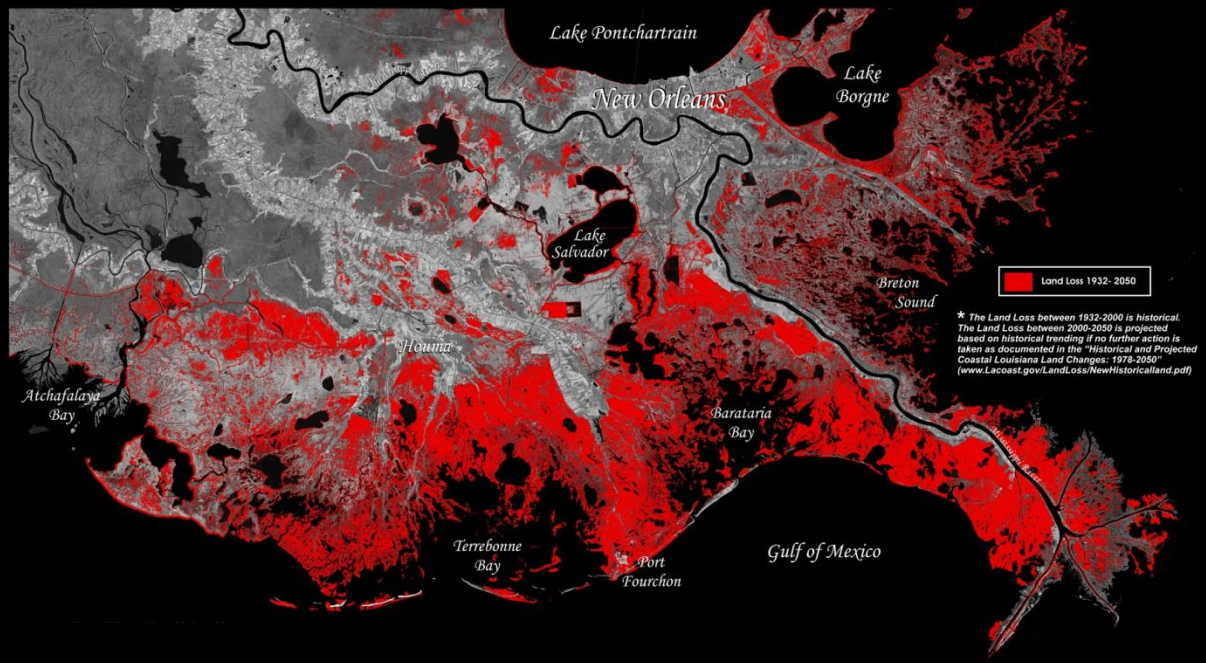
- Floods
- Damage to buildings/infrastructure
- Salt water intrusion/availability fresh water
- Stability river- and sea dikes
- Land use (food production)
- Emission of GHG
- Loss wetlands and biodiversity
- Health
- Economy (billions/yr!)


Flooding


Flooding
Welcome to Jakarta
SAKURA
BLOK M

> Flood risk


Undermining dike



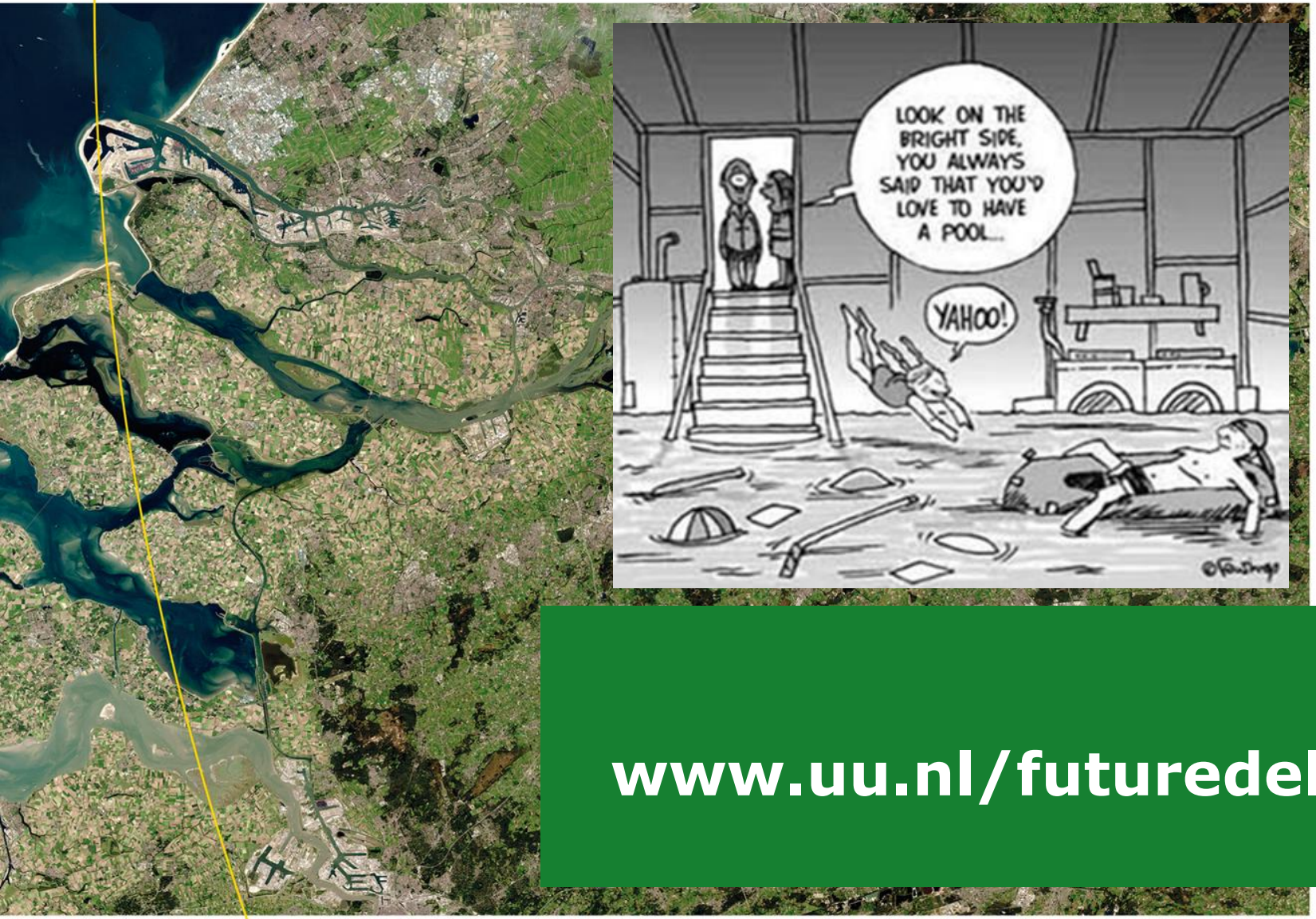
Loss of:
- land
- biodiversity

Oil palm plantation,
drained 20 years ago,

already frequently flooded and
being abandoned...

G. Erkens

A. Hoyer



www.uu.nl/futuredeltas