

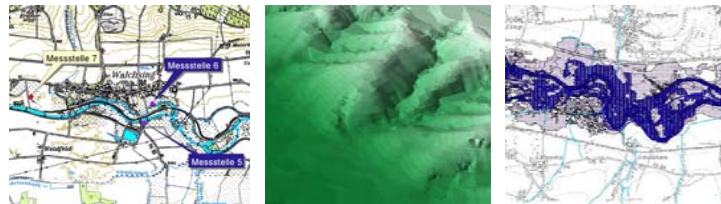
Cost-Benefit Analysis

land use changes and floodplain management

FACHHOCHSCHULE DEGGENDORF – WASSER UND UMWELT



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land use changes and floodplain management

- important method to assess the economic impacts of projects.
- produces an overview of advantages and disadvantages of projects
- quantitative monetary assess for decision-making



Combination of engineering research

- Dike
 - Costs 1
 - Benefits 1

- Deepening and widening
 - Costs 2
 - Benefits 2

- Variant 3
 - Costs 3
 - Benefits 3

- ...

- Costs compare
 - economical
 - Technical
 - social feasibility



Costs

- Opportunity costs: purchase of land to building
- Building costs
- Conservation and maintenance
- Compensation payments

Benefits

- Damage avoided
- Recreational benefits
- Ecological impacts: landscape and nature conservation
- Social impacts: public safety



Cost by changing land use and restoring floodplains

- Opportunity costs: current land use, future flood protection → purchase of land
- Building costs of the proposed measures
- Conservation and maintenance
- Compensation payments: damage to corps and constructions on the be changed land

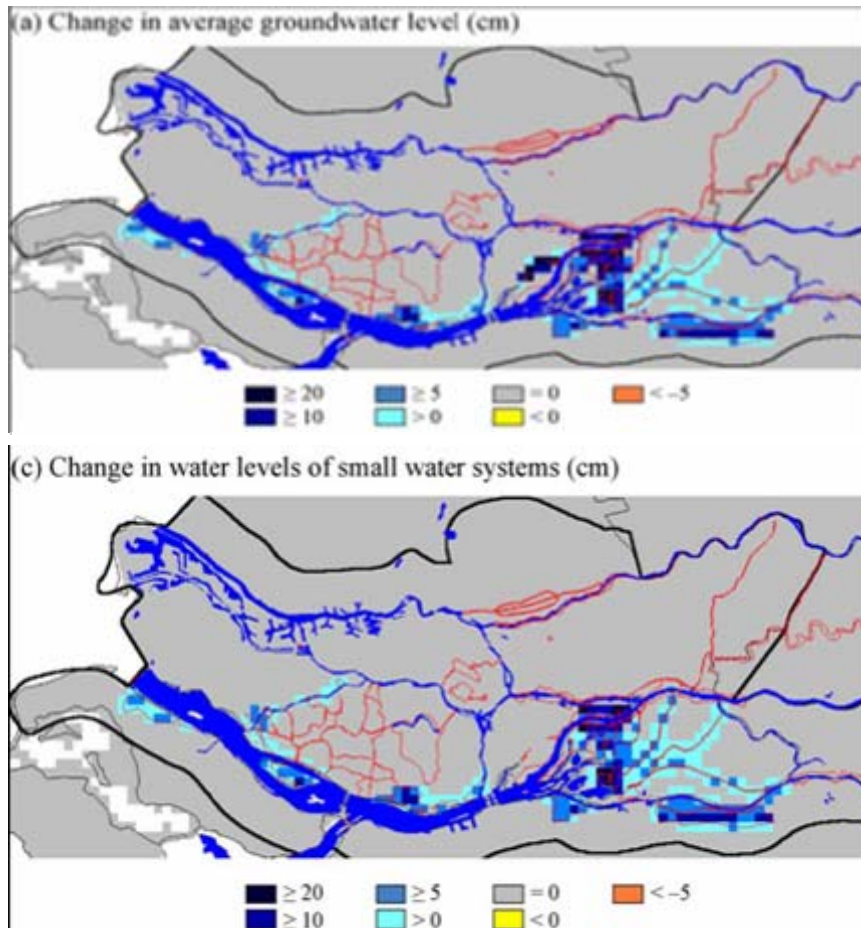


Benefits by changing land use and restoring floodplains

- Damage avoided: if the proposed measures are not taken, the building, crops will be by flooding damaged
- Recreational benefits: positive impact on landscape and nature → attract more visitors
- Ecological and social impacts: The benefits are very difficult to quantify



Ecological impacts estimate



- The ecological parameters:
- (a) groundwater level
- (c) water level of small water system
 - improve quality of environment
- Question to the residents and visitors

Special benefits

- different proposed measures cause to the different benefits
 - Behind the planed dike improve soil value Agriculture land use changing into construction land use
 - widening and deepening of river beds cause to recreational and commercial shipping
 - hydroelectric station product Electricity



Thank you for your attention.

