

Karlsruhe Institute of Technology

## INTERGRATED SOLUTIONS FOR SUSTAINABLE DEVELOPMENT IN THE MEKONG DELTA – LAND WATER, ENERGY AND CLIMATE –

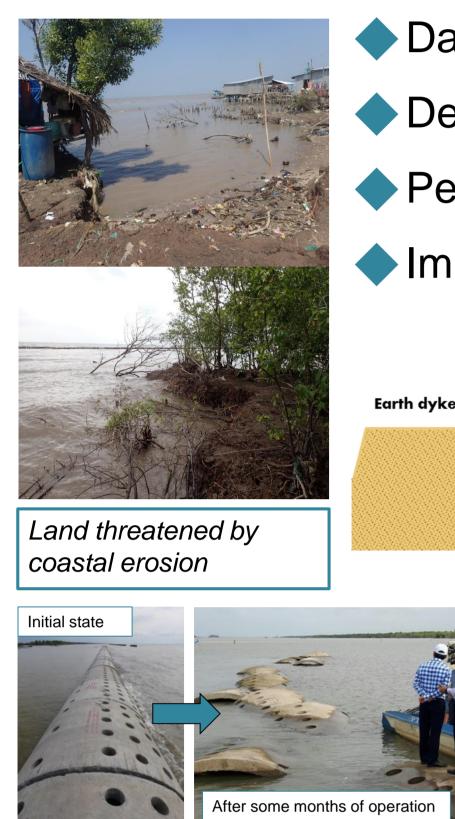
# ViWaT-Engineering

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## **WP1: Coastal protection measure**



### Data acquisition and evaluation

Development of sustainable protection concepts

irst breakwate

(e.g. Breakwate

West Sea

- Performing physical models in the laboratory
- Implementation of a pilot protection measure

## WP2: Renewable energy resources and sustainable construction material

- Calculation of potential energy gain from wind and solar power
- Development of techniques to produce alternative adapted and sustainable construction materials



*Problem* → Only fine grained soil material is available in the MD

Current practices to protect coastal erosion consist heavy concrete or very light bamboo measures that are not working for long periods

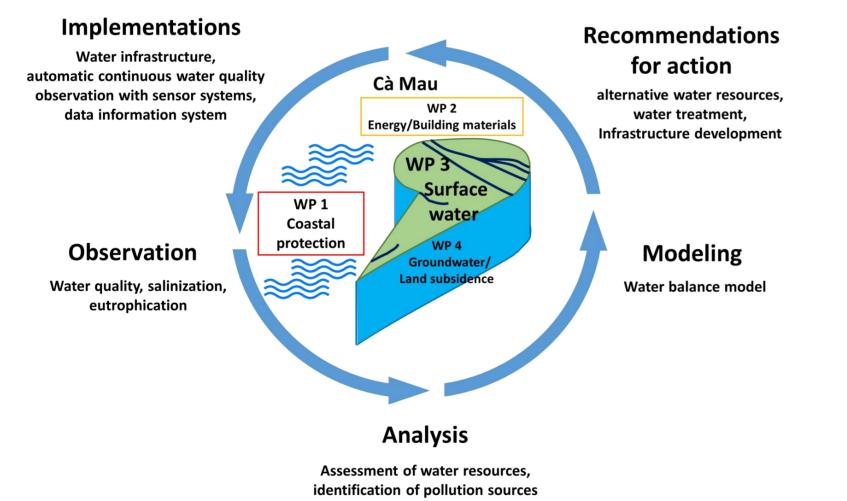
WP3: Surface water

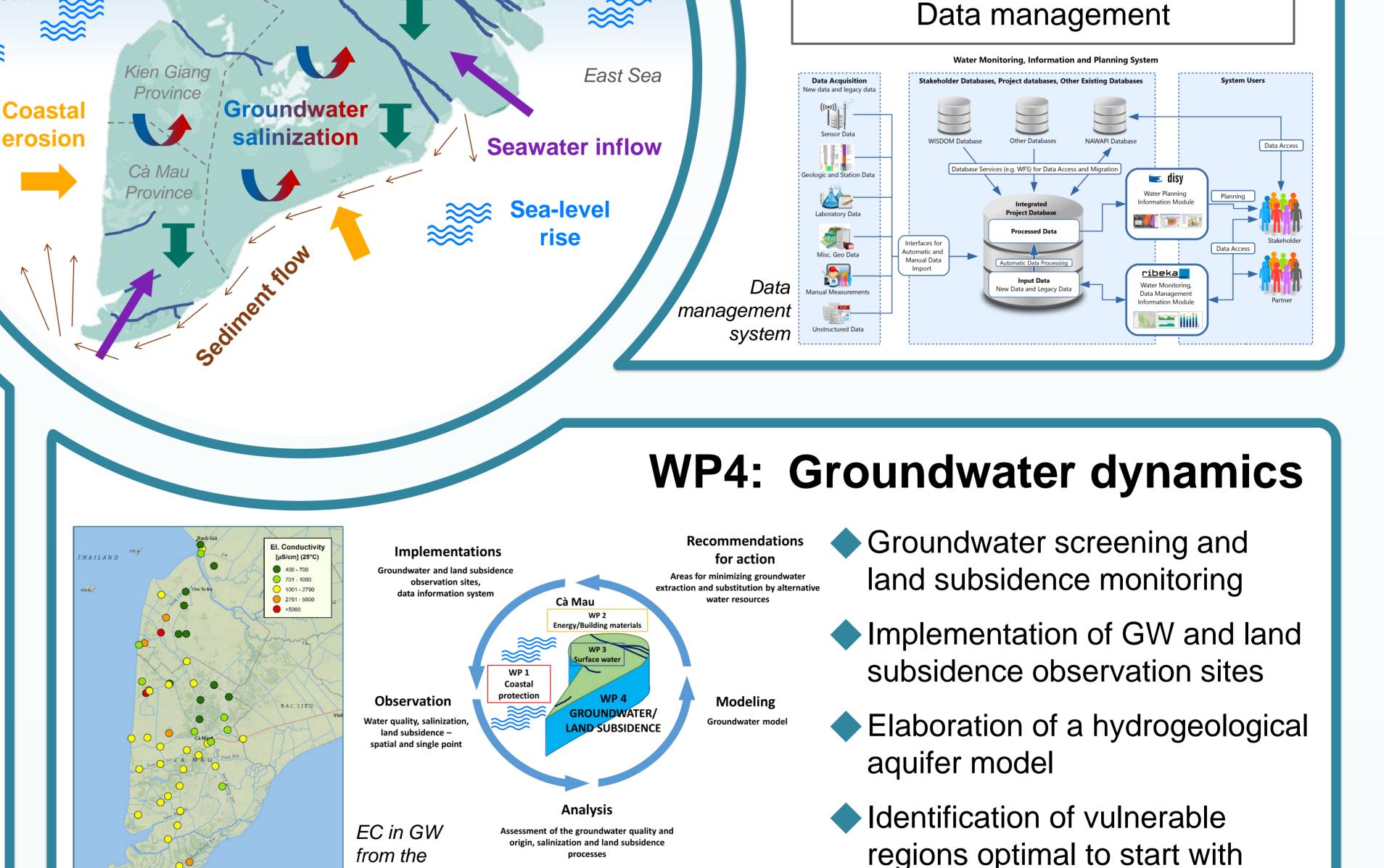
Given
available in the MD

Available in the MD
Threats to
Wekong Delta
Mekong
Capacity development
Pilot and demonstration facilities
Data management

### dynamics and utilization potential

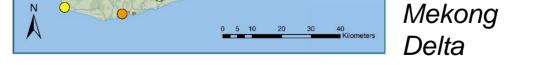
- Technical implementation of automated, in-situ surface water quality measuring systems
- Screening and modelling water balance, water availability and quality
- Identification of alternative water resources (Mekong, canals, rain) to substitute groundwater
- Development of usage concepts for different resources (treatment, distribution, storage, etc.)





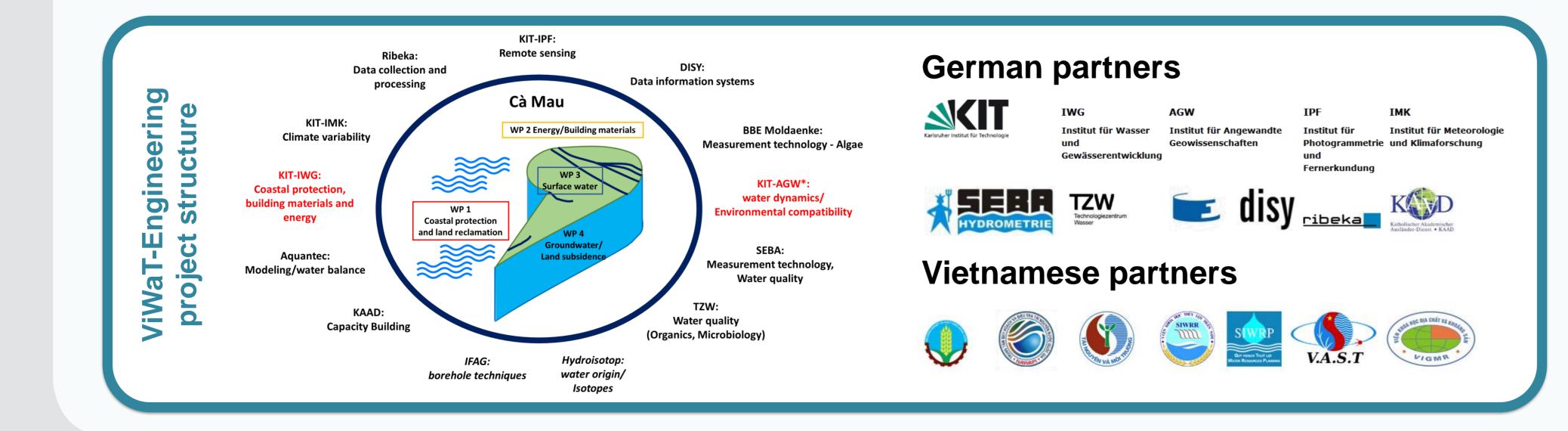
Work steps in WP3

Description of necessary water treatment and water infrastructure



Work steps in WP4

#### substituting groundwater use



#### Acknowledgements

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