

## Accessibility

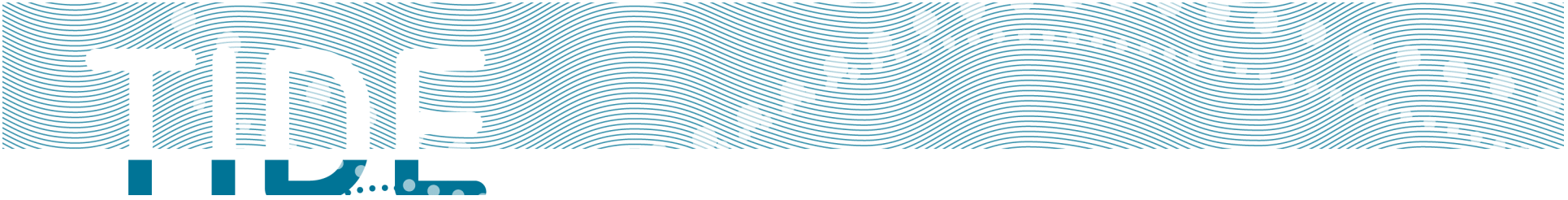
.... is a function of

- fairway depth and
- maintenance conditions



## Accessibility: Example Elbe

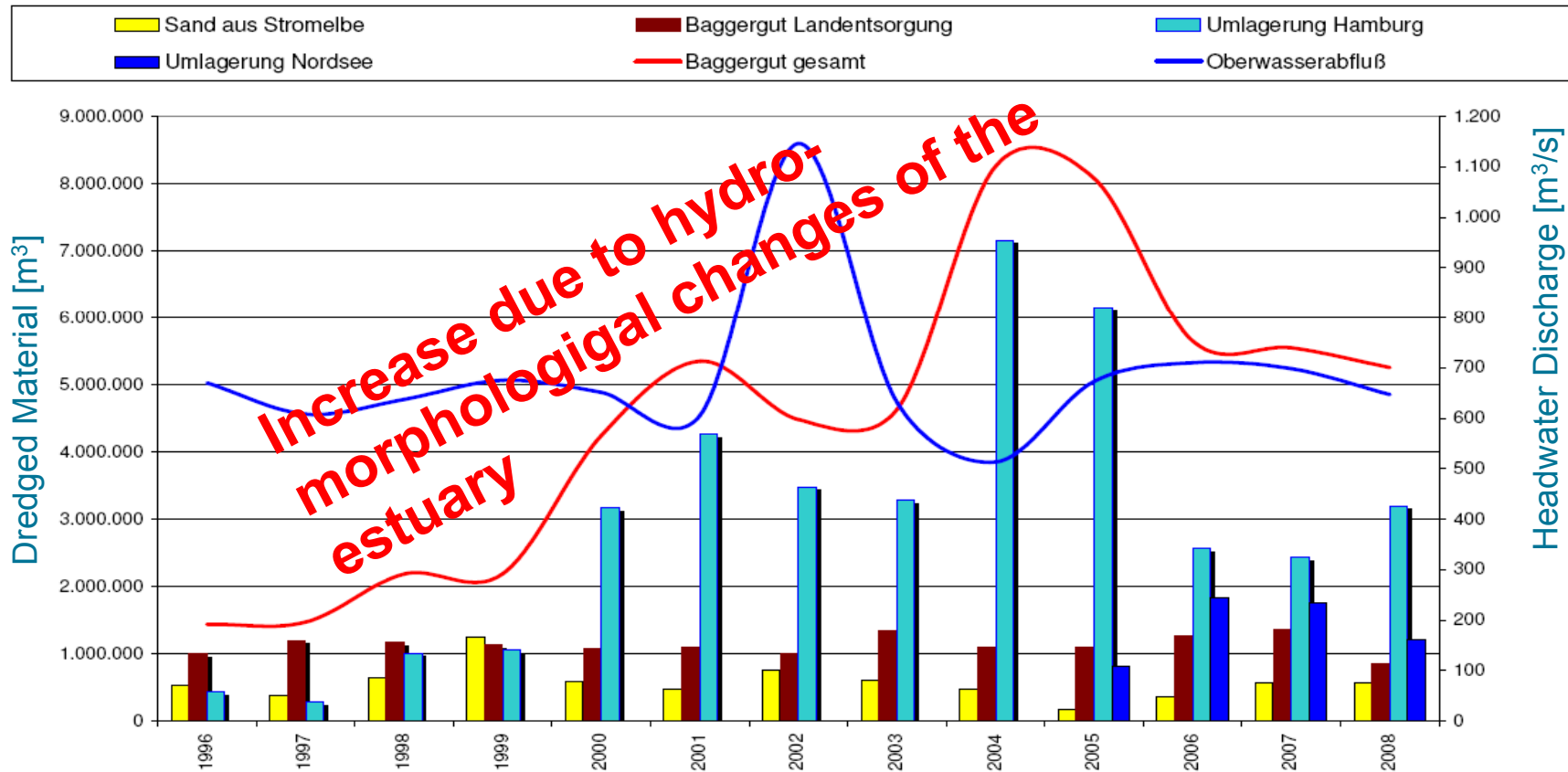
- fairway depth
- at present: 13,50 m
- (14,50m in application)
- → relevant criteria checked in approval procedures
- maintenance conditions
- → an integrated sediment management is needed !



HPA H1

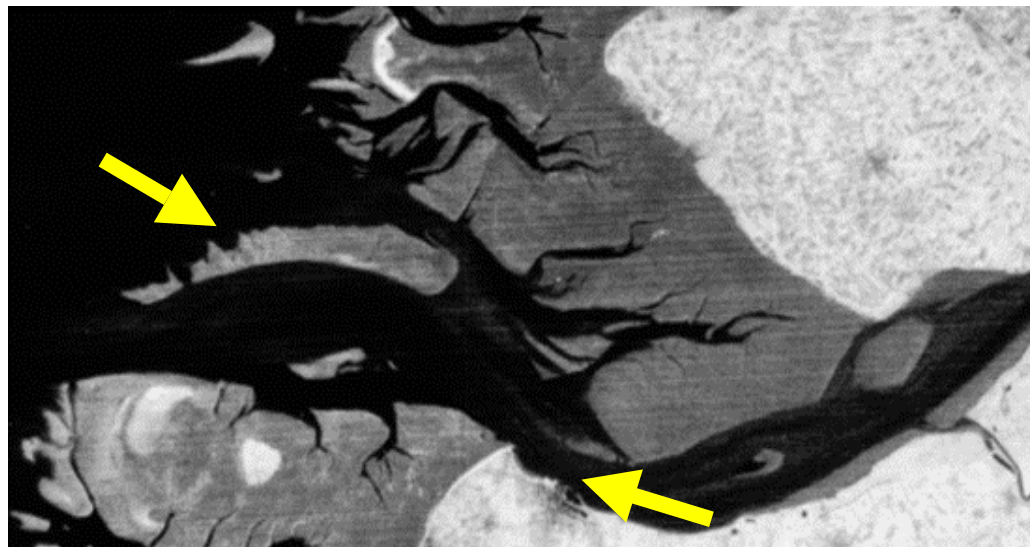
## Development of Dredged Material within the Port and the River Elbe in Hamburg 1996 - 2008

13.02.2009

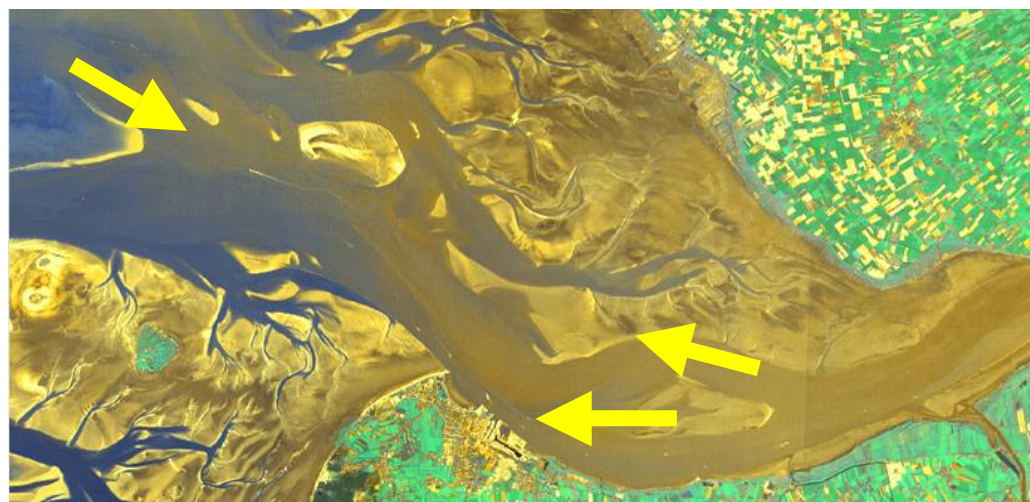


## Morphological development in the estuary

1976

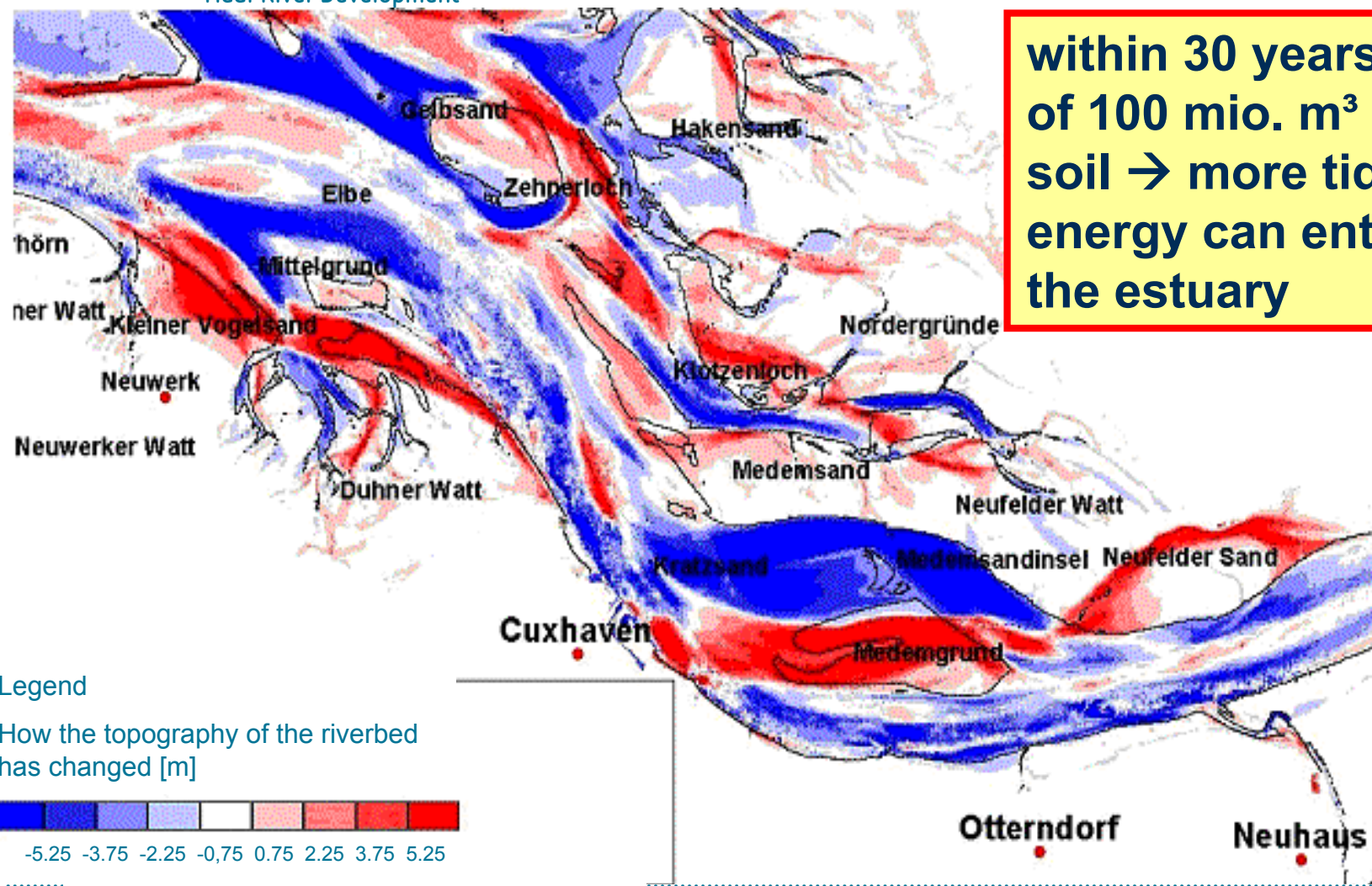


2002



## Difference topography 2001–1972

within 30 years loss of 100 mio. m<sup>3</sup> of soil → more tidal energy can enter the estuary



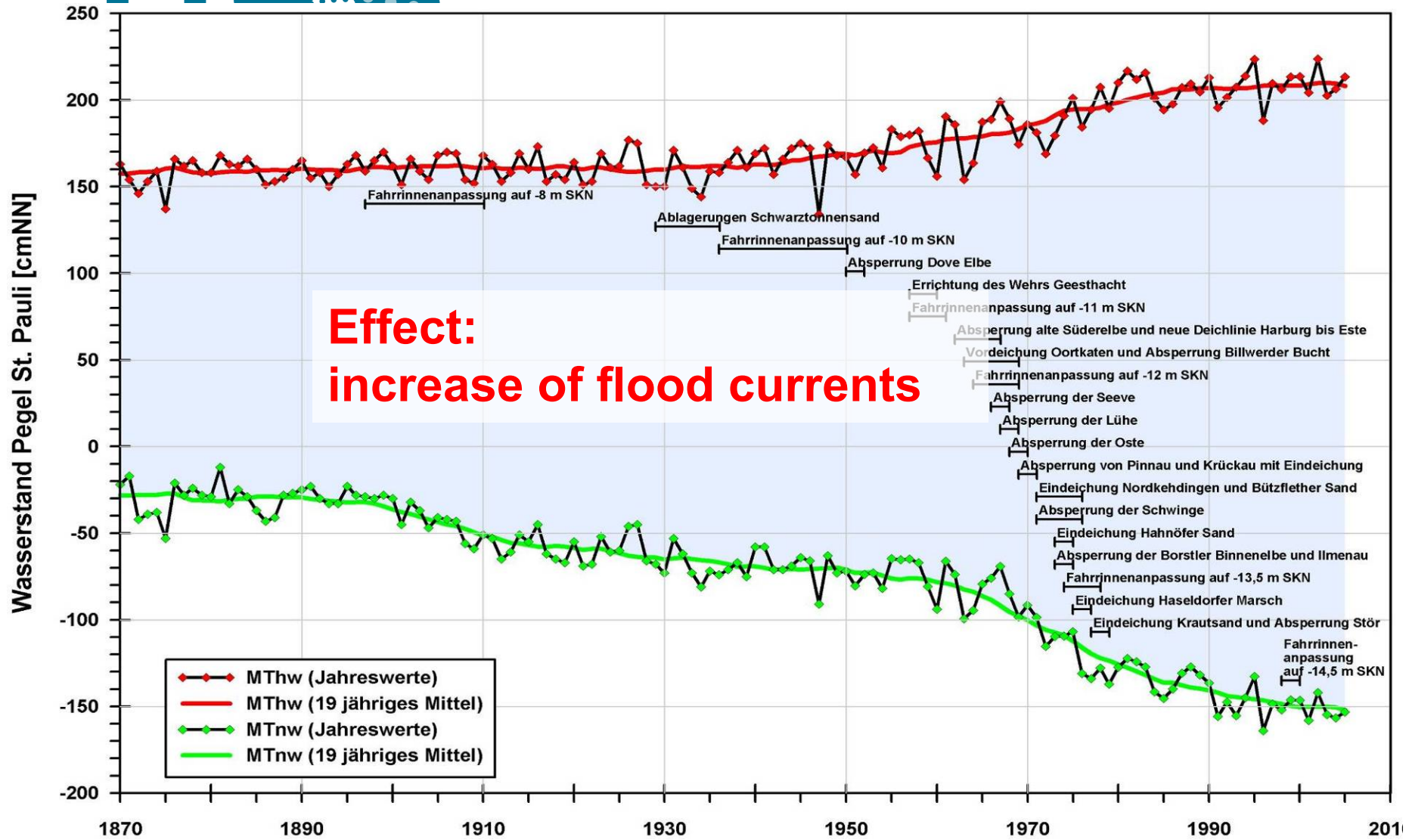
## Loss of shallow water areas in the estuary

Example: Reclamation of Land for industrial use (Airbus)

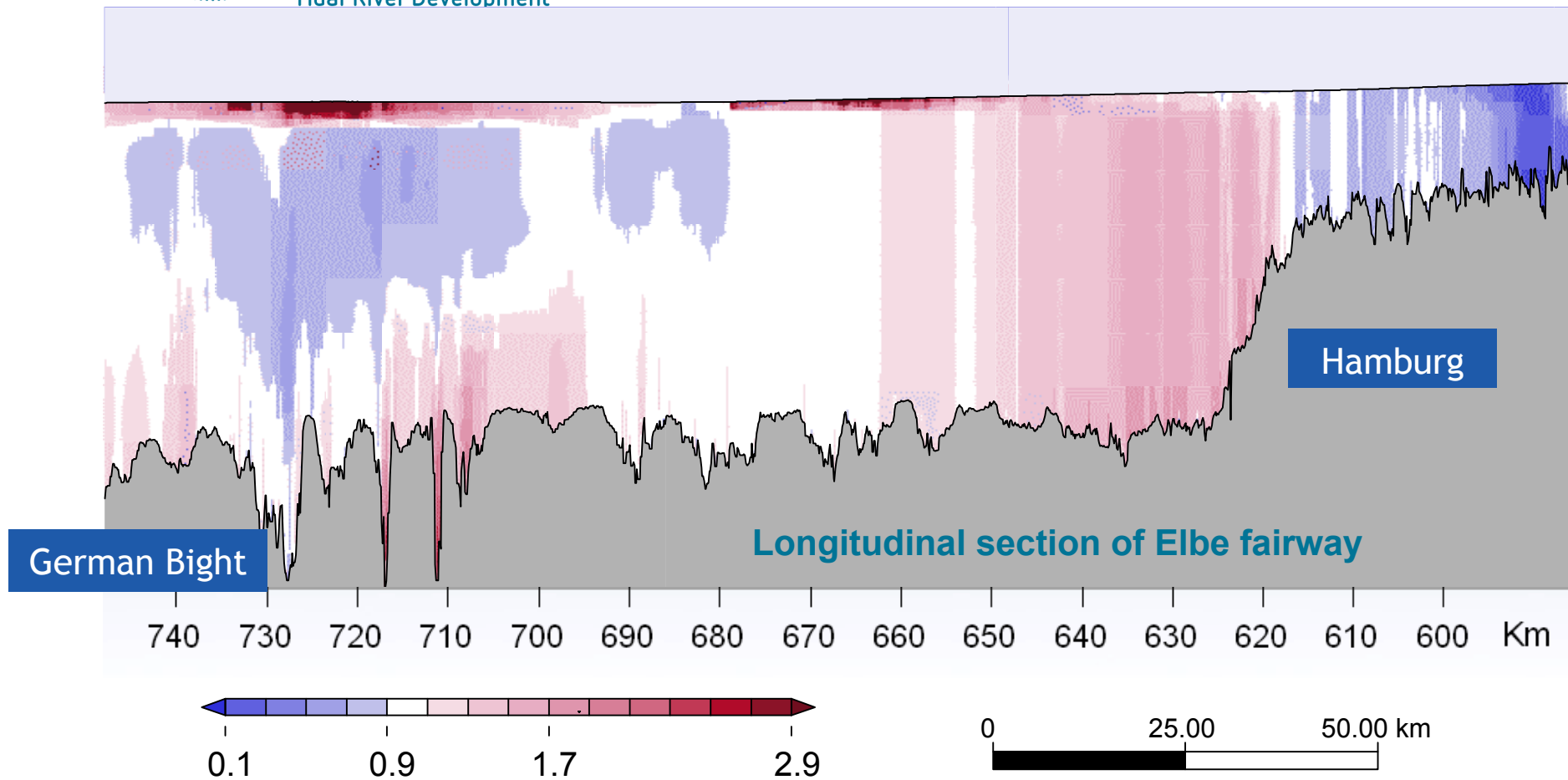


Photo: Airbus Deutschland GbmH

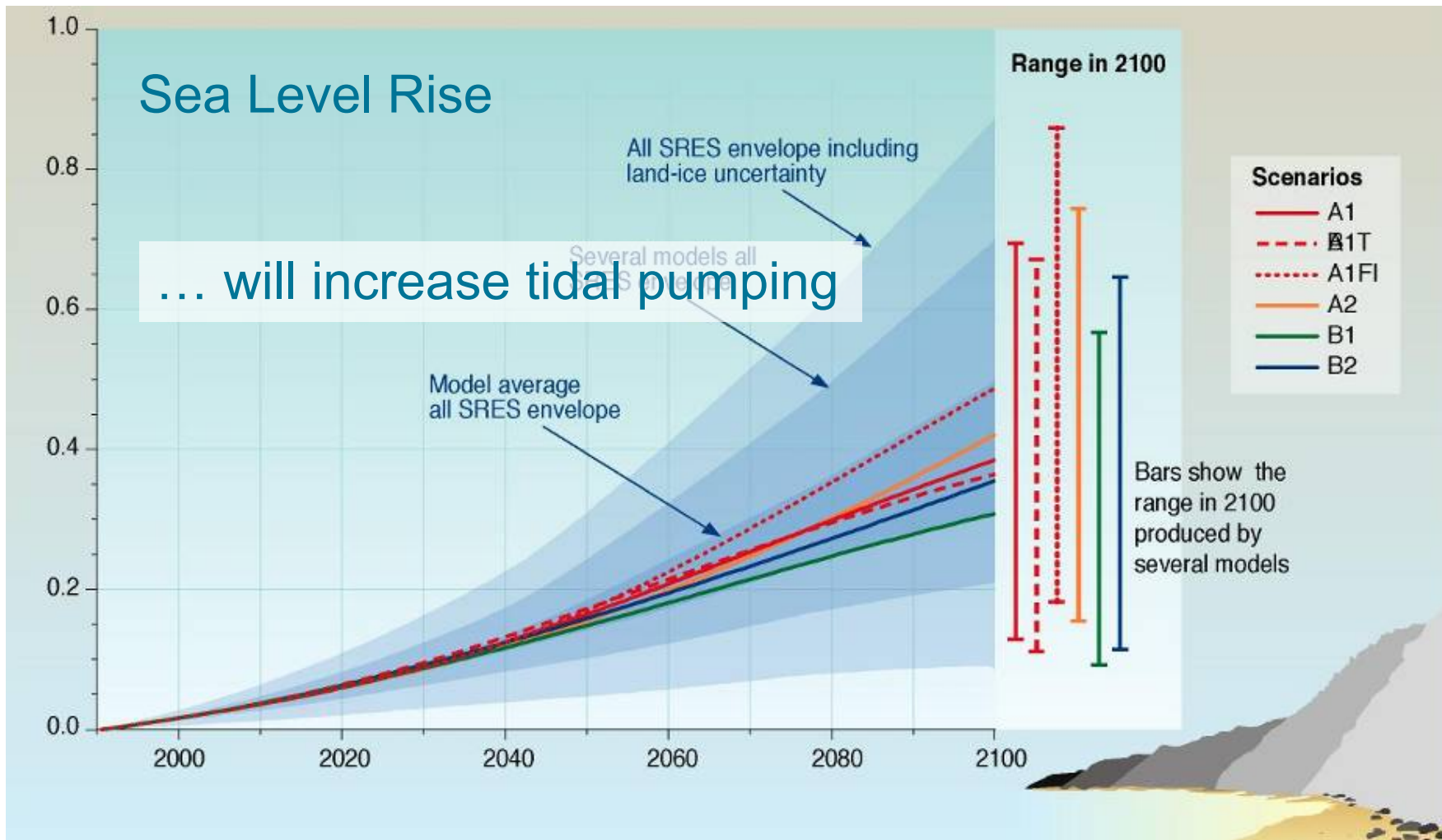
# TIDE



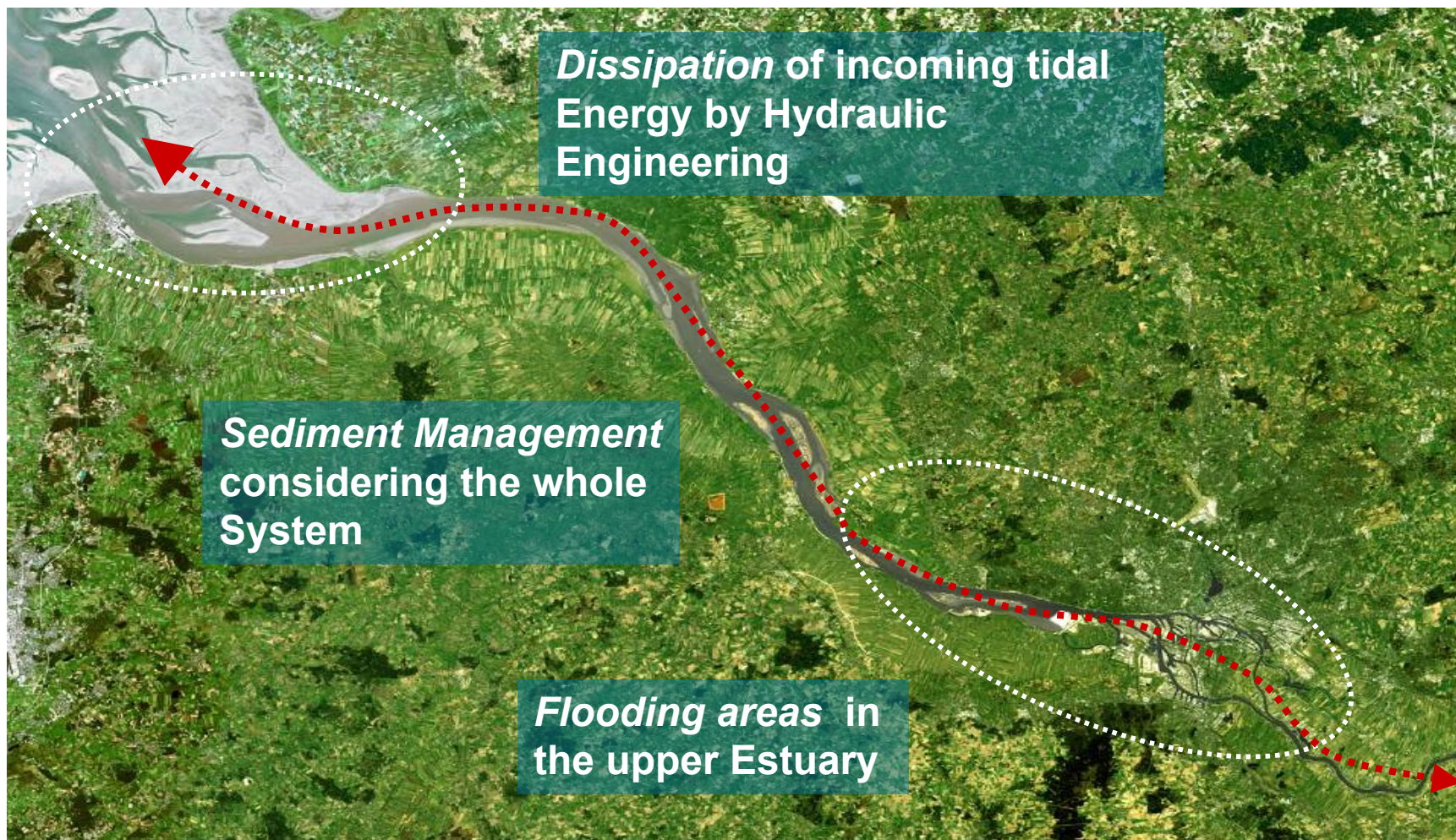
## 3D-Simulation: flood-/ebbcurrent-dominance



## Effects of Climate Change



## Sustainable Development of the Tidal Elbe as an Artery of the metropolitan region

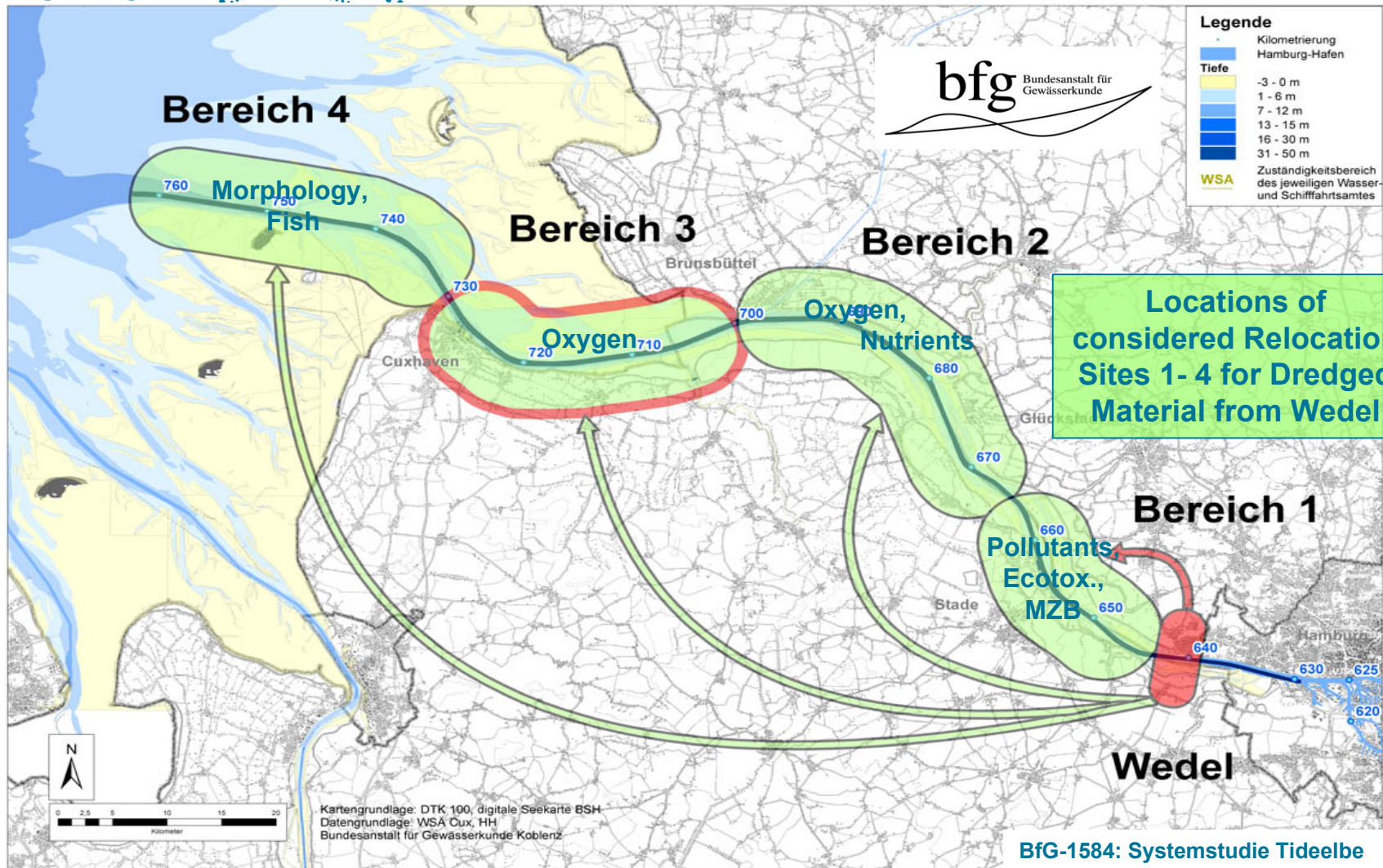




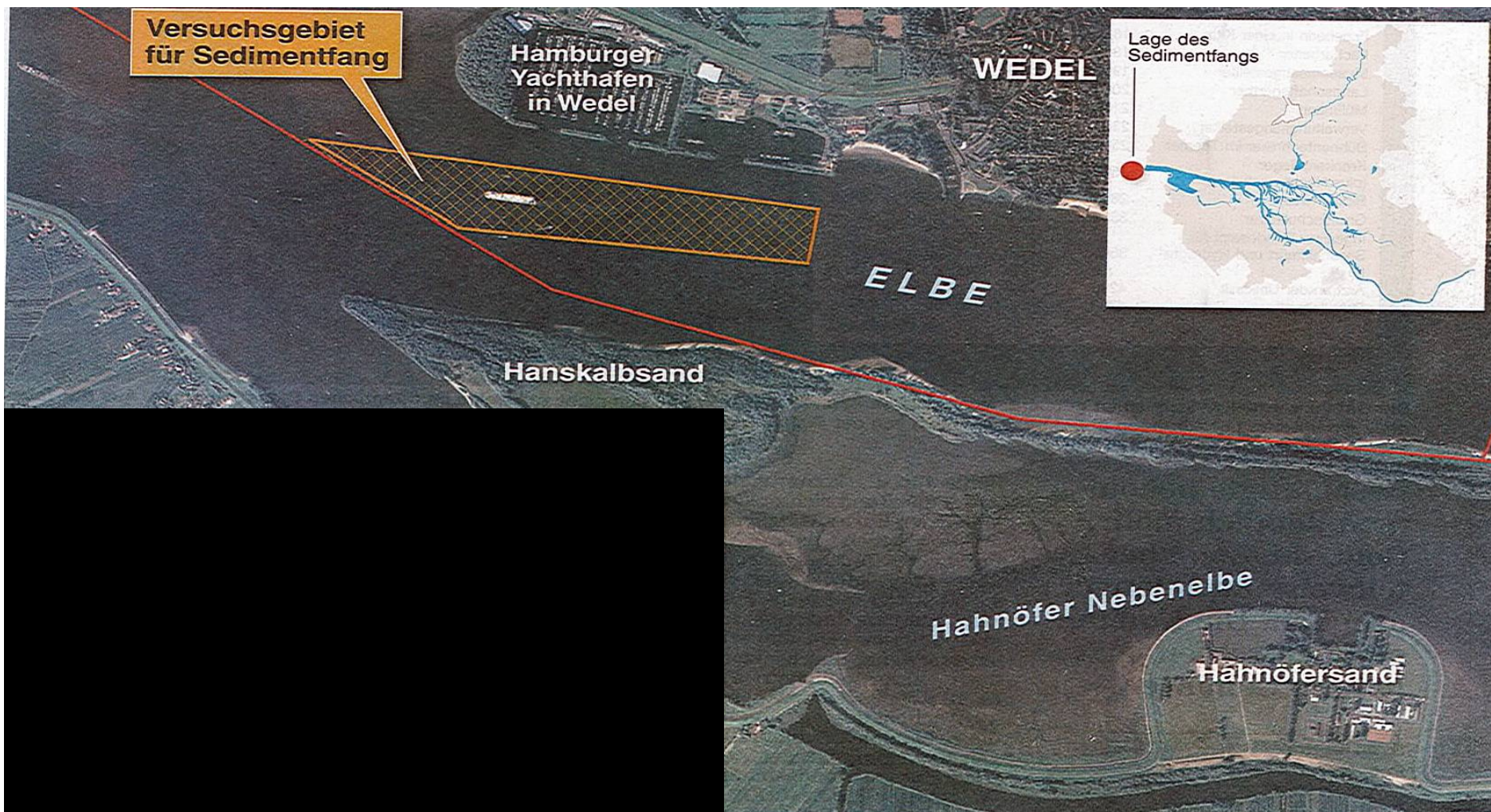
# Adapted Relocation Strategy



# TIDE



## Sediment Traps





## Pilot project for flooding area



... today

ca. 42 ha | former spoil area | mean surface level +5,50 m NN



## Pilot project for flooding area



## Conclusions on accessibility:

- enhanced understanding of the estuarine systems
- data collection / modelling
- monitoring
- In situ tests
- adapted dredging and relocation strategies



**Exchange of know-how  
and best practise in the  
TIDE - Partnership**