# TIDE | project activities

**SCIENCE:** TIDE improves knowledge about estuary functioning. The resilience quantification method allows for the first time inter-estuarine comparisons. This knowledge reduces the risk of one-issue actions caused by isolated concerns.

**GOVERNANCE:** TIDE improves the effectiveness of policy mechanisms and instruments in each region. Operating via regional working groups and bringing together various stakeholders it realises integrated management & governance in each region.

**MEASURES:** TIDE compares, assesses and plans mitigation and compensation measures (i.e. sediment traps, new dredging methods, restoration of river shores). It also jointly develops new solution-oriented mitigation methods.

**INFORMATION:** TIDE raises awareness of the issues at stake among the different target groups - ranging from EU policy makers to residents of the estuaries. On this basis it improves understanding and acceptance for necessary changes.

TRANSNATIONAL: TIDE is based on best available knowledge and practices from within the TIDE regions as well as beyond. This is ensured through jointly agreed work plans and methodologies resulting from continuous exchange of experience and knowledge among the TIDE partners.

**DOCUMENTATION:** TIDE experience is synthesized in a joint TIDE toolbox documenting

- · assessment tools with new resilience quantification approach
- governance box with roadmap to integrated estuarine management planning
- measure box showing pre-conditions and results of various measures

**EXPERIENCE TRANSFER:** The TIDE toolbox is presented to other planners, managers and decision-makers of other estuaries and related ecosystems in TIDE on Tour seminars.



#### lead partner TIDE

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### www.tide-project.eu

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It is implemented between September 2009 and

# TIDE | partners

TIDE brings together experts, scientists, policy-makers and managers representing the various economic, social and environmental interests in the estuaries:

#### Elbe | Germany

Hamburg Port Authority www.hamburg-port-authority.de, www.tideelbe.de Lower Saxony Water Management, Coastal Defence and Nature Conversation Agency, www.nlwkn.de

#### Weser | Germany

Lower Saxony Water Management, Coastal Defence and Nature Conversation Agency, www.nlwkn.de Free Hanseatic City of Bremen, www.wuh.bremen.de University of Bremen, www.uni-bremen.de



#### Humber | United Kingdom

Institute of Estuarine & Coastal Studies, Hull www.hull.ac.uk/iecs

Environment Agency, www.environment-agency.gov.uk

#### Scheldt | Belgium/Netherlands

Rijkswaterstaat, www.rijkswaterstaat.nl Flemish Authorities, Department of Mobility and Public Works, www.mow.vlaanderen.be Antwerp Port Authority, www.portofantwerp.be University of Antwerp, www.ua.ac.be/ecobe



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## TIDE | four estuaries

TIDE focuses on the estuaries of the Elbe (DE), Humber (UK), Scheldt (BE/NL) and Weser (DE).

All show similar characteristics:

- They are used as shipping channels leading to large ports
- They are characterised by a strong tidal influence
- which is accompanied by large sediment transport.
- Most estuarine areas are designated NATURA 2000 sites.

### TIDE | similar challenges

Sediment transport is steadily increasing

> in order to keep the ports operating more and more maintenance dredging and improved sediment management is necessary.

Estuarine ecosystem functions are endangered

Important ecosystem services – like flood regulation and coastal protection, water purification, habitats for plants and animals – are threatened

Decision-makers are faced with an increasingly challenging legal and global economic framework

- > EU Directives such as the Birds and Habitats or Water Framework Directive need to be properly implemented
- In order to maintain their competitive position and thus ensure the economic prosperity of the region, the big ports need to be further developed.

Due to climate change these problems will in future get even worse – unless compensation measures and appropriate mitigation concepts are found.



Port: Antwerpen Length: 160 km

# TIDE | general objective

TIDE turns integrated management and planning into reality at the estuaries of the Elbe, Weser, Humber and Scheldt.

# TIDE | approach

TIDE takes into account the ecological, economical and societal needs of the regions involved, and interlinks the multiple processes and large scale efforts taking place in all estuaries.

TIDE uses the knowledge & solutions generated in previous projects like HARBASINS, SedNet, New!Delta (e.g. optimised sediment management strategies; revitalisation schemes of side river arms).

TIDE links into the numerous management plans, that have been or are being prepared as a reaction to urgent issues (like flood prevention, sediment increase, etc.) and/or in compliance to EU directives.

TIDE looks for effective application of the enormous investments that are realised or are in the planning process in all those estuaries.