



# DANUBIUS-RI: Future Vision and Research Needs for River-Sea Systems



## BACKGROUND

**85%** of Earth's land surface is connected to the ocean by rivers (Bianchi et al. 2013)

**75%** of the world's population is expected to live in the coastal zone by 2025, with many of the remaining living near major rivers (Bianchi et al. 2013)

**60%** of the world's international river basins lack a cooperative management framework (UN WWDR4, 2012)

## APPROACH

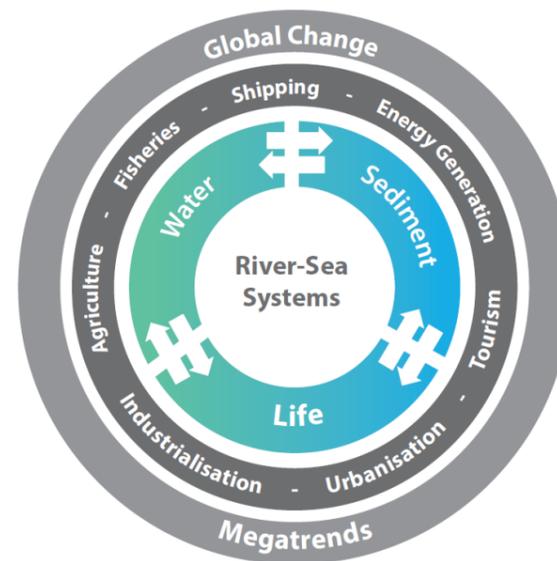
DANUBIUS-RI, **International Centre for Advanced Studies on River-Sea Systems**, is a distributed research infrastructure (RI) integrating studies of

- rivers and their catchments,
- transitional waters, such as estuaries, deltas and lagoons, and their
- adjacent coastal seas (i.e. River-Sea Systems).

Its **mission-oriented, integrated, interdisciplinary and participatory** approach seeks to change the process and system understanding of River-Sea Systems and their respective management in order to achieve healthy River-Sea Systems.

## RESEARCH

DANUBIUS-RI's identified **key challenges** and research needs in River-Sea Systems, which are related to global change incl. climate change and extreme events, changes in hydromorphology, the quantity and quality of water and sediment across the river-sea continuum, and the structure and functioning of associated ecosystems.



Research Missions & Priorities:

- **"Achieving Healthy Inland, Transitional and Coastal Waters"** including the research priorities Water Quantity, Sediment Balance, Nutrients and Pollutants, Biodiversity and Ecosystem Services
- **"Adapting to Climate Change: Enhancing Resilience of River-Sea Systems"** including the research priorities Climate Change and Extreme Events

## AIM

DANUBIUS-RI's aim is to overcome the current fragmentation of freshwater and marine research and to **facilitate integrated research from the river source to the sea** by

- providing access to state-of-the art facilities, methods and tools, as well as samples and data;
- bringing together relevant expertise to advance process and system understanding and to enhance stakeholder engagement; and
- enabling the development of integrated management and policy-making in River-Sea Systems.

## MORE INFORMATION

DANUBIUS-RI's **Science & Innovation Agenda** is guiding the RI's evolution as it progresses from preparation through implementation to operation. It describes DANUBIUS-RI's vision, mission and approach, and provides a scientific framework for the RI's design and highlights the research priorities for the first five years.



Download the Science & Innovation Agenda here !

[www.danubius-ri.eu](http://www.danubius-ri.eu)

