

Seminar

(Net) sediment transport in intertidal systems

Abstract

Climate change and anthropogenic pressure threaten the majority of coastal systems worldwide. The support of geomorphological predictions is crucial for policy makers. However, the state of the art of numerical modeling is relatively limited, from either theoretical and computational perspectives.

The seminars focus on improving our understanding of the sediment dynamics in tidal basins/estuaries, and implementing the insights into a computationally-viable modeling framework. Two case studies located in the Netherlands are adopted. Additional topics of interest are tackled, which are typically not central for Italian universities, triggering a comparison between the two coastal systems. The seminar, in the framework of *Fluvial hydraulics and hazards reduction* and *Coastal Dynamics courses* (master degree in Civil Engineering) and *Coastal Risk* (master degree in Geological Sciences) aim at complementing and enhancing the knowledge base of students and staff at any level.

Theory & modeling concepts



Tidal flat & salt marsh landscape in the Wadden Sea, the Netherlands

www.waddensea-worldheritage.org

Including, but not limited to...

- Tidal hydrodynamics in coastal waters
- Suspended transport in oscillatory flows
- Barotropic and baroclinic mechanisms
- Concentration profiles and sediment properties
- Morphodynamic equilibrium and models
- Effects of human interventions
- The Dutch approach to coastal management

Marco Gatto is a civil engineer working as a researcher and lecturer at HZiversity (NL). His main expertise are coastal engineering and urban waters.



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Schedule (in the presence)

Tue, 14th Dec h 16.30-19.00 room F8

Wed, 15th Dec h 16.30-19.00 room F8

Thu, 16th Dec h 16.30-19.00 room F8

the streaming of the seminar is available at [link
meet.google.com/txb-qjia-ndm](https://meet.google.com/txb-qjia-ndm)