

BIO-Tide: An international collaboration to tackle the complexity of marine tidal flats

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Coastal tidal sediments drive the nutrient and carbon fluxes across the sediment-water interface and thus provide a pivotal role in the coastal filter function. To a large extent, they mediate coastal eutrophication and support water quality improvements. The presence of biofilms stabilizes sediments and is an important agent against coastal erosion.

Understanding the impact of anthropogenic effects such as climate change and pollution on the coastal areas requires us to know how biotic and abiotic factors affect the coastal tidal sediments. This necessitates an interdisciplinary approach in which the contribution of organisms, ranging from microorganisms up to macrofauna, and environmental factors, such as sediment grain size, on the sediment fluxes can be quantified. The BIO-Tide project (EU Horizon 2020 ERA-Net COFUND BiodivERsA, www.bio-tide.eu) brings together experts from different marine fields to do just that. The integrated use of novel techniques and high-tech equipment applied directly in the field allows for a realistic fine-scale spatial and temporal recording of the sedimentary processes. The incorporation of information obtained allows us to model the (a)biotic effects on sediment fluxes and productivity.

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