TOWARDS AN OPERATIONAL HYDRODYNAMICS AND BIOGEOCHEMICAL MODEL OF THE TAGUS ESTUARY

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Motivation
Water observatories support both the daily and long-term management of coastal systems, by allowing the:
• continuous surveillance of coastal zones;
• anticipation of events of contamination;
• tuning of management plans.

In project UBEST we demonstrate the use of water observatories to understand the biogeochemical buffering capacity of the Tagus estuary and of the Ria Formosa relative to climate change and anthropogenic pressures.

This study describes the implementation of the operational hydrodynamics and biogeochemical model of the Tagus estuary (Portugal), as part of the Tagus estuary water observatory.

Model validation
The model represents the main spatial and temporal patterns of salinity, temperature, nutrients, chlorophyll a and dissolved oxygen observed in the Tagus estuary.

The main differences arise from uncertainties in the boundaries conditions and the existence of other point sources that were not considered in the model.

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