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Observations and modelling for two Spanish river-sea continuums. Towards a common approach for a e-infrastructure service

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Two different river-sea continuums, the Ebro-Llobregat and the Guadalquivir, will be used to analyse commonalities and specificities from the environmental observational and modelling perspective. The results will be used to set a common framework in a e-infrastructure service. This service aims to form part DANUBIUS ESFRI Research Infrastructure and will be oriented to cover the needs for digital services in terms of networking, computing and data management of scientific researchers and harbour and coastal authorities.
The Ebro-Llobregat system, located in the Spanish Mediterranean border, is an example of a strongly regulated river ending in a micro-tidal fetch limited sea that experiences a clear retreat trend of the ancient deltaic fronts. The Guadalquivir case, located at Southern Spanish Atlantic coast, represents a high-turbid tidal-dominated estuary and the necessary entrance of the Port of Seville about 80km from the river mouth.
Different initiatives have been carried out at both sites to monitor physical, chemical and biological parameters to cover the scientific research and management needs. Besides, modelling efforts have been also performed to reproduce the environmental dynamics. All the generated information usually is disseminated trough the publication of the results in scientific journals or tailor-made databases with a reduced time perspective.
In this paper we analyse the existing river and coastal monitoring networks and the numerical modelling efforts to extract a common framework to be used in a future e-infrastructure service. Such an approach will contribute to establish a long term observational and numerical database to address climate change impacts for two vulnerable cases in the Iberian Peninsula.