



A Mediterranean dataset for the evaluation of the Climate impact on the coasts

Marco Bajo (1), Georg Umgiesser (1,2), and Christian Ferrarin (1)

(1) CNR, ISMAR, Venezia, Italy, (2) Open Access Center for Marine Research, Klaipeda University, Klaipeda, Lithuania

The Copernicus Climate Change Service awarded a contract to Deltares, in association with JBA Consulting (UK), Danish Meteorological Institute (Denmark), National Research Council - Institute of Marine Sciences (Italy), University College Cork (Ireland), to provide a consistent European dataset for the evaluation of climate change impacts on coastal areas. The Institute of Marine Sciences of the National Research Council (CNR-ISMAR) is part of the international consortium that is working on this contract and is responsible for the Mediterranean Sea use-case. The purpose of the contract is to develop a dataset, for tide, storm surge and wave conditions, and to derive a number of Climate Impact Indicators (CII's). Historical baseline and future trends will be considered by using wind and pressure datasets from the ECMWF Climate Data Store (CDS) to force the hydrodynamic models. The project considers a number of use-cases in order to derive a further set of local CII's. The climate data will be added to the C3S datastore, and will be made accessible through a web portal that allows end users (e.g., government agencies responsible for local coastal defence and management) to browse the particular climate/impact indicator for coastal regions in Europe. The Mediterranean use-case will increase the resolution over the Mediterranean Sea and over the Adriatic Sea in particular. The results will be extended to the Venice lagoon, due to the importance of the populated areas inside it. In this first stage of the project, specific indicators, related to port issues, population needs and to the future management of the MOSE (MOdulo Sperimentale Elettromeccanico) flood barriers, which are under construction, have already been proposed by local end-users. All these indicators will be considered and elaborated in order to be implemented as CII's in the CoDEC dataset.