



Ensemble of XXI century storm surge projections for Southern Europe

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We investigate the contribution of atmospheric pressure and winds to Southern Europe sea level variability during the 21st century using an ensemble of model simulations. Sea level variability is modelled with the HAMSOM model at $1/4^\circ \times 1/6^\circ$ of spatial resolution in a domain covering the whole Mediterranean and a sector of NE Atlantic. The model is forced with the results of an ensemble of 12 regional climate models (RCM) which provide fields of atmospheric pressure and winds with a spatial resolution of 25-50km. All the RCMs are run under the SRESA1b scenario of greenhouse gases emissions (GHGs).

In a first step we analyse the control period (1960-2000) of all the models in order to identify the quality of each modelling system. Then, we analyse the period 2000-2100 to determine the common features among models related to climate change and to establish ranges of uncertainty for the different quantities analysed. In particular we will focus on low frequency processes (long term trends and seasonal cycle) and also on extreme events (number and intensity of extreme sea level).