



Wave-tide-surge interactions in a shallow coastal region : hindcast of the storms in the Pertuis Charentais (Bay of Biscay).

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The large scale surge models are not very reliable in predicting the storm induced sea level oscillations in the coastal regions of a complicated geometry. We present a fine resolution finite-element hydrodynamical model to investigate the surge propagation inside 2 tidal inlets of the Pertuis Charentais (Bay of Biscay, France). The tides and waves are simulated by the 2D version of TELEMAC and TOMAWAC software resolving the shallow water equations. The hindcast of the surges in 1999 shows that, when the effects of the tide-wave-surge interactions are taken into account, the model predictions indicate a much better agreement with the observed exceptional storm sea levels.