



Interactive  
Comment

# ***Interactive comment on “Hydro morphodynamic modelling in Mediterranean storms: errors and uncertainties under sharp gradients” by A. Sánchez-Arcilla et al.***

**Anonymous Referee #1**

Received and published: 23 April 2014

Title “ Hydro morphodynamic modelling in Mediterranean storms. Errors and uncertainties under sharp gradients“ by Agustin Sanchez-Arcilla, Vicente Garcia and Manuel Garcia

Shortly, the paper deals with the hydrodynamic modelling of an intense storm on the Catalan coast, making a combined simulation by SWAN and XBEACH models in order to reproduce the effects of storm event occurred in December 2006 and registered through a buoy-gage. The results have been compared to LIDAR data. The issue has a reasonable interest related to the possible ordinary use of such open source codes in the assessment/predictive chain, in order to support decision makers or planning ac-

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tivities on beach/coastal management. First of all the paper seems to be lengthy and sometimes redundant in terms of codes description, errors and uncertainties proposition and in discussion as well, inducing a bit reader confusing. A possible suggestion to the Authors is to try to be pragmatic and concise limiting the discussion to the original contribute that research and paper would to give to the scientist community. Further, some assumptions and statements seem to me, limiting the effective relevance of the results. I.e. Authors wrote “In all three cases, the bathymetry comes from GEBCO (GEB-2008) dataset which has a resolution of 30 arc-seconds (approximately 1 km).” page 2 and “To start the analysis, prior to modelling tasks, the differences between pre and post storm LIDAR bathymetries are calculated, helping to determine which processes must be reproduced by the morphodynamic model.” page 5, what does it mean?. There are any LIDAR bathymetric surveys? If yes, why do they not use such data to make validation of the simulation results? why do they present and discuss fig. 5 concerning the difference between the emerged beach while the interesting issue might be the bottom evolution? Further, fig 5 shows difference more than 50%, does it make sense? These are examples of rough questions arisen from the paper which suggest to require a detailed review before to be re-submitted to the journal.

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 1693, 2014.

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