

# ***Interactive comment on “Numerical and remote techniques for operational beach management under storm group forcing” by Verónica Morales-Márquez et al.***

## **Anonymous Referee #1**

Received and published: 15 August 2018

I have carefully read the MS of Morales Marquez et al. The Manuscript is very interesting on both: methods and Results. An innovative approach was provided to estimate the storm impact along the Mediterranean beach. Furthermore new information on the morphodynamic behaviour of beaches stressed by storm groups was provided. Although the paper is very interesting some adjustment are required to improve the quality of this research.

## **GENERAL COMMENTS**

The MS was perfectly inserted in one the main filed of research of the morphodynamic of beaches, moreover the authors provide useful information on the Mediterranean

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beach response to storms. The Introduction chapter explored the scientific literature in a very deep way, but the objective is not very clear. Furthermore the authors stated that this method could be helpful for beach managers, but only little paragraph was present in the Discussion.

The Methods section is, currently the section that should be improved. The main problem is that it is not clear the way that the authors used for the comparison of Field data and Xbeach simulation. The authors did not explain if the Xbeach model was 1d or 2d. Further indication on Xbeach model setting should be given. Regarding the waves, what are the value used for Xbeach model? The awac was at 25m depth and the profiles start at about 7m depth. Please clarify this aspect. Moreover the reader did not well understand what are the profiles acquired by Field activity and what are the profiles provided by Xbeach. Are only 9 profiles the results of each simulation of Xbeach models? It is not clear the procedure adopted to realize the DTM from the mentioned profiles and it is not clear in which way this bathymetry can be compared with the bathymetry obtained by Field activities. No information about the realization of each DTM was provided. In order to give more importance to the presented data the authors should provide an error estimation on the estimation of sediment balances.

In my opinion the Method section is the only section that should be deeply improved.

RESULT and DISCUSSION The results chapter suffer of the confusion on Methods section, once revised that chapter also the Results section will results more clear. In this Section the estimation of the error in estimation of sediment balances should be given.

### SPECIFIC COMMENTS

The Authors can find the specific comments in the attached PDF version of MS.

Please also note the supplement to this comment:

<https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2018-173/nhess-2018-173->

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