

## ***Interactive comment on “Runup parameterization and beach vulnerability assessment on a barrier island: a downscaling approach” by G. Medellín et al.***

### **Anonymous Referee #2**

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This is a good paper on run-up parametrisation using a combination of statistical and numerical methods.

The paper applies existing methodologies to assess the vulnerability of a beach located in North Yucatan (Mexico), the topic is certainly relevant for the wide coastal engineering community.

The paper is generally well structured and well written, with the exception of the conclusions that appear to be a summary of the paper rather than drawing actual conclusions.

However, the paper lacks of an uncertainty analysis. In particular given the discrepancy

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between the hindcast and ADCP measurement at NODE12972 it will be interesting to know the impact of the overestimation of  $H_s$  by the numerical model on the computation of the paper. Can this be discussed and possibly quantified?

In summary the paper requires minor corrections, including a discussion of the uncertainty in the model.

Minor points:

Section 3.7: I wonder if this is needed as it is basically repeating Sallenger (2000) classification. Maybe a table summarising the four conditions would be sufficient.

Discussion: the future research on this topic should go in Conclusions rather than in discussion.

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 3, 3077, 2015.

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