Natural Hazards
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Discussions

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Interactive comment on "Coastline evolution based on statistical analysis and modelling" by Elvira Armenio et al.

Anonymous Referee #1

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General comments

The paper concerns the estimation of coastline evolution due to erosion and/or deposition processes. In particular Authors present an approach to analyse the dynamics of a coastal system, identifying typical and recurrent erosion/accretion processes. The presented approach is based on the combination of field information, GIS tools and statistical models applications and is tested on a coastal reach in the southern Italy. The subject is of strong interest and the presented material is technically good. In my opinion the paper is acceptable but some elements should be improved to better highlight the contribution of the work and the advantages of the proposed procedure.

Specific questions to consider: - In Introduction section (on page 1): In this part of the work I suggest to introduce some comments on the recent research on the

dynamics evolution in transitional environments as the coastal aereas (a brief review can be found in the recent Special volume of Advances in Water Resources (2018), Volume 120). As an example it could be interesting to highlight how the dynamism of coastal areas could result both from the fluvial system dynamism and from sea-level dynamism. - Results section: in my opinion the authors should better explain the behaviour in cell I, Cell II and Cell III. In my opinion a figure which more clearly shows the accretion and retreat for each cell could be introduced (as an example from figures 7 and 8 it is not easy to highlight it). - Numerical analysis results and discussion section: I suggest to introduce more details and discussion about error estimation and uncertainty of the results.

Please also note the supplement to this comment:
https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2018-239/nhess-2018-239-RC1-supplement.pdf