Review on "Erosive phenomena in the Kaulon archaeological site: origins and remedies" by Barbaro et al., Anonymous Referee # 2, 23 Mar 2017

GENERAL COMMENTS

The paper describes the erosive phenomena occurring along the coast of Monesterace Marina (Calabria, Italy) and investigates on possible causes of shoreline changes through the analysis of different types of data. In addition, a temporary and a final solution to protect the Kaulon archaeological site affected by beach and dune erosion is proposed.

In the present form, the paper is redundant, verbous and lacks a consistent scientific analysis and it does not provide substantial and original results; there is a potentially very interesting available dataset, but the paper could do with a more extensive analysis by not including previously published material [e.g. Barbaro, G., Foti, G., & Sicilia, C. L. (2016). Erosive Phenomena in the Proximity of Kaulon Archaeological Park: Origins and Remedies. Procedia-Social and Behavioral Sciences, 223, 714-719]. As a consequence, the reviewer recommends reconsideration of the paper following a major revision.

DETAILED COMMENTS

- Pag. 3, line 15: suggest to use "estimation" instead of "calculation".
- Pag. 3, line 30: it seems redundant to consider an entire Section for listing the main aims of the paper. The objectives of the work can be briefly described in the introduction (line 18 to follow).
- Pag. 4, line 12: suggest to substitute "Geographic" classification with "Geographical" classification.
- Pag. 7 to pag. 11: the quality of Figure 5 to 9 has to be improved.
- Pag. 10, line 3: are you referring to the mean peak wave period ? Please, explain.
- Pag. 11, line 18: symbol 'h' has not been defined.
- Pag. 14, line 15: please, define T_m as mean wave period.
- Pag. 15, Eq. (16): please, explain the meaning of "per".
- Pag. 15, Figure 11: the quality of Figure 11 has to be improved.
- Pag. 16, line 3: "The run-up has been calculated using a probabilistic based on the ETS model…". Do you mean "The run-up has been calculated using a probabilistic approach based on the ETS model…" ?
- Pag. 16, line 11: Please, define "X" as fixed treshold. Suggest to change the sentence "Return period of a run-up level higher than a fixed treshold is determined as…", with: "Return period of a run-up level higher than a fixed treshold, X, is determined as…".
- Pag. 16, line 17: Please, define "D(X) as the mean persistence of the run-up above X". Suggest to change the sentence "The mean persistence of the run-up above the fixed treshold is given by…" with: "The mean persistence of the run-up, D(X), above X is given by…".
- Pag. 17, Figure 12: Please, add axes labels.
- Pag. 17, Figure 13: Please, add axes labels.
- Pag. 17, line 8: "To evaluate changes in river sediment transport hydraulic structures, ...". Do you mean "To evaluate changes in river sediment transport in presence of hydraulic structures,.." ?
- Pag. 17, line 12: suggest to substitute "cards" with "charts".
- Pag. 18, line 3: suggest to substitute "Land cover data" with "Digital mapping".
- Pag. 20, line 9: "where h is the average yearly temperature". Please, consider that symbol 'h'

has been previously adopted; see comment Pag. 11, line 18 above.

- Pag. 20, line 13: X, the soil protection coefficient, has been previously used for a fixed treshold; see comments Pag. 16 above.
- Pag. 21, line 5: the Zemljic delivery coefficient has been adopted. Please, give more details.
- Pag. 22, line 9: "In this case, the analysis of the storm that occurred between in January 2014 to protect the archaeological site". The sentence is not clear to the reader.
- Pag. 24, line 8: suggest to substitute "works" by "structures".
- An improvement in the description of the final solution (Section 8) and temporary solution (Section 7) is needed. The design of these solutions should take into account the analysis previously performed to characterize the causes of erosion.
- A revision of the manuscript to verify English correct grammar and syntax is needed.