

Interactive comment on “Combination of empirically-based and physically-based methods to assess shallow slides susceptibility at the basin scale” by Sérgio C. Oliveira et al.

Anonymous Referee #1

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The paper deals with an interesting topic, zoning of shallow landslide susceptibility at basin scale. The original contribution of the paper is the combined use of two different methodologies (in the paper called empirically-based and physically-based methods) to evaluate and map landslide susceptibility over a catchment. The paper is well structured. The proposed procedure, which is based on a “set of integration rules defined by the cross-tabulation of the susceptibility classes of both maps and analysis of the corresponding contingency tables”, is clearly described in the paper. The application of the procedure in the test site (a study area in Portugal) effectively demonstrates the effectiveness of the proposal. The methods chosen in the application (i.e. the bivariate statistical information value method and the infinite slope method) adequately serve

C1

the purpose of the research.

My only major comment is the following. The name chosen to define the first adopted methodology, called by the Authors “empirically-based methods” (also used in the title of the paper), does not adequately represent the class of methods the Authors refer to, i.e. the statistical methods. Although the adjective “empirical” is sometimes used to include both heuristic and statistical analyses (e.g. Goetz et al. 2011), most commonly the methods used to compute landslide susceptibility are differentiated in three classes; Fell et al. (2008a, 2008b) call them basic, intermediate and advanced methods. Within this framework subjective heuristic analyses should be considered basic methods while data-driven statistical analyses clearly belong to the second of these classes. If the Authors, as it appears, want to refer to intermediate methods only, I suggest they change the term “empirically-based methods” with “statistical methods” throughout the paper. However, if the Authors want to refer to both heuristic and statistical analyses, they should make it clear it to the reader, by stating it explicitly in the paper.

See Attached PDF file for specific comments on Figures, Tables and Manuscript corrections.

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2016-381/nhess-2016-381-RC1-supplement.pdf>

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C2