

Interactive comment on “LAND-SE: a software for landslide statistically-based susceptibility zonation, Version 1.0” by M. Rossi and P. Reichenbach

Anonymous Referee #3

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In this manuscript, the authors introduce a new model for assessing landslide susceptibility. I consider that there are needs for that kind of model for a variety of objectives. So, I consider that there is the worthy for publication in GMD after the moderate revision. I commented several points to clarify the advantage of their proposed model.

Section 2.2 I cannot fully understand about single susceptibility models in LAND-SE. In Introduction, the authors introduced the recent review by Malamud et al. (2014) and they argued that more than 95 different models were proposed and can be grouped into 20 classes. Also, they bited a significant scarcity of a complete and comprehensive evaluation of the models performance and prediction skills in Final Remarks. I believe that the authors tried to overcome these problems, but it was unclear. I suggest that the

C1

authors have to describe “single susceptibility models” in LAND-SE in more detail. To clarify the advantage of LAND-SE for complete and comprehensive evaluation of the models performance, I think that the authors have to show their answer to the following questions: 1. How many models in 95 models did LAND-SE cover? 2. How many Malamud’s groups did LAND-SE cover? Perhaps if the authors summarized single susceptibility models in LAND-SE into a table, it should be helpful for readers.

Section 2.3 I cannot understand the method to combine results of single susceptibility models from the manuscript. Although the method was already presented in the previous paper of Rossi et al. (2010), I think that the authors have to show the method of combination. If the method us totally the same as the method presented by Rossi et al. (2010), the authors have to clarify it.

Section 2.5 I consider that this section is one of key parts of this study, since the authors noted that the quantification of errors and uncertainty of the models are limited (L312-L313). However, the review and description of the method for quantifying errors and uncertainty are not adequate. So, the authors have to show detailed information about the method. Also, the authors have to review the uncertainty analysis and show the reason why the authors chose “bootstrapping”.

Section 3.4 I think that the authors did not validate the results of this section using the data. They just calculated the landslide susceptibility based on the scenarios of landuse. If the authors want to show one of examples of possibility of LAND-SE, I can understand meaning of this section, but I cannot agree with the last paragraph in this section (L302-306). If the authors want to note the effectiveness of LAND-SE for testing effects of landuse change on landslide susceptibility, they have to validate their calculation results.

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C2