

Interactive comment on “Landslide susceptibility assessment based on different machine-learning methods in Zhaoping County of eastern Guangxi” by Chunfang Kong et al.

Anonymous Referee #1

Received and published: 30 August 2020

The current study provided results of landslide risk analyses based on ML algorithms. The writing is generally good without grammar errors. The reviewer would like to provide a few comments as follows:

1. Lines 26-28: Is there any literature research to support such a claim that the variation of robustness and performance of these two models can be neglected among applications in different regions?
2. In the introduction, there is in lack of a summary of the popularity of these ML algorithms. Such a summary can help readers understand why the authors chose these ML algorithms in the current study.

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3. The objectives of the introduction should be supported by the gap in the literature. The current objectives jump out from nowhere without any rationale or reasoning.
4. Fig.1: Please highlight the experimental site in mainland China only and ignore the outlying islands to maximize the area of interest.
5. Lines 107-108, 117-120, 128-130: Please provide proper references.
6. Lines 124-127: Why were they chosen? Were there any prior studies to support such a decision?
7. Line 140: Please define “heavy rain”.
8. Line 165: Is the LULC map created based on Landsat imagery? Please provide detailed calibration and validation results so the LULC data can be used. LULC determination is not a straightforward process and can be complicated.
9. Fig. 2: For each subplot, please provide numerical ranges for each “grade” based on Table 1.
10. Fig. 3: Please provide more details for each step in the text
11. Tables 2-4: Please merge information of these steps into the text. Tables are used to display arrayed data.
12. Fig. 4: Maybe I missed this – Is the definition of the levels hidden somewhere in the text?
13. Please define robustness in this case – my definition of robustness is that the algorithm consistently delivers good results at all kinds of environments. I don’t see how your analyses reflect such quality.
14. I don’t understand the message delivered by Table 5. It looks that the accuracy is not good because the landslide points that fell into high susceptibility areas are rare. Please highlight the message delivered by this table.

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15. Overall, there is a serious issue with this manuscript. This manuscript simply applied several known algorithms without interpretations. To make it publishable, interpretation of results is required. Why are certain algorithms performing better? Why are certain factors having a higher influence? What does this information mean to management and disaster prevention? These are simply some quick examples on top of my head.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2020-251>, 2020.