Natural Hazards and Earth System Sciences

Open Access

Discussions

NHESSD

Interactive comment

Interactive comment on "Efficacy of using Radar Induced Factors in Landslide Susceptibility Analysis: case study of Koslanda, Sri Lanka" *by* Ahangama Kankanamge Rasika Nishamanie Ranasinghe et al.

Anonymous Referee #1

Received and published: 22 January 2019

Dear authors, the manuscript titled "Efficiency of using Radar Induced Factors in landslide susceptibility analysis: case study of Koslanda, Sri Lanka" deals with the application of 4 methods for assessing the landslide susceptibility map: Bivariate InfoVal, Bivariate InfoVal with RIF, Multivariate MCDA based on AHP, Multivariate MCDA based on AHP with RIF. The work generally fits the aim of the journal, but needs several modifications and some lacks needs to be filled. The required improvements interest several parts of the work, mainly the data and methodology, for this reason I suggest major revision.

General Comments First of all, why all the images are black and with? Please provide the coloured images. The Abstract has to be rewritten because it cannot stay alone to explain the conducted work. The Introduction, besides it is quite long, partially misses in state-of-the-art about the landslide susceptibility methods and, mainly, in the use of remote sensing data for susceptibility map purposes and for extracting the parameters then utilized. The study area is not welle presented. It is not well localized (also because the images are B/W) and described. Furthermore, no geological and geomorphological information of the area were inserted. These information have to be added. Data and methodology section has to be deeply improved. Add more info and images of the used data, while Table 1 can be removed because it is useless and it no add information with respect to the text. The used methodologies are no described, as well as no images of the described and used factors are present. How did you extract factors by Sentinel-2 and Landsat images? The resolution of the images was enough? Please clarify. Insert the landslide inventory map derived by the multi-temporal analysis. Table 1 can be maintained if the relative weights are included, with a short explanation about how they were calculated and the addition of the "questionnaire survey form" in the text or as supplementary material. Results and discussion also need improvements. I suggest to separate the results and discussions. In the results session the four resulting landslide susceptible maps calculated (please with colours) have to be inserted and described. To make readable and comparable all the percentage of the four maps and relative classes, please summarize them in a table. Then the comparison between then can be insert in the discussions session. Consequently to all the required modifications and suggestions the conclusion has to be reviewed accordingly.

Minor issues - Add some more recent references about the "landslide-specific information for emergency and disaster management activities in the world". See for example Solari et al., 2018 - Add references of already published methods, e.g. IDW, NDVI and LST - Pay attention to the tenses. You write some parts using the present form and other the past. Please check - Line24 page 2 - remove "could" - Substitute "from the Mean Sea Level" with a.s.l. (above sea level) - Line26 page 4 - remove " - Line 3 page

5 remove "for these data" - Line7 page 5 - Substitute "an inventory map of landslide" with "landslide inventory map"