

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.

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The manuscript shows the comparison among different approaches (bivariate/multivariate analyses) using different sets of data (classic/classic + radar data) to produce a landslide susceptibility map of an area located in Sri Lanka. The work in general seems appropriate for the journal but it is not very well organized. In the paper a reader would expect to read: 1) a comprehensive introduction with proper literature, 2) a detailed description of the study area and its problematic in terms natural hazard; 3) a description of the adopted methodology; 4) the presentation of the results, 5) a

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discussion of the obtained results; 6) final remarks. I think the manuscript contains some of these issues but not well organized.

The introduction session is very long with respect to the rest of the paper. The authors should add some background knowledge about the use of remote sensing data and in particular of radar data to infer topographical, soil and land cover information. The literature review part in the first part of the Introduction needs to be improved. The second part (Statistical methods for landslide susceptibility analysis) should be reduced and part of it should be moved into the methodology description. The description of the study area is very short. Please add some information about the geology of the study area and about the typology of the landslides which affect the study area. The section “Data and methodology” is actually a list of the data available. There is nothing about the bivariate or multivariate methods. I suggest to show a map for each considered predisposing factor. Some factors need for a more accurate description, for example you need to describe the geology of the study area (Geological factors), in this paragraph information about the geology of the study area and the used classes totally lack. How do you decided the weight of influence of all predisposing factors? I suggest to split the results from the discussion. In the results section you need to present the landslide susceptibility maps and to explain their significance in terms of predisposing factors. In the discussion you can compare all the obtained maps highlighting advantages, drawbacks and limitation. Figure 1: I think that a colour figure can have more appeal, the same for figure 3. Minor issue: Page 1 Line 23: I think that you mean 90% and not 09% Page 2 Line 11: Earth and not earth Page 2 Line 33: delete “employed” Page 4 Line 24: “act as a sponge” does not sound really scientific Page 5 line 5: how much is the DEM resolution? Page 7 line 6: what does “Thermal-NDVI space” mean? Page 9 Line 2: How do you extracted the lineaments from Landsat and Sentinel 2 images? Are you sure that joints and fractures can be observed with the resolution of Landsat and Sentinel? Several references are not reported in the reference list: (van Vesten 1997; Somaratne, 2016; Rahman et al., 2008; Septiadi and Nasution 2009; Zhan et al., 2002)

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I suggest to reject the paper.

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