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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Statistical modeling of rainfall-induced shallow landsliding using static predictors and numerical weather predictions: preliminary results" *by* V. Capecchi et al.

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Statistical modelling of shallow landslides using static predictors and NWP outputs. Draft Article, submitted to HESS, MS No.: nhess-2014-181 Review, Jochen Schmidt, NIWA, September 2014

General Comments

The paper generally is reasonably well written, well-structured and good to read. As a reader I understand from the paper what has been done. However, poor English language needs to be addressed (see below). The paper presents a nice and original

case study on developing a spatial model for landslide occurrence. The model is based on statistical analyses of (a training dataset) mapped landslide occurrence and static (as GIS layers) and dynamic (NWP outputs) predictor variables. A validation dataset is used to validate the results and get an idea of prediction accuracy. The methods the model uses are standard statistical algorithms. Modelling results are analysed, compared with some field data and the forecast skill is evaluated as well as the relevant importance of the input parameters assessed.

I do have the following general issues with the paper

Some of the English language is grammatically incorrect and should be improved on. I recommend a thorough rewrite by a native speaker. (Although I understand the meaning of the paper from the current text.)

The abstract it is poorly written, e.g. description of the study findings is missing, and generally English is poor. The abstract should be rewritten.

The introduction needs to be completely rewritten. Currently it is simply written as an 'extend abstract' describing the whole study. This current material needs to go in the paper text where appropriate. Best practice for a introduction is to explain the 'why' of the study, i.e. explaining the motivation and how the study contributes to the wider international research.

The last paragraph of the introduction, explaining the paper structure, is unnecessary and can be deleted.

The used data on landslide occurrence is not well described (if at all). In the section 'Materials and Methods, a new section needs to be included describing (the generation of) the used landslide maps. What was the mapping method used? What exactly was mapped (which landslide feature, e.g. run-out)? This also should include an explanation of the training and validation datasets (see below) used in this study.

Sections 2.1: Could you give indication of the events return periods?

The paper does not very well describe how the predicted dataset, the landslide layers were separated into a training and validation dataset. This needs to be better described in the appropriate paper sections.

Maps in Figures: scalebar /scale is missing. Also you should use the same projection.

Figure 2: very poor figure! Needs to show extent of the WRF simulations!

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 4987, 2014.