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Comment

# ***Interactive comment on “Improvement of shallow landslide prediction accuracy using soil parameterisation for a granite area in South Korea” by M. S. Kim et al.***

**Anonymous Referee #1**

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## **1 General comments**

The authors present interesting results from their efforts to improve shallow landslide prediction with the SHALSTAB model. In particular, they focus on the model’s sensitivity to soil thickness, which is an important parameter in most shallow landslide models. The results show that including spatially explicit information on soil depths improves shallow landslide prediction compared to using a constant soil depth, although the difference is relatively small.

A major issue is the language and structure of the paper. First, the paper needs thor-

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ough language editing to improve the clarity. I could not judge the scientific quality of some of the sections because I simply did not understand the text. Second, the structure is inadequate. Some information critical to the methodology is presented only in the abstract and conclusions. Similarly, some conclusions seem to be mixed into the Results/Discussion section.

Potentially, the results are a welcome contribution to the literature on modelling shallow landslides. However, the manuscript requires a major textual and structural overhaul to improve clarity and readability. In addition, the methods and techniques need to be better explained so a fair judgement can be made on the scientific quality.

## 2 Specific comments

- In section 4 and throughout the manuscript: To me it is unclear how case I, II and III are defined.
- How did the authors discriminate between shallow landslides and deeper rock slides?
- In section 3.3: how was the back filling of the topography performed?
- If I understand correctly, soil depth is only measured for a small area within the catchment (Fig 1b). How is this subsample representative for the entire catchment? What statistical techniques did you use to extrapolate the measurements to the larger scale?
- It would be nice to see a quantification of the variability in soil depth at varying distances, e.g. in a semi-variogram. Perhaps the short-distance variations is larger than any obvious trend in the catchment, in which case simply taking an average soil depth would be acceptable.

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- Please review the table and figure captions. In many cases, the captions do not fully explain the table or figure. E.g. Table 1: Case I - III are mentioned. However, the table only lists data of Case I. In Figure 6: what do the three rows represent?

### 3 Technical corrections

At this stage, technical corrections are not relevant, as the whole paper needs full rewriting and restructuring.

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 3, 227, 2015.

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