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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Landslide susceptibility from mathematical model in Sarno area" *by* G. Capparelli and P. Versace

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Dears Reviewers

We are very grateful for having encouraged the paper Thank you very much for your suggestions. In my opinion they were very appropriate and useful They allow an important improvement of work both in contents and in its presentation. An important modification, in fact, consists in the new paper organization in order to keep and better indicate required explanation.

In general terms, I have organized the paper into: 1) Abstract (What is purpose, methods results, and purpose) 2) Introduction (What is the problem and why study it? background and relevant literature review) 3) Approach (How we are investigating the prob-

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lem) 4) Case Study (Whit general descriptions; background and results proposed by other Authors) Results (What did you find out?) 5) Result and Discussion (What do the results mean?) 6) Conclusion (What is the new understanding of the problem?) You may have sub-headings, such as study area descriptions under Methods and Approach, but stick to the general outline.

I think the paper now is easier to read.

Below I reminder some suggested changes indicating major revisions; minor comments have been all respected and accepted except for the replacements of “heights” with “dept” which is in my opinion not indicative for referring the rainfall suggested by Reviewer 1 (R1)

(R1) First of all, the results section could be expanded, perhaps including additional virtual experiments that could prove the suitability of the model for application in Mediterrean slopes with pyroclastic soils. Additionally and/or alternatively, I wonder if other subareas in the Pizzo d’Alvano study region could be showed for some simulation tests.

The section has been expanded with further clarification. as regards the application to other areas, at the moment is work in progress.

(R1) A very critical issue in this manuscript is the lack of critical discussion and comparison with other works in the literatures. I recommend to expand the discussion section, commenting the results also in the light of what is shown by other experimental and modelling findings by various authors in different geographical, topographic and geotechnical conditions.

I totally agree with this suggestion, I’ve tried to respect it. The topic has been dealt with addition, in the introduction and the section of the case study, an overview of the models and their results.

The abstract has been revised in accordance with suggestions

HESSD

10, C8023–C8025, 2014

(R1) The study area should be shown in a better way than by a simply photo. I suggest including a map in Fig 1 where the zone chosen for simulation is showed.

I changed the figure and the signs in the text also

(R1) More information should be provided on the collection of soil samples for the determination of mechanical properties.

The suggestions have been respected In the section where I explain the case study But I would like to point out that the information about the sampling variability of the specimens and tests I did not want to specify too much on this because this is outside my expertise and my co-author. These concepts are not so familiar to us. I hope to have specified enough to ensure a correct and precise discussion of the issue. Since the paper has been reorganized to allow monitoring of changes, I am attaching the new version.

Please also note the supplement to this comment:
http://www.hydrol-earth-syst-sci-discuss.net/10/C8023/2014/hessd-10-C8023-2014-supplement.pdf

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 12643, 2013.