

## ***Interactive comment on “Evaluation of shallow landslide triggering scenarios through a physically-based approach: an example of application in the southern Messina area (north-eastern Sicily, Italy)” by L. Schilirò et al.***

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Dear Referee,

Thank you for your careful, constructive and detailed review of our manuscript. You can find the new version of the paper in the supplementary material. On the basis of your suggestions, the structure of the paper has been modified by clearly distinguishing the different stages of the proposed approach, paying particular attention to the logical order of introducing facts. Every single suggestion has been considered by implementing

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the text where more detailed explanations or adjustments were needed. With regard to the specific questions:

- 1) (p. 2976 line 17 of the old version of the manuscript): your suggestion regarding the use of the word “calibration” is reasonable. In fact, excluding the soil cohesion (see Sect. 5.1), the values attributed to the parameters of the numerical model have not been adjusted after a first comparison with the 2009 landslide inventory. For this reason, the word “calibration” has been replaced by the word “validation”. However, it is important to note that a comparative analysis has been still performed by varying the hydrodynamic parameters of the model, in order to confirm the consistency of the parameters used (see Table 5 and Fig. 10b);
- 2) (p. 2982 line 2 of the old version of the manuscript): the sentence has been modified;
- 3) (p. 2982 line 14-18 of the old version of the manuscript): the sentence has been modified in order to clarify this point;
- 4) (p. 2984 line 5 of the old version of the manuscript): correction made;
- 5) (p. 2984 line 12 of the old version of the manuscript): the hydrodynamic parameters have been named and specified in Table 3;
- 6) (p. 2984 line 18 of the old version of the manuscript): correction made;
- 7) (p. 2984 line 21 of the old version of the manuscript): the parameter  $\theta$  has been defined;
- 8) (p. 2985 line 4 of the old version of the manuscript): the model proposed by Saulnier et al. 1997 has been expressed by adding the equation (2), in order to clarify the assumptions of this model;
- 9) (p. 2988 line 3 of the old version of the manuscript): the numbering of Figure 7 has been modified;
- 10) (Table 5 of the old version of the manuscript): this table (Table 3 in the new ver-

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sion of the manuscript) has been improved by adding two columns which explain the variable and its source;

11) (Figure 7 of the old version of the manuscript): this figure (Figure 11 in the new version of the manuscript) has been modified according to the suggestions

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/3/C1457/2015/nhessd-3-C1457-2015-supplement.pdf>

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