

Interactive comment on “Quantitative comparison between two different methodologies to define rainfall thresholds for landslide forecasting” by D. Lagomarsino et al.

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We thank Referee#1 for the insightful comments, which will surely improve the quality of the manuscript. Hereafter we answer point-by-point to his concerns.

1. We agree, the manuscript is unbalanced. Therefore, in the revised version, we will improve sections 3, 4, 5 and 6. Editor and referees provided several inputs that will be addressed to improve these sections. In particular, we will provide a better description of the datasets, a more in-depth analysis of the results and we will improve the discussion.

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2. The Referee states that “the two models are run in calibration, not in validation. In both cases (if I’ve well understood) only the calibration dataset is considered (2004-07 ER; 2000-07 Tuscany) and a validation analysis is not performed”. This assumption is not correct. As we write in the abstract: “. . . these two methodologies were applied in two different areas, each time performing a site-specific calibration against available rainfall and landslide data. After each application, a validation procedure was carried out on an independent dataset and a confusion matrix was build”. We will make it clearer also in the text and we will provide a table to better explain which are the calibration/validation datasets for the two test sites. Moreover, in the discussion, we will try to put in relation the quality of the results to the quantity and quality of data available in the two test sites. This will allow us to rephrase and to better discuss the rationale behind the sentence “Results show that the both threshold models are characterized by satisfactory results: in all applications, the validation statistics are close to optimal values”, which was considered as misleading by the Referee.

3. Referee points out that in Table 5 there is a count of only 177 days against an analysis period of 7 years. We have two answers for this comment. First, it is not correct that the reference time is 7 years. 8 years is the length of the calibration dataset (2000-2007), while in Table 5 we are considering validation statistics, which are computed against the dataset spanning from 01-01-2008 to 31-01-2009. Second, In the Tuscany test site, days without rainfall were excluded from the confusion matrix, as in Segoni et al., 2014a and b. The text and the captions will be revised to avoid misunderstandings.

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