Natural Hazards
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Discussions

Interactive comment on "Automated reconstruction of rainfall events responsible for shallow landslides" *by* G. Vessia et al.

Anonymous Referee #1

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General Comments: The manuscript is well written and presented, and addresses a topic of interest to both NHESS and researchers in the field of rainfall-triggered landslides. The method described for identifying rainfall conditions for landslide initiation is elegant, although the description is a little complex. A robust method for identifying landslide initiation (thresholds)in the absence of observation/field verification is a goal of much research, and has value for early warning systems. This method appears to hold promise, although as the authors state it requires testing against a much larger landslide data set from a range of terrains.

Specific Comments: 1.Introduction page 2870 line 2 – What about vegetation effect? 2.Introduction page 2871 line 6 – Location is also obtained from aerial photography, and increasingly from satellite imagery. 3.Introduction page 2871 line 24 – for clarity should

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Interactive Discussion

Discussion Paper

say "….. a sample of 100 rainfall events that initiated 100 single landslides……." This is the same phrase as in the first sentence of the Discussion, and avoids confusion with the statement about 100 landslides in the Abstract. 4. Section 5 page 2880 line 1 - As background for the reader, what was the range of geological/morphological settings for the 100 landslides? 5.Section 5 page 2880 line 1 –Presumably each of the 100 rainfall events caused numerous landslides? If so, then is the single landslide referred to in each event, chosen because it was the one for which the time of initiation was best known? What about the many other landslides that occurred during each event? Presumably many occurred at different times during the event (due to varying site conditions), and they likely had different rainfall thresholds. Is it likely the six possible rainfall events (thresholds) calculated by the automated reconstruction method identify some of these? Can the authors comment on potential of the method to identify thresholds for multiple landslides within a rainfall event? 6.Section 5 page 2880 line 20 – Further discussion is needed following this sentence. Is the difference significant?

Technical Corrections: 1.Section 4.2 page 2877 line 25 – Figure 3a, d and f should be Figure 3a, c and e. 2.Figure 5 page 2889 – The plot labelled 5a is in fact plot 5c, and 5c is 5a. And 5d is 5f and 5f is 5d. (Refer to the Figure 5 caption for correct labeling).

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