

## ***Interactive comment on “Rapid landslide identification using synthetic aperture radar amplitude change detection on the Google Earth Engine” by Alexander L. Handwerger et al.***

**Mahdi Motagh (Editor)**

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Dear authors, I asked the reviewer to have a look at your reply letter. Below you will see his/her reply.

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I'd like to thank the Authors the for the answers.

One of my main concerns was related to the use of external data to calibrate the model. The Authors 'clarify' that these data are actually used 1) to show that the approach (not at all described, then) correctly identifies true landslides, and 2) to constrain the SAR

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backscatter changes value for future studies.

Unfortunately I'm not fully persuaded about the answers because to me (absolutely personal opinion...) Paragraph 2.1 and Paragraph 4.1 seem to say something different. Also assuming that these data are not used to calibrate the model, then, quite a few sentences would loose meaning:

'Receiver Operating Characteristic (ROC) and Area Under the Curve (AUC) analyses to determine the best approach for landslide identification'

'The quality of the SAR-based landslide detection depends on the total number of images used in the pre-event and post-event stacks, slope and curvature threshold, a ratio threshold, and whether we use ascending, descending, or combined ascending + descending data'

and so on...

In the end, it seems to me that the link between the external info and the procedure is too strong to be resolved simply saying that the real purpose is to constrain the signal for future studies, and I don't see the way (and the sense) to untie the bonds in the current paper structure.

Since there are some potentialities in the paper, what I actually suggest is to re-define the framework, propose the method independently from the 'sensitivity analysis', with a more robust validation which uses the external data without entering in any calibration/sensitivity procedure.

I'm sorry to say that I keep my opinion and I suggest to reject the paper.

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