

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC2
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Comment on nhess-2022-34

Anonymous Referee #2

Referee comment on "Landslides caught on seismic networks and satellite radars" by
Andrea Manconi and Alessandro C. Mondini, Nat. Hazards Earth Syst. Sci. Discuss.,
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The paper shows, thorough a case study, the potentiality of integrating seismic and EO data to improve landslide mapping capabilities. The proposed approach uses broadband seismic networks to detect landslide events and SAR imagery to spatially locate the event.

The paper is well written and well organized. The results shown are promising. I think that the paper is worth to be published. However I would propose to improve the discussion section. I agree with referee 1 on clarifying strong and shortcomings.

COMMENTS

- 1) Proposed approach: It is understood that the method strongly depends on the quality/density of the seismic network. That means that nowadays it is hardly scalable to other places where landslides are a major issue. I wonder if there could be the possibility to analyze the network requirements". I mean have you tested not to use all the seismometers and just see how much the preliminary location decrease as a function of the number and density of the used seismometers? This could be a good output of the paper.
- 2) As stated by the authors, LQ5 and LQ6 detection is ambiguous and strongly depends on the user. I understand that the authors are referring here to Sentinel-1 data. How important is here the resolution or the number of images important? It would be nice to mention it in the work.

3) I miss an analysis on the reliability of the proposed approach. Are LQ1-LQ6 the unique seismic signals with this characteristics? Or there are false positives or negatives? I think it would be nice to comment this in the work to understand how it works. Same happens with the location of the event. Is it the unique detected change? Or there are more? If there are more, how the authors attribute to the one selected? How many of the detected areas are landslides?

Minor comments

- Line 147: "The outlier segment that identified covers " This sentence sounds strange to me.