

Interactive comment on “The impact of earthquakes on orogen-scale exhumation” by Oliver R. Francis et al.

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The two reviews that we have received were very thorough and thoughtful and upon revision, their comments will significantly improve the quality of our work. Reviews that are as thorough as these represent a lot of time on the part of the reviewers and we appreciate the effort that they have taken in this regard.

The key areas for improvement of the manuscript that are highlighted by the reviewers are as follows:

Both reviewers highlighted that they found the structure of parts of the manuscript challenging, with reviewer 1 suggesting a conceptual model figure that outlines the major units and symbols throughout the text. We think this is an excellent idea, and

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will include a new conceptual figure within the text. We will also adjust the structure of the paper based on suggestions from both reviewers (these are outlined in more detail below).

Both reviewers asked for clarity in our descriptions of specific research questions. We will include our specific research questions in a dedicated paragraph at the end of the introduction.

Reviewer 2 sought clarification on the process by which we define regolith generation by landslides, and our assumptions regarding how regolith may affect the total mass of regolith generated by an earthquake. Reviewer 1 also mentioned that he felt these definitions were somewhat hidden in the manuscript. As these definitions are extremely important to our model design, we will address these through clearer descriptions in both the introduction and methods sections.

We provide more specific comments about the major areas of discussion by the reviewers in the supplement. Both reviewers have provided lengthy and detailed comments on the .pdf documents. During the revision process we will systematically address these more minor comments.

Please also note the supplement to this comment:

<https://www.earth-surf-dynam-discuss.net/esurf-2019-64/esurf-2019-64-AC1-supplement.pdf>

Interactive comment on Earth Surf. Dynam. Discuss., <https://doi.org/10.5194/esurf-2019-64>, 2019.

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