

Interactive comment on “HyLands 1.0: a Hybrid Landscape evolution model to simulate the impact of landslides and landslide-derived sediment on landscape evolution” by Benjamin Campforts et al.

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This is a very well-written manuscript that makes a clear contribution to knowledge. The authors have combined an elegant new fluvial landscape evolution model with an existing approach to modelling bedrock landslides. The result is, to my knowledge, the only modern landscape evolution model that explicitly accounts for bedrock landslides, and that will therefore allow a number of new problems to be addressed. The authors have done a very good job of summarising both the model and some of these potential applications.

I have made some comments and suggestions on the manuscript PDF, which I will

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not repeat here. Most of these are minor and relate to clarification of a few points or requests for a little more information. These should be straightforward for the authors to address. The only more substantive questions relate mostly to the figures, especially Figs 7-10. The text and captions don't fully explain what these figures are showing, making it hard for the reader to fully understand the results. The text describes changes in the lateral position of the river system due to landsliding, but I really don't think that Figs 9-10 show this clearly or effectively. As this seems to be one of their main take-home messages about the impact of landsliding on these landscapes, I think that they could perhaps do more to show these changes to the reader. Once these relatively minor issues are addressed, however, then the revised manuscript should be ready for publication.

Please also note the supplement to this comment:

<https://www.geosci-model-dev-discuss.net/gmd-2020-74/gmd-2020-74-RC2-supplement.pdf>

Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2020-74>, 2020.

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