

Dear Chris and Tom,

thanks for your replies to the two referees and the revised manuscript. I agree with many of your replies to requests for further analyses such as including a simpler catchment, tests on a wider range of catchment sizes and types, and variable initial conditions. Most of these requests would be outside the scope of this study. Still, I'd also like to stress that scope of implications of the study should be beyond the use of CAESAR and a 30 year run in a specific catchment. In a revised manuscript, I'd hope to see which of the findings are general and which are specific to this model setup.

Reviewer 2 also asks for a better explanation or summary of the different transport formulas and how they behave differently because they are critical to understand what is going on in this study. You reply that this granularity in detail is not required for this work. In a revised manuscript, I'd ask you to take the comments and suggestions more seriously, and provide these information concisely in a revised manuscript. Readers may not ask for a full derivation of the formulas, but a brief explanation would increase the readability of the paper. The same is true for the numerical methods used by CAESAR. I think that the reviewer makes a valid point that numerical methods differently deal with changes in spatial resolution.

All in all, this is a highly interesting paper and I thank you for submitting to ESURF. I hope to receive your revisions soon.

With best regards,

Wolfgang

Dear Wolfgang – thank you for the editorial steer with the manuscript.

For your first point (paragraph one) we have merged the final limitations section into an implications and limitations section – and added six lines where we expand about which findings are relevant just for CL and more importantly what the findings mean for wider use and application of LEMs.

For the Second section, we have added to the methods section – hopefully covering the issues about the numerical methods and the sediment transport rules used. I've tried to strike a balance here to give a clear prose based description of the salient points of the methods and their operation – without including the equations and a description of the terms etc.. the references are there for the reader to find this out. I hope this is appropriate – if needed I can expand this and drop in some equations and further expand.

All the best,

Tom and Chris.