

Dear authors,

My apologies that it took a while to post this which is due to a misunderstanding. I think you have received two insightful reviews of the manuscript that you submitted. In my view the paper can be published in ESurf if these remarks (and the ones suggested by Declan Valters) are accounted for in a revised version. The main comment of ref. 1 relates to the potential interaction of soil properties and resolution. I most certainly agree with the fact that this is a valid point that should be dealt with in a revised manuscript. However, it is in my view not necessary to carry out a large number of additional simulations to investigate this as this would be a different research topic altogether. I do think though that you should discuss this issue (and its potential implications) in a revised version of the MS. You already addressed the issue along those lines in an author comment that can form the basis for the rewriting of this part of the MS

Reviewer #2 has concerns with the way you deal with increased temporal rainfall resolution. As erosion is indeed a non-linear function of discharge/rainfall intensity nonlinear effects are indeed to be expected. Reading your MS I do feel these remarks are important but may partially be caused by a misunderstanding of the procedure you used and of the aims of your study, which focuses on spatial patterns rather than total erosion amounts. Please clarify this in a revised manuscript: I am sure that this will also be of great help to other researchers who want to better understand your research.

Kind regards,

Gerard Govers, Associate Editor

*Thank you for the comments and guidance. We apologise for the delay in the response – the questions posed and additional work carried out proved quite complex to blend with the original manuscript resulting in many changes – that we think improve the paper considerably.*

*We have added text and references to acknowledge the points made by Reviewer 1 – which are important, but we feel beyond the scope of this paper. In line with Reviewer 1 we have made some major changes removing the section on basin size comparison and shifting the orographic effects section to the methods/results rather than being in the discussion.*

*For Reviewer 2 we carried out a number of additional simulations to address the question as to whether or not any differences in sediment yield could be calibrated or adjusted for. This was indeed possible, but showed interesting, and important spatial changes in erosion and deposition patterns that were due to this adjustment/calibration process. We felt these were both important and built upon the aims and objectives of the paper. All changes are described fully in the responses to the reviewers and highlighted in the tracked changes MS submitted.*

*Best wishes, Tom Coulthard and Chris Skinner*