Earth Surface Dynamics Discussions

Earth Surf. Dynam. Discuss., referee comment RC1
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Comment on esurf-2022-34

Anonymous Referee #1

Referee comment on "Response of modern fluvial sediments to regional tectonic activity along the upper Min River, eastern Tibet" by Wei Shi et al., Earth Surf. Dynam. Discuss., https://doi.org/10.5194/esurf-2022-34-RC1, 2022

Shi et al. present combined analyses of grain-size distribution and magnetic susceptibility in modern fluvial sediments from the upper Min River, Eastern Tibet to distinguish regional tectonic vs climatic influences on fluvial deposition. Their study indicates that tectonic faulting exerts a first-order control on fluvial deposition in tectonically active regions, which are well supported by regional relief and hillslope angle data. As far as I know, this study proposes a new and plausible method to characterize the development of tectonic activity along a transect, which is distinctly different from the traditional low-temperature thermochronologic dating and seismic methods as we often see. Therefore, I recommend this manuscript for publication. In the meantime, there are some minor issues that are needed to be clarified before this manuscript can be completely accepted.

P33-34: The occurrence of well-sorted and well-rounded sediments may be related to a significant increase in rainfall and runoff at the source area with more erodible bedrocks, or to long-distance transport which may experience multiple sediment recycling.

P109-110: Which analyses of river sediments should be specified here.

P118-119: …and ***tectonic activity*** is tectonically controlled by….

P141: The location of Fig. 1a was not shown in the inset map.

P200: the bedrock is ***naked*** well exposed.

P286: what does the dotted line represent at the upper left part (from the top to about No 50) of the SUS data?

P435: a higher of rivers incision rates???

P488: seem a little contradict with???

At last, I personally think the clarity of Figs 3-7 could be improved significantly. It is better to mark in color mode.