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comment

Interactive comment on "Estimating the disequilibrium in denudation rates due to divide migration at the scale of river basins" *by* Timothée Sassolas-Serrayet et al.

Maxwell Dahlquist

mpdahlquist@gmail.com

I enjoyed reading this manuscript and appreciate the strong effort at quantifying intra-basin variability under regional quasi-steady state conditions. It's an important problem and I think this is a very good approach with interesting results. I just wanted to draw the authors' attention to our paper from last year which they might find relevant. We quantified divide migration from event-triggered landslides and found that, although divides generally moved in directions predicted by cross-divide gradients in the Gilbert metrics (which we have attempted to place in the context of progress toward regional steady-state in Taiwan), landslide stochasticity introduces a lot of complications that

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would be especially pronounced in small basins. Additionally, we had similar struggles with the use of $\Delta\chi$, finding that it works well at predicting divide migration where identifying base level is very simple and poorly where it is not. I thought this was relevant to mention, as many of our conclusions drawn from cross-divide observations at the timescale of a single earthquake/storm agree with the authors' long timescale basin-scale observations.

Here is the paper in question:

Dahlquist, M. P., West, A. J., and Li, G., 2018, Landslide-driven drainage divide migration: Geology, v. 46, no. 5, p. 403–406, doi:10.1130/G39916.1.

Interactive comment on Earth Surf. Dynam. Discuss., https://doi.org/10.5194/esurf-2019-31, 2019.