

***Interactive comment on* “Short communication: Significance assessment of historical surfacic planform changes of mid-sized rivers: A Monte-Carlo based approach” by Timothée Jautzy et al.**

Anonymous Referee #1

Received and published: 25 November 2019

Review of manuscript esurf-2019-52: Short communication: Significance assessment of historical surfacic planform changes of mid-sized rivers: A Monte-Carlo based approach

General comments: This paper addresses an important topic in fluvial geomorphology, analyzing channel change from time series of remotely sensed data, and offers a new perspective on evaluating the uncertainty inherent to this approach. Recent studies have shown that image co-registration errors are spatially variable and this paper takes an additional step by performing Monte Carlo simulations to assess the significance of

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observed changes in channel planform. While the idea has merit, I have some serious reservations about the way the approach is implemented in this study:

1) The authors produce a continuous spatially variable error surface but then aggregate the error over a reach-scale by spatial averaging, which is an unnecessary loss of information. 2) The manner in which nodes of digitized bank lines is not explained well and might be conceptually flawed. 3) The surface of detection introduced by the authors should be used as a threshold, not subtracted from the observed changes.

Those are the key issues, but please refer to the attached PDF for more detailed comments and text edits. While I think this manuscript has potential, the authors must address the concerns listed above, as well as the various minor edits, before the paper can be published.

Specific comments: Please refer to the comments and edits in the attached PDF.

Technical corrections: Please refer to the numerous edits in the attached PDF.

Please also note the supplement to this comment:

<https://www.earth-surf-dynam-discuss.net/esurf-2019-52/esurf-2019-52-RC1-supplement.pdf>

Interactive comment on Earth Surf. Dynam. Discuss., <https://doi.org/10.5194/esurf-2019-52>, 2019.

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