

Interactive comment on “Intra-catchment variability of surface saturation — insights from longterm observations and simulations” by Barbara Glaser et al.

Anonymous Referee #2

Received and published: 13 July 2019

Dear Editor, dear Authors,

The paper manuscript presents a rich dataset on Thermal Infrared Image collected for a large number of snapshots and derived maps of saturated areas of 7 stream sections in the Weierbach (L). These images are compared to saturated areas simulated based on a physically-based, spatially distributed model. The text is well written, structured, gives credit to the relevant literature. The methods used are described and results presented in a clear and appropriate way. I have only minor suggestions on how to make the text and the figures clearer (see details in the pdf uploaded). The most important suggestions are:

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- 1) Consider to include “Thermal Infrared Image observations” in the title
- 2) In the introduction I would encourage the authors to better justify why surface runoff can be an important component of runoff generation.
- 3) I would also suggest to better explain the abbreviations used in the paper; check if they are used consistently in the text and the figures and include the abbreviations in the figure legend or caption.
- 4) I suggest to include some more information on how the TIR pictures were taken (see my detailed comment in the pdf), how the temperature range to classify pixels to be saturated or un-saturated was determined (and not only refer to an earlier paper), and state that the model parameters were based on field and lab measurements (instead of refereeing to earlier literature).
- 5) Clarify to the reader what the difference is between the data shown in Figure 7a and 7b.

(see also my detailed comments in the pdf attached).

These are all minor suggestions that can be address easily by the reviewers in a short time. The content of the article is relevant to the hydrological community and meets the focus of the selected journal very well.

Please also note the supplement to this comment:

<https://www.hydrol-earth-syst-sci-discuss.net/hess-2019-203/hess-2019-203-RC2-supplement.pdf>

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2019-203>, 2019.

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