

Interactive comment on “Water discharge estimates from large radar altimetry datasets in the Amazon basin” by A. C. V. Getirana and C. Peters-Lidard

Anonymous Referee #2

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The authors present a study that estimates discharge for the Amazon basin based on VS of a radar altimeter and simulated discharges from a model.

The paper is of relatively broad interest and the topic is timely. It fits well within the scope of HESS. The paper is generally well written and is clearly structured.

There are some major concerns I feel that should be addressed in a revision:

- 1) Often throughout the manuscript the reader is referred to other, previous studies - I think it'd be better if there was some more detailed explanation in this paper, so it becomes much more comprehensive (e.g. altimeter data processing, model used to
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simulate Q, etc)

- 2) There is hardly any detail on which assimilation technique/scheme was used (e.g. EnKF, Variational, Particle Filter?, etc). This is, however, vital for this study.

- 3) How appropriate is a kinematic routing for the Amazon where most of the flow is diffuse (see Trigg et al., 2009, in JoH)?

- 4) In eq 5 RE can be negative, so please verify equation text

- 5) in the case of non-convergence curve fitting, how realistic is z?

- 6) In conclusion, does this mean that without assimilation, the rating curve method does not work?

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