

Interactive comment on “Evaluation of the satellite-based Global Flood Detection System for measuring river discharge: influence of local factors” by B. Revilla-Romero et al.

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Review of the paper 'Evaluation of GFDS' by B. Revilla-Romero et al..

This is an interesting paper reviewing the factors influencing the accuracy of discharge measurement as provided by GFDS. Papers of this type (i.e. evaluation of global Earth monitoring systems and identification/discussion of influencing factors) are highly valuable and absolutely necessary to add both scientific credibility and reliability to a global measurement or/and model system, which will ultimately lead to an increased fidelity and 'trust' in that system by the end-user/decision.

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In my opinion, this paper should be published in HESS after addressing some minor to moderate comments:

- Introduction (7334, top of page): Please mention also the International Disaster Charter and efforts such as CEOS etc. in view of space-based support of relief services during disasters.
- 7335 (L 26): Replace 'compared' with 'comparable'.
- 7337 (L 14): I agree with this statement but would appreciate if the authors added a sentence to this along the lines of: ' ; the extent to which this is true needs to be fully investigated however.'
- 7342: I understand that you want to use linear equations for simplicity but would a simple power-law function not yield similar or better result. Have the authors tried that?
- 7343: Since there may be a non-linearity between the station Q and the satellite Q as argued on the previous pages (time lag, etc.), why not employ a Spaerman correlation? The Pearson assumes linearity.
- 7343: The NSE as argued is showing skill in some data or model when $NSE > 0$ since $NSE = 0$ means as good as mean in observed data, so why not consider the fact that when $NSE > 0$, then the use of satellite discharge should be preferred to long term observed mean, which means 'satisfactory' but not 'good' performance.
- Of course the completeness or incompleteness of each discussion section about the factors influencing the validation / calibration results can be argued forever but I think as a first step analysis and discussing the main factors these sections give a very good appreciation. For that reason maybe the title could be changed to: '.... : a first analysis of the influence of local factors', but I leave that decision to the authors and editor(s).
- It is great that there is a lot of future work planned on this topic by the team - looking forward to it.

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