

Interactive comment on “Integration of SRTM and TRMM data into the GIS-based hydrological model for the purpose of flood modelling” by A. Akbari et al.

Anonymous Referee #1

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The authors analyse the use of SRTM and TRMM data for hydrological modeling.

In my opinion this paper is quite simple, maybe too simple to warrant publication in its current state.

The description of the models, methods and data is very basic and it is rather unclear to me what the significant (new) findings are...

The authors run five different models using a different model built each time but do not mention how the model parameters are calibrated for each run nor do they talk about how sensitive the parameters are to changes in model boundary and forcing data (i.e.

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TRMM vs gages and SRTM vs topo-DEM).

The conclusions that follow from this work are really expected. In brief, the authors conclude that SRTM is not great but can be used for watershed delineation and hydrological modeling but TRMM is rather useless compared to gage data.

I believe large chunks of this work should be re-done with a focus on what 'new' scientific findings and conclusions could be drawn.

For example, a simple but interesting investigation would be to look at SRTM vs topo-DEM and TRMM vs rain gage in a lot more detail in terms of model parameter behavior:

SRTM and TRMM are satellite based whereas topo-DEM and rain gage are field based. TRMM is known to have many issues getting magnitude right in many regions of the world but is in theory better distributed spatially than gages. SRTM is not accurate enough maybe but has continuous sampling as opposed to contour-derived DEMs. The interesting question is then, given these notable differences, how do important model parameter change their behavior (sensitivity, values, etc) when faced with different boundary and forcing data, and what are the important trade-offs?

Also, the English language is rather poor and needs to be substantially improved and the right panel on Fig.2 is very unclear.

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