

Interactive comment on “Detection of inundation areas due to the 2015 Kanto and Tohoku torrential rain in Japan based on multi-temporal ALOS-2 imagery” by Wen Liu and Fumio Yamazaki

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This paper describes the application of ALOS PALSAR-2 images for flood mapping after a torrential rainfall in areas in Japan. The paper is generally well written and follows a clear structure, however I question somewhat the novelty and value of this study based on my comments below. I recommend carefully addressing all those comments.

- Reference other studies on flood mapping algorithm for SAR. I feel the authors missed many of those recently published.
- Better explain in how far this method is different from the procedure employed by the

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authors in a previous study

- The authors show how the thresholds are selected but it seems to me this is all based on a rather manual technique requiring auxiliary data such as land use. I like the approach but I think, especially in the light of the many recent SAR-based techniques for flood mapping that are fully or semi-automated, the authors should clearly refer to those studies as well and also consider at least applying some of those for comparison. Furthermore, the authors need to justify why their rather simple, manual method should be preferred.

- For the urban area detection, the authors base this on intensity difference but I feel this should be done using coherence information. A couple of papers were recently published using coherence information to attempt mapping flooding in urban areas. In my opinion, using intensity and how this is done, is unclear to me and I question the validity of this part. The mapping results may be OK but then I doubt that the method presented here can be extrapolated to other areas.

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