

## ***Interactive comment on “Low cost, multiscale and multi-sensor application for flooded areas mapping” by Daniele Giordan et al.***

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The authors address an interesting and important topic in the field of flood emergency. Several studies are developing methods to integrate remotely-sensed data to produce inundation maps and to estimate hydrological parameters at different time and spatial scale. This study focus on the use of low cost datasets for this kind of activities, applying different datasets at different scale to derive maps and useful hydraulic parameters as Water Depth and Water Level. My overall opinion about the paper is good and I think is suitable for publication. However I suggest the authors to point out and better explain some aspects of the analyses.

1. The use of cosmo-sky images at full resolution is nowadays also a low-cost option

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and would provide a definitely more accurate mapping of the inundated areas. Why this option has not been considered instead of the 60 m x 60 m images?

2. Please provide more info about the DTM of Regione Piemonte used to calculate WD (for example time of acquisition, errors on z values etc). Furthermore a discussion of uncertainties in WD and WL estimation is needed.

3. In the discussion the authors mention InSAR but they do not perform any InSAR processing. They only mention  $\Delta\sigma_0$  post-pre-flooding as described in the method section. Please explain.

4. At line 509 authors say: “InSAR data showed a good performance in the real time flood mapping while are weaker for post event mapping”. It not clear what is intended here for “good performance” and how the performance was evaluated. This aspect needs to be discussed in more detail. 5. In general I think that in the paper some kind of assessment (better if quantitative) of the results is lacking.

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