

Interactive comment on “Integrated high-resolution dataset of high intensity Euro-Mediterranean flash floods” by William Amponsah et al.

William Amponsah et al.

wamponsah@knust.edu.gh

Received and published: 15 June 2018

We would like to thank the referee for his/her review of the manuscript. We provide here a prompt reply to underline some aspects concerning the presented dataset that we think have been misinterpreted by the referee. We hope this will facilitate further interaction on the points listed in his/her review. One main concern emerges from the report: ‘I guess that a dataset containing 49 events for a 25-years period (i.e. less than 2 floods/yr) might not been enough for publication, so author should consider extending it.’ A collection of data for extreme flash flood events is a challenging task (Borga et al., 2014), due (i) to the lack of conventional hydro-meteorological data which

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characterizes these events (owing to the small spatiotemporal scales at which these events occur), and (ii) to the fact that extreme events are, by definition, rare. Collecting rainfall and flood data by means of opportunistic post flood surveys requires the mobilization of a group of researchers (ranging in size from 5 to more than 20 persons) for an extended period of time (ranging from a few days to some weeks). Owing to these reasons, a dataset of almost 50 flash flood events comprising high-quality radar rainfall estimates, flood hydrographs, surveyed flood peaks at ungauged sites, and digital terrain models is simply unprecedented in size in Europe and in the Mediterranean in terms of (i) number of events, (ii) variety of provided data, and (iii) the degree of integration. As concerns the data homogeneity, this dataset comes from the collection of data from multiple sources in multiple countries; data were collected and treated over a 25-year period. This, unavoidably involves different measurement instruments, different survey methods and different personnel conducting the surveys and treating the data. Making this dataset as homogeneous and consistent as possible required a large effort, and represents a major asset of the work. For the same reasons, extending the data set is not feasible. Collecting more data for past events cannot be done because the high water marks - which represent the most important source of information during post flood surveys - are highly obliterated and cannot be use with confidence when time is passed after the flood. Another point stressed by the referee is the selection of floods for post-event surveys: ‘In other words, how did you discriminate which flood events were worth to post-survey between all those for which you did not have measurements?’ The preliminary selection of flash floods was based on rainfall data (amount, intensity) from meteorological agencies and qualitative field recognition of flood response. This led to exclude a number of low-intensity events. Post-flood reconstruction of peak discharge was carried out for events that passed this preliminary screening. Several of these events were not included in the dataset because they failed to meet the requirements (flood magnitude, spatial extent, storm duration) described in the section 2 of our paper. We will provide a detailed point-by-point response in the full response letter, which will include the edits you propose we include in the manuscript

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and in the dataset.

Reference

Borga M., M. Stoffel, L. Marchi, F. Marra, M. Jacob 2014: Hydrogeomorphic response to extreme rainfall in headwater systems: flash floods and debris flows. *Journal of Hydrology*, 518 (2014), 194–205. <http://doi.org/10.1016/j.jhydrol.2014.05.022>

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2018-42>, 2018.