

## SUMMARY OF AUTHORS' REPLY TO REVIEWER'S COMMENTS

PAPER TITLE : Effect of climate change and variability on extreme rainfall intensity–frequency–duration relationships: a case study of Melbourne

AUTHORS : A.G. Yilmaz, I. Hossain and B.J.C. Perera

### REVIEWER #2:

<u>No.</u>	<u>Reviewer's Comments</u>	<u>Author's Reply</u>	<u>Author's Notes / Actions</u>
1	The study by Yilmaz et al. deals with an important aspect of hydrological research which has received surprisingly little attention over the last decade: the nonlinear time series of extreme rainstorms, especially the ones with very short duration and the potential changes over time of intensity-frequency-duration relationships, - although the latest IPCC reports point out frequently that more extreme rainfalls will occur (and might have already occurred). The analysis of time series with very small sampling intervals (less than one hour) is however highly limited by data-availability. Yilmaz et al. have excellent data and their ideas, methods and way of approaching the questions is very well detailed, well structured and transferred in their article and besides some minor comments adequate for publishing.	Please see next column	Authors would like to thank to Reviewer for his/her positive and constructive comments.

2	Minor comments: The conclusion as it is written now does not fit well to the introduction – maybe the introduction could already mention that this study is a ‘demonstration’ study and then the conclusion could point out how to proceed future research, e.g. how to get time series of such high resolution and long extent for other parts of Melbourne, Australia, and even how a global study could be perceived. Otherwise, the length of the conclusion is adequate.	Agreed	Conclusions section was expanded according to the Reviewer’s advices in the revised manuscript. Limitations of this study and recommendations for future studies were explained in the conclusion section in the revised manuscript. This can be seen in the last paragraph of the Section 5 (Conclusions).
3	Maybe it could be pointed out somewhere why there would be a shift in extreme regime, if it would be climate-driven (e.g. changes in local evaporation due to higher temperature?).	Agreed	This was pointed out in the second paragraph of Section 4.6 (Climate Change and Extreme Rainfalls) in the revised manuscript.
4	The pictures need better resolution: they also look squashed.	Agreed	All figures were revised and resolution/clarity of figures was improved.
5	Yilmaz et al. deals with an important aspect of hydrological research which has received surprisingly little attention	Please see next column	Authors would like to thank to Reviewer for his positive comments.