

Interactive comment on “Effect of climate change and variability on extreme rainfall intensity–frequency–duration relationships: a case study of Melbourne” by A. G. Yilmaz et al.

Anonymous Referee #2

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The study by 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

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besides some minor comments adequate for publishing.

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.

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?).

The pictures need better resolution: they also look squashed. Yilmaz et al. deals with an important aspect of hydrological research which has received surprisingly little attention

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