

Interactive comment on “Partitioning spatial and temporal rainfall variability in urban drainage modelling” by Nadav Peleg et al.

Anonymous Referee #1

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General Comments: The paper is very interesting and tries to add new knowledge to the field of urban hydrology. The use of stochastic rainfall generators and their impact in urban drainage is very important and recent. The authors try to quantify, not only the impact of spatial component of rainfall, but also its temporal component.

Specific comments: 1) It would be interesting to know the drainage area of each location where the flow analysis was conducted.

2) Why you didn't test more locations in the upstream part of the catchment. It would be interesting to see the climate and spatial contribution in smaller drainage areas (for example an upstream pipe and one not affected by hydraulic structures, such as CSOs.) This would be important, since some authors showed that upstream pipes are more sensitive to spatial variability (eg. Gires et al., 2012)

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3) Is there flooding in any node? How did your swmm model deal with it? If there is flooding, what is the impact in the flow return period.

4) Figure 3 could be improved showing the inverse-CDF curve of all the 30 events, not only the mean.

5) In section 3 (1st paragraph) is not clear why do you use IDF and FDF curves, instead of the obtained/simulated values. I agree with the strategy, but a clear explanation should be added.

6) Figure 2 needs a better explanation

technical corrections:

1) Figure 2 needs more quality

2) In Figure 5 legend, where is “quantile range is than calculated for each” shoul be “quantile range is then calculated for each”

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