

## ***Interactive comment on “Space variability of hydrological responses of Nature-Based Solutions and the resulting uncertainty” by Yangzi Qiu et al.***

### **Anonymous Referee #1**

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In this article, the authors aim to investigate the uncertainty of hydrological responses in various NBS scenarios resulting from the spatial variability of rainfall and the heterogeneous distribution of NBS at the urban catchment scale. I find the manuscript to be quite suitable for HESS and presents a straight forward method which is intended to provide means to modelling works for NBS at the urban scale.

Overall, the manuscript is well presented. I would like to suggest a Minor revision for this paper, but there are a few points that should be addressed to improve its quality. 1. You use 25-m resolution DEM but the model was implemented with a 10 m spatial resolution, could you please make a comment or discussion about this? Moreover, 25-m resolution DEM seems relatively quite rough to use for an urban area. Do you think this is the limitation of your study? If you use a more detailed DEM, will it impact

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your result? 2. Figure 5, In the legend it should include an abbreviation of each NBS measures e.g., Porous pavement (PP), Rain garden (RG),... 3. Please consider the results of validation from Line 328 to the Results section as this is results of the validation of your baseline scenario. 4. For Figure 12 and 16, can you discuss more on why percentage errors of peak flow are much higher than total runoff volume

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