

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC1  
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## Comment on nhess-2022-167

Anonymous Referee #1

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Referee comment on "Quantifying unequal urban resilience to rainfall across China from location-aware big data" by Jiale Qian et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2022-167-RC1>, 2022

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Quantifying urban resilience is crucial for urban hazard mitigation. The usage of location-aware big data has become a popular way to the quick and efficient perception of urban resilience in recent years. This paper uses the location-aware big data from the Chinese social media platform to explore the spatial disparity of urban resilience in China. The paper performed plenty of experiments and analysis to examine the spatial disparities of the urban resilience and their impact factors. Overall, this paper is interesting and thought provoking. The whole text is well-organized and well-written. However, several major issues should be addressed.

1. The flowchart in Fig.1 is too complicated to follow the key information. It should be simplified to present the key information.
2. For "the annual precipitation in China since 1980" in Section 2.1, are there several annual precipitation values? Are the six indicators at the national-scale or the city-scale?
3. The definition of the stable TLR number should clarify in 2.2.1.
4. In Section 2.2.4, it's not clear for me for the definition of rainfall threshold.
5. Fig.7 shows the regression coefficients for the six indicators, however, the description of the figure focuses on the correlation coefficients. It confuses me as they are different.
6. I am struggling to follow the manuscript, but I cannot know the scale of the analysis in 2.1. If it is the city level, how to transform the TLR and GPM grids into it?
7. There are several citation errors. For example, "activities(Jiawei Yi et al., 2019;" should be "activities(Yi et al., 2019;","the method Qian et al.(Jiale et al., 2021) proposed." should be "the method proposed by Qian et al. (2021)."