

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC2
<https://doi.org/10.5194/nhess-2022-167-RC2>, 2022
© Author(s) 2022. This work is distributed under
the Creative Commons Attribution 4.0 License.

Comment on nhess-2022-167

Anonymous Referee #2

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-RC2>, 2022

This study quantified the responses of collective human activities to rainfall events using used the Tencent location request data, and evaluated the variations in the responses in China with the aim to explore the inequality of urban resilience in China. The topic is very interesting and this study has remarkable significance for emergency response and disaster management. While some revisions are still needed to improve the manuscript:

- The title is not accurate; it should be the resilience (or response) to rainfall not to rain.
- The Introduction section could be better organized to clarify the scientific question (or research gap) and aims of this study.
- Urban resilience is very broad concept with many different elements and properties, mainly related to the capacity, sensitivity, flexibility of urban systems (including the community, infrastructure, institution, etc.). So, what does urban resilience mean in this study? How can it be related to human activities? Moreover, the rationality for using rainfall threshold and response sensitivity to describe urban resilience needs more justification.
- I would suggest to add a discussion for the limitations of this study and the prospect for future study at the end of the manuscript.
- It is not clear how the cities were classified to different types (e.g., HL, ML, HM, LL)?
- There are several writing errors, such as "the method Qian et al.(Jiale et al., 2021) proposed"(Page 4), "Zou et al.(Zou et al., 2018) used" (Page 14).
- The supplementary Fig. 6 should be put in the manuscript rather than in the supplementary, as it appears for many times and is vital for the understanding of how rainfall time, peak intensity and duration affect human activities.