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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Urban anomalies in response to rainstorms based on smartphone location data: a case study of eight cities in China" *by* Jiawei Yi et al.

Anonymous Referee #1

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general comments

The paper proposed a anomalies detection method based on smartphone location data. This method was tested in 8 cities in China and the authors claimed that strong association were found between NLR anomalies and rainstorms at city scale but in different cities, the association are different with their own characteristics. This paper is well organized and well written and I believe the geo-big data research community can benefit from this research, especially the rapid disaster management responding to real-time pattern from UGC. I advocate for the publication of this paper, however, some minor suggestions are followed.

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Discussion paper

specific comments

1. The smartphone location data needs to be explained further. As the most important data indicator in this study, readers need to know what exact service(s) provided by Tencent may generate location requests. In other words, a table including all Tencent's LBS helps readers infer the "underground" relationship between the anomaly scores and the storm events. 2. Is the correlation between peak rainfall intensity and anomaly score statistically significant in Figure 7(c)? This should be addressed. 3. The different association between rainfall events and the NLR anomalies should be explained. The impact by the government spending on urban infrastructure, such as drainage systems, as well as the climate zone at different cities can be mentioned in the discussion section.

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