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Interactive comment on "Building Asset Value Mapping in Support of Flood Risk Assessment: A Case Study of Shanghai, China" *by* Jidong Wu et al.

Anonymous Referee #1

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The discussion paper entitled 'Building Asset Value Mapping in Support of Flood Risk Assessment: A Case Study of Shanghai, China' effectively developed a methodology to map the building asset value using Shanghai as a case study and further applied the results in a flood damage estimation under a flood scenario of Shanghai to testify the flexibility of the BFA map. But some problems however may affect the accurate evaluation. In specific:

1): LandScan population (2010) was used as ancillary data together with building footprint map and the township-level BFA estimation (2014) to represent the floor area density within a township. However, the population of the city of Shanghai increased by 1 million during 2010 to 2014. The time inconsistency should be fixed or at least

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discussed (P5, Table1);

2): While the floor area and population are generally closely related and high correlation between them in district level has been presented, to use population data as proxy to estimate the building density can still bring major errors in some areas of Chinese city, such as villa residential and 'village in the city'. For these areas, the building density for the same number of population should be totally different. For these part, a correlation analysis with validation with random point instead of district level should be necessary, especially taking account for the high-resolution results in this research (P5, L15∼20);

3): The explanation of the estimation of construction costs is not clear. The basis of 3230 CNY for medium story and 6750 CNY for high story is not convincing enough. Besides, spatial differences are neglected with the mean value (P8, L24∼27);

Minor problem: The sentence 'both the high- and low-rise BFA was underestimated' should be 'both the high-rise and low-rise BFA was underestimated' (P13, L14).

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