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Comment on nhess-2021-26

Anonymous Referee #2

Referee comment on "Residential building stock modelling for mainland China targeted for seismic risk assessment" by Danhua Xin et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-26-RC2>, 2021

This paper basically proposed a downscaling approach to allocating building stock per province in China for better risk assessment, which well fits the scope of this journal. Given current revision status of this paper, I only have one main concern, which is about the definition of urban/township/rural. In reality, we can hardly differentiate them, in particular at pixelated level. Shanghai as we all know is highly urbanized, but still I can see many rural pixels from Figure 1, I do not believe it is the real case here. To me, 'rural' is mostly remote natural areas, I assume you intend to say 'village'. Moreover, I also see many pixels (with some built-up land) that are not assigned to any of the three grid types, but in Figure 4, buildings nearly spread all over the city of Shanghai, which confuses me a bit.

Minor issues:

1. Abstract part is too lengthy. The research background, method, result, and possibly implication need to be clearly stated, I suggest to remove some unnecessary details to enhance readability.
2. How do you define high resolution? Is 1 km of high resolution? Here your modelled results are of 1 km resolution. As far as I know, even the 30-m Landsat imaginaries are claimed to be moderate resolution (see for example: https://www.montana.edu/spowell/documents/pdf/powell_jars.pdf). In addition, MODIS, which stands for the Moderate Resolution Imaging Spectroradiometer, is also moderate resolution, of course.
3. Two key publications on mapping buildings particularly for China are missing here <https://www.sciencedirect.com/science/article/pii/S0034425720302297>
<https://www-sciencedirect-com.vu-nl.idm.oclc.org/science/article/pii/S016920462100150X>