

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC2
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Comment on nhess-2021-163

Anonymous Referee #2

Referee comment on "Assessment of direct economic losses of flood disasters based on spatial valuation of land use and quantification of vulnerabilities: a case study on the 2014 flood in Lishui city of China" by Haixia Zhang et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-163-RC2>, 2021

General comments

The paper aims to build a refined assessment model of direct economic losses for flood disasters. Taking the "8.20" flood event hitting Linshui City in 2014 as an example, the loss ratio and loss value of this disaster event was calculated based on the land use data. The topic is interesting, and the paper is well structured. I would recommend following suggestions to improve the manuscript:

Specific comments

- Line 14: please clarify what is the "flooding model".
- Line 16-17: "Then, the existing vulnerability curve database was summarized, and the curves were calibrated by disaster loss reporting." This sentence does not make it clear the process of constructing and checking the vulnerability function. I suggest that you rewrite this sentence.
- Line 19: "high-precision spatial information" should be replaced by "high spatial resolution".
- Line 70: there is no legend in the light blue area in Figure 1 (b).
- Section 2.3: how to verify the results of flood inundation simulation? How accurate is the simulation of flooding? There is no detailed description of these in this paper, please give a brief description.
- Line 140: it is recommended that you quote Table 2 in "47 categories" to indicate the specific classification.
- Line 141: you have a reference for GB 50137-2011 here, but it is not in your reference list. Please add it.
- Section 3.3: the steps for fitting and optimizing the vulnerability function of land use are not clear, and it is recommended to describe them in detail.
- Line 173-174: please indicate which data source each type of land use refers to. You

can quote the Figure 6.

- Line 186: "Based on the mapping relationships between the disaster statistical indicators and land use types". There are 41 statistical indicators for disaster loss reporting in Section 2.4. It is suggested to add this mapping table to determine which indicators are used in this study.
- Line 189: please clarify what is the "scale parameter" .
- Line 193: "corresponding" should be replaced by "respective".
- Line 231: it is recommended to specify what the black dots in the Figure 6 refer to. In addition, Figure 6(42) should add the index and title of the horizontal axis.
- Line 240: please clarify what is the "spatial analyst algorithm".