

Dear Danhua Xin, James Daniell, Zhenguo Zhang, Friedemann Wenzel, Shaun Wang, and Xiaofei Chen,

I am pleased to inform you that the revised version of your manuscript NHESS-2024-138 can now be accepted for publication in our journal Natural Hazards and Earth System Sciences (NHESS). Please inform your co-authors of the editorial decision. However, I would like to request some technical corrections before final publication, please see below:

Response: Dear Editor Solmaz, we want to express our sincere gratitude to you for your careful and patient review-managing efforts! We also appreciate the correction points you mentioned and have prepared our point-to-point responses, as given below.

-Fig 2 - Please define all abbreviations used in this figure in the caption and indicate the reading direction by using arrows if needed. In the caption, please explain the yellow vs white sections. Was this done to differentiate steps in the workflow?

Response: Thank you for this reminding. Yes, the boxes marked in different colors are to differentiate the two main parts in the workflow. The following caption has been added to **Lines 156-164, Page 6** in the revised manuscript:

“Boxes are marked by different colors to differentiate the two main parts in the workflow. The boxes marked in yellow refer to the steps required to develop the provincial-level fixed asset data, and the boxes marked in white are components used to construction the disaggregation indices (see Section 2 for more details). The indices “lit-pop, area-pop, pop-pop” refer to the disaggregation index generated using nighttime light and population, build-up area and population, and population data alone, respectively. The abbreviation “DMSP/OLS” refers to nighttime light observations acquired by the US Air Force Defense Meteorological Satellite Program (DMSP) Operational Linescan System (OLS), “VIIRS” refers to nighttime light observations from the Visible Infrared Imaging Radiometer Suite instrument, “GHS-BUILT-S” refers to the built-up surface data provided by the Global Human Settlement Layer project, and “GHS-POP” refers to the population density data provided by the same project.”

-Fig 3 - Please explain the marking of the years in figure caption. Do you mean the bottom line marks the year 1951? If so, please state that in the caption.

Response: Yes, exactly. The statement *“The bottom line marks the accumulated fixed asset in year 1951 and the top line marks the accumulated fixed asset in year 2020.”*

has been added to the caption of Figure 3 in **Lines 380-381, Page 14** of the revised manuscript.

-Fig 13 - Please include an inset map of China (showing the whole country and the area of interest in Fig 13).

Response: Accepted! Figure 13 has been revised to include the inset map of China in **Line 546, Page 26** of the revised manuscript.

-Table 4 - If this table has been modified from the Table 4 of Wu et al. (2014), please indicate this in the caption. Otherwise, it might be enough just to keep the reference in the text and remove the table from your manuscript.

Response: Thank you for this verification. Table 4 in this paper is modified from Table 2 in Wu et al. (2014). We have specified this in **Line 590, Page 27** of the revised manuscript.

-Line 180 - Revise to 'The determination process of the initially accumulated fixed asset value for the base year has inevitable uncertainty.'

Response: Accepted!

-Line 190 - Delete 'It is worth notifying that'

Response: Accepted!

-Line 227 - Revise to 'including but not limited to construction and installation, equipment and instrument'

Response: Accepted!

-Line 546 - By 'wind', do you mean 'storm surges' or 'high/extreme winds'?

Response: Thank you for this reminding. We have specified “wind” as “high/extreme wind” in **Lines 551 and 564, Page 26** of the revised manuscript.

-Line 554-555 - Informal language, consider revision.

Response: This sentence has been modified as “*In contrast, Bouwer et al. (2009) found that using a 100-m instead of a 25-m exposure grid in loss estimation would result in increased flood damage estimates up to 50% higher.*” in **Lines 563-564, Page 26** of the revised manuscript.

-Is there a reason for referring to the Chinese currency using two different terms (CNY

vs RMB)? If yes, please explain. If not, I suggest sticking with one term to avoid confusion.

Response: Thank you for your careful check. There is no difference between them and “RMB” has been changed to “CNY” in **Line 31, Page 2** of the revised manuscript.

-Please replace all 'natural disaster' terms with 'disasters'. It misleads readers to think the devastating results are simply part of a natural process which is not true.

Response: Thank you for reminding the potential misleading. Compared with deleting “natural” in this expression, we consider replacing “natural disasters” with “natural hazards” can better reflect the hazard type we focus in this paper and also avoid the possible misleading.

You will soon be contacted by the journal publication office for the preparation of the final version of your manuscript. Please respond promptly to the requests of the publication office, as this will condition the time of your publication, and read carefully any copy-editing recommendations that they make, in addition to the changes requested above. Let me remind you that final publication of your paper on the journal web site is subject to the payment of the appropriate service charges. Also, do not forget that as an open-access journal you can freely distribute your paper once it is published.

Response: Thank you for this reminding! We will get the payment done as soon as we receive the bill and respond to all the recommendations from the publication office properly and promptly. And we do hope that the publication could be made as early as possible.

I take this opportunity to thank you and your co-authors for having selected Natural Hazards and Earth System Sciences (NHESS) for the publication of your scientific work. I look forward to receiving further contributions to our journal from you and your co-authors.

Response: We want to thank you again, dear Editor Solmaz, for all the efforts you have made during the review process, which is quite impressive and touching. We also sincerely wish the NHESS journal will be better and better with the efforts of you and all the colleagues. Best wishes!

Best,
Solmaz Mohadjer
NHESS Editor