**Reply on RC2**  
Lulu Liu et al.

Author comment on "Warming of 0.5°C may cause double the economic loss and increase the population affected by floods in China" by Lulu Liu et al., Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2021-304-AC2, 2022

This paper analyzes the population and economic risks of floods under different global warming periods using future climate and socioeconomic scenarios data, and obtains some meaningful conclusions, which has certain guiding significance for the formulation of disaster prevention and mitigation measures. The whole article is good, so I tend to recommend the paper be accepted by the journal after minor revisions. The specific suggestions are as follows:

1. I think the most issue of this manuscript is the English language usage. Many sentences in the manuscript cannot be understand accurately and even some grammatical errors exist in the manuscript.
   
   **Response:** Thanks for the constructive comments made by the referee. The manuscript has been polished by Accdon-LetPub, and we have corrected grammatical errors in the manuscript.

2. The usages of "flood", "floods" and "flooding" in the manuscript need to be unified.
   
   **Response:** Thanks for the constructive comments made by the referee. With the help of Accdon-LetPub, we have unified the usage of the words in the manuscript.

3. The title of 2.2.1 is inaccurate and needs to be revised.
   
   **Response:** Thanks for the constructive comments made by the referee. The title of 2.2.1 has been revised to "Determination of 1.5°C and 2°C global warming periods".

4. Authors need to distinguish the difference between "hazard" and "risk".
   
   **Response:** Thanks for the constructive comments made by the referee. We have clarified the description of risks and hazards in the manuscript, and we have revised the title of Section 3.1 and the title of Figure 2 to avoid misunderstanding.

5. Figure 2,4,6 in the manuscript is not very clear and I suggest redrawing it.
   
   **Response:** Thanks for the constructive comments made by the referee. We have redrawn the figures in the manuscript, fixing some errors and corresponding descriptions.

6. The pictures in the supplemental material have the same problem.
Response: Thanks for the constructive comments made by the referee. We have redrawn the figures in the supplemental material.

7. Line 81, "warming targets" should be changed to "warming periods". Applies to other places. And the sentence needs to be modified. Response: Thanks for the constructive comments made by the referee. In the revised manuscript, Line 81 has been revised to "We selected global warming periods of 1.5°C and 2°C based on the objectives of the Paris Agreement". Other descriptions in the manuscript have been revised accordingly.

8. The conclusion section needs to be reorganized based on the study of the manuscript. For example, the first sentence of Line 285 is not sufficient for a conclusion. Response: Thanks for the constructive comments made by the referee. We have reorganized the conclusions section. In the revised manuscript, Line 319 has been revised to “Floods mainly affect the population and economy of eastern China.”.