We sincerely thank Referee #2 for his/her careful review and valuable advices. Based on the comments and suggestion, we read through comments carefully and have made extensive modification on the original manuscript. The responses to the reviewer's comments are marked in blue and presented following.

1. **In abstract, there shall be a statement on the effectiveness of the 2D Floodmap model. To what extent do the modeling results match with the real flood patterns? What are the advantages of the model? This is a key message that must be clearly stated in the abstract.**

   Thanks for your comments, we have added the description of Floodmap in the Abstract as below:

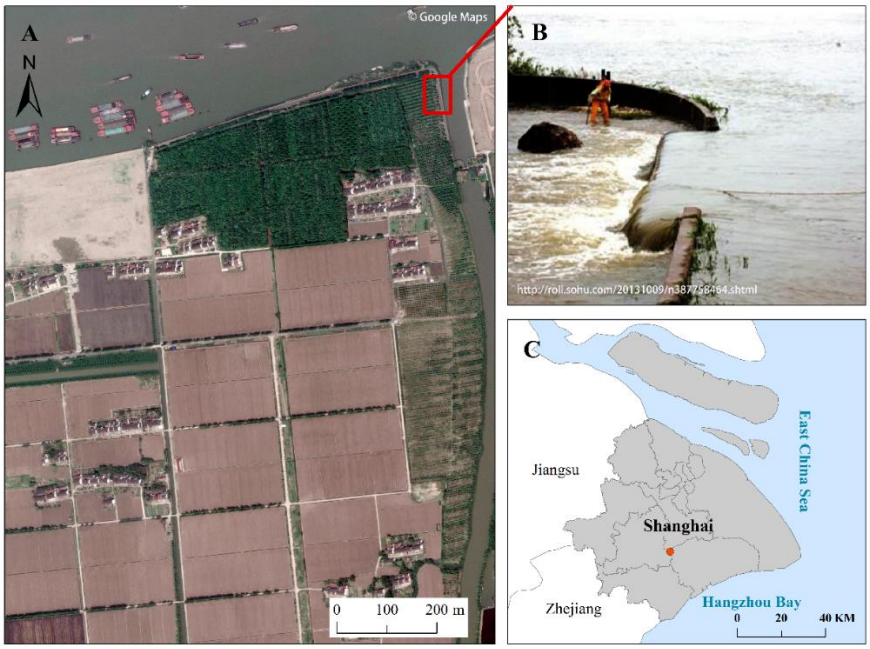
   "…using a well-established 2D hydro-inundation model (Floodmap) to reconstruct this typical event. This model couples urban hydrological processes with flood inundation for high-resolution flood modeling, which has been applied in a number of different environments and now Floodmap is the mainstream numerical simulation model used for flood scenarios."

2. **Page 3, line 54-56, the "Himalaya glacier outburst flood in northern India" needs a reference**

   Thanks for your comments, the sentence was reference from the news (Scores missing as Himalayan glacier bursts in northern India (france24.com)),we have added the reference in paper.

3. **Figure 1, the sources of the image and picture shall be clarified.**

   Thanks for your comments, Figure 1(A) was from Google Maps, and the Figure 1(B) was from historical news, we have added the picture source URL and the Copyright information on each picture.



4. **Figure 2, there needs more explanations of the three peaks of the water level curve. Especially why is there a "third peak", what caused it?**

   Thanks for your question, Figure 2 shows 36 h riverine tidal hydrographs of Huangpu River, the three peaks were main due to the rising tidal process but not the rainfall. However, the heavy rain also directly increased the water level (the second peak).

5. **As I understand, Compound flooding is an extreme impact event resulting from the interaction of multiple drivers (Zscheischler et al. 2018), mostly rainfall and tides (Bavacqua, et al 2020). But in this study, the flood was obviously mainly caused by heavy rainfall from Fitow, and there seems no tides or storm surges at the study site. Thus I suppose the authors shall not call it as a compound flood.**

   Thanks for your comments. It's a very important question, in previous study, compound flooding mostly due to the co-occurrence of high sea level and precipitation, however, in this study, the levee breach was caused by the compound effect of the rapid rising riverine water level and the heavy rain. The flood not only caused by the heavy rain but also the record-breaking river tides by the storm surge brought by the Typhoon "Fitow". When the heavy rain met the rising riverine tides, what made water level much higher, resulting in levee breach. Therefore, this flooding event was considered as a compound flooding in this paper.

6. **The discussion and conclusion section is weak. The discussion shall be improved and extended with more on the possible strategies and measures to reduce such levee breach and associated risks. E.g. according to the flood pattern and process, which areas and which measures could be most effective in reducing the flood impacts? From engineering perspective, how could the levee be strengthened, to which level? In addition, it would be also valuable to compare the present study findings with other Some flood adaptation studies and household responses measures may be referred and compared, for instance:**

   Thank you very much for your suggestion. The discussion regarding this question is presented following:

   "…. Third, the water does not drain rapidly only by infiltration or evaporation, and the waterlogging lasted for more than 12 h, resulting in loss of farmland with high vulnerability. Therefore, for levee breach-induced flood response in rural area, in addition to repairing the levee in time, it is necessary to remove the flood water using drainage measures at the same time, such as setting water pumps near the farmland or other low-lying area, when necessary, government should guide nearby residents to evacuate to a safe place as well.

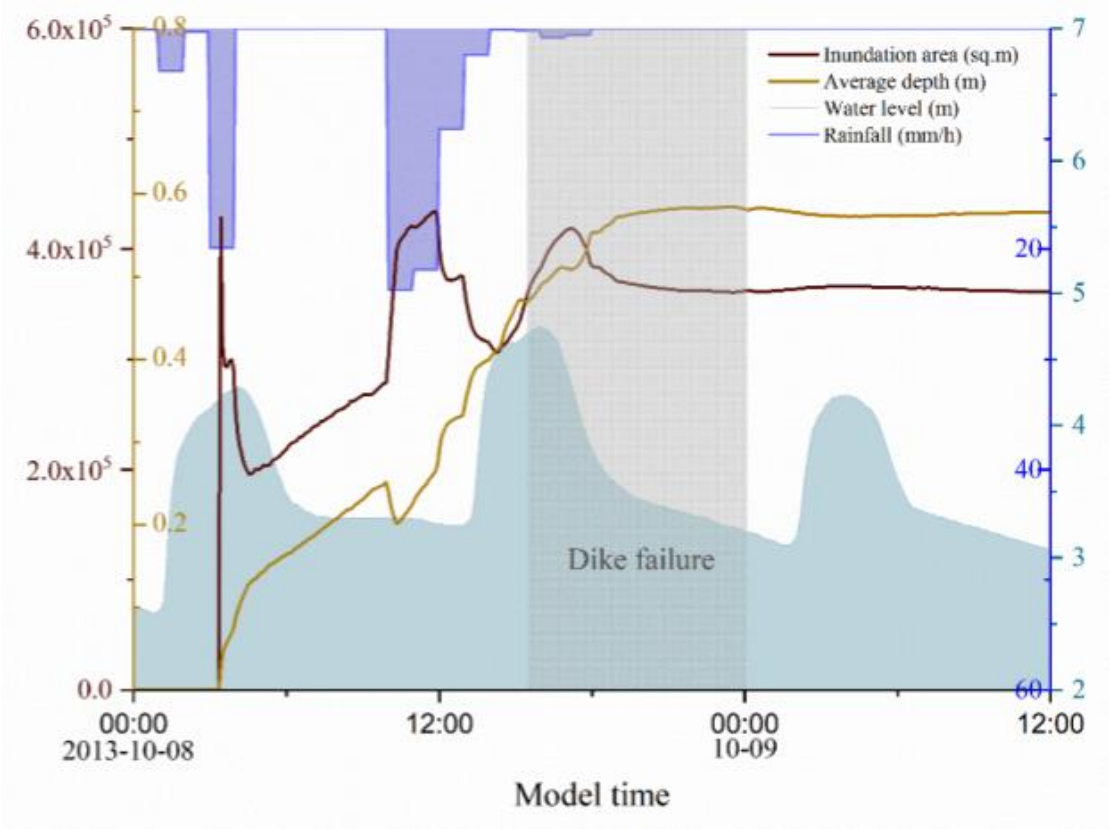
   Beyond the flood emergency response measures, effective long-term engineering measures may be more suitable for fundamentally decreasing the unpredictable levee-breach flooding risk, local specifications for the flood-control engineering should be updated with the increasing flood risk in the context of climate change (Yang et al., 2015)."

7. **Meanwhile, there is no conclusion in the current section 4. I would suggest to add a paragraph to summarize the key findings in this study, with simple and clear sentences. This helps readers to quickly get the key points of the study.**

We deeply appreciate your suggestion. We have added some sentences to summarize the findings in **section 4** as below:

"Simulation of real-life historical severe flooding events can reveal the dynamic flooding process and mechanism. In this study, a serious compound levee breach-induced flooding during the typhoon "Fitow" have been adequately investigated used by a simple 2D hydro-inundation model (Floodmap). The surface runoff caused by the rainstorm and river overflow were considered well in the model.

The following conclusions can be drawn from the simulation results. First, one key advantage of this modeling approach is the analysis of a single historic flood event. The flooding results showed the time series of the flooding extent and inundation depth, indicating that the low-lying area especially for farmland areas near the river had a very high flood risk. The compound flooding caused extensive damage to low-lying areas not only due to the elevation but the lack of a drainage network, resulting in the average water depth over 0.5 m more than 12 h. Second, within 1-3 h after the dike failure, the floodwaters spread rapidly, and the inundation area and average water depth reached the peak value, chiefly because of the rising riverine tides at the same time, however, during the falling tide period, although the dike has not been repaired, the flooding diffusion tend to be slow, the flood risk decreased as the water level dropped as well. Thus, it can be indicated that the levee breach-induced flooding spread was heavily dependent on the change of riverine tides, the key period for levee breach-induced flooding control (such as repairing the levee, evacuation) was from levee breach to the end of rising tide. Third, the water does not drain rapidly only by infiltration or evaporation, and the waterlogging lasted for more than 12 h, resulting in loss of farmland with high vulnerability. Therefore, for levee breach-induced flood response in rural area, in addition to repairing the levee in time, it is necessary to remove the flood water using drainage measures at the same time, such as setting water pumps near the farmland or other low-lying area, when necessary, government should guide nearby residents to evacuate to a safe place as well."



8. **The English language is in general not sufficiently good for a scientific publication, which must be further modified.**

   Thanks for your comments, we apologize for the language problems in the original manuscript. The paper will be carefully revised to improve the grammar and readability.