

Interactive comment on “Hazard interaction analysis for multi-hazard risk assessment: a systematic classification based on hazard-forming environment” by B. Liu et al.

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The authors present a potentially interesting hazard classification concept for multi-hazard risk assessment. This concept may allow to consider various types of interactions of conditioning factors, triggering events, and processes. In my opinion such an effort is highly valuable for the scientific community and therefore definitely worth of publication. However, I would like to express a number of concerns the authors should address in order to make the article acceptable for publication. In summary I recommend a major revision, my comments are provided below. Comment 5 is most critical.

1. The article is well written in general, some final polishing of language will be necessary.

2. Even though Figs. 1 and 2 are informative, they should be designed in a more appealing way (e.g. by using colours).

3. Section 3 takes up a lot of space, even though it does not contain any new information, but only compiles well-known issues. I acknowledge that this information is important within the scope of the article, but in my opinion it should be provided in a condensed way e.g., as a table, instead of an entire section.

4. On p7215, l20 the authors mention that drought and slow riverine flood cannot happen at the same time. Even though I acknowledge that such a coincidence is not very likely, the authors should be careful with this statement as flooding may be caused by the meteorological conditions far away from the impact area.

5. My major concern: the proposed concept is expressed in an extremely general way, making it impossible to assess its validity and applicability. However, the authors mention the application of the scheme to the Yangtze River Delta. In my opinion, this case study has to be laid out in detail in the paper in order to show a practical application of the methodology, and to demonstrate how to make it an integral part of a multi-hazard risk assessment. I would like to emphasize that for me, this point is highly critical with regard to the possibility to accept a revised version of the manuscript.

The authors are welcome to contact me (martin.mergili@univie.ac.at) in case they disagree with my comments or in case they wish to discuss the one or the other issue.

Best regards

Martin Mergili

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