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Comment on nhess-2021-357

Anonymous Referee #1

Referee comment on "Global to regional overview of floods fatality: the 1951–2020 period" by Hossein Hamidifar and Michael Nones, Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-357-RC1>, 2022

General comments

The manuscript entitled "*Global to regional overview of floods fatality: the 1951–2020 period*" written by Hamidifar & Nones is a quite interesting approach to the analysis of flood threat on a global scale. The research presented is rather simple – it's based on the analysis of available data taken from a single source, Emergency Database. However, the information provided and the conclusions drawn may be very useful for many researchers working in different fields of engineering, economy, or social sciences.

The text is written well and the results are presented clearly. In general, the presentation of the findings is understandable. However, there are two drawbacks in my opinion.

- Lack of clearly defined purpose of this analysis. It seems to be obvious for the Authors, but in my opinion, it should be written explicitly in the Introduction.
- The Conclusions should be rewritten. There is an evident lack of broader discussion focused on the importance of the presented findings. A summary of the presented results is not enough for such a paper.

The detailed remarks are presented below.

Detailed remarks

Lines 51 and next

At this part, I would expect a clear definition of the paper's purpose.

Lines 71 and next

The presentation of the most severe floods in the World is quite interesting part of the text due to the different reasons, but it's hard to understand the logic behind this detailed discussion of a relatively small category of floods. The paper is not focused only on the phenomena of this kind but tries to discuss the problem broader. Maybe it would be good to present a short overview of different types and discuss the main differences influencing the number of casualties.

Line 84

In my opinion, the expression "*the great famine that followed*" indicates the small weakness of the presented approach. In this study, only the direct fatalities and direct economic losses are taken into account. It's well known that these are not only losses. So this picture of the distribution of the severe flood over the World may be affected by this approach and it may not present the real impacts on the societies, economies, etc.

Section "Discussion"

In my opinion, some of the detailed analyses and calculations presented here could be a part of the results. In the discussion, I would like to focus on comparisons of the obtained results with possible causes, explanations, and other results reported in the literature.

Lines 194 - 195

In my opinion, the statement "*[...] as population density increases in areas at high risk of flooding, the number of flood casualties is expected to increase [...]*" is problematic and basic quotation is not enough in this case. Some additional comments are necessary.

Line 202

The conclusion "*[...] the number of casualties is directly related to the number of flood events [...]*" is rather obvious. Maybe it could be better to reformulate this sentence.

Line 203

What do the Authors understand as "*number of flood events can be reduced*"? In my opinion, the losses may be reduced. The number of flood events understood as physical phenomena should not be reduced, because it requires the influence of atmospheric conditions and changes made to the climate. I'm afraid that this is not precise and it should be reformulated.

Lines 204 - 207

This passage repeats the well-known ideas of reduction of flood losses by coming back to as natural conditions in the catchment as it is possible. From my experience as a flood hazard modeler, it results that such methods may not be very effective. So, this passage expresses some wishes, but these may not be real, in my opinion.

Line 213

I cannot agree that the linkage between the growth of GDP and flooding is in deforestation and rapid urbanization. In my opinion, there might be different mechanisms. The river are economically useful for centuries. The increasing GDP could mean that more people are living near the rivers.

Lines 249 – 250

This sentence fits more the section Conclusions.

Section "Conclusions"

This section presents a summary of the research, not the real conclusions. I would expect in this section some comments on the further usage of these results, their impact on other areas of engineering and scientific activity, etc.