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Comment on nhess-2021-107

Anonymous Referee #2

Referee comment on "Flash Flood warning in context: combining local knowledge and large-scale hydro-meteorological patterns" by Agathe Bucherie et al., Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2021-107-RC2, 2021

The manuscript by Bucherie et al. entitled ***Flash Flood warning in context: combining local knowledge and large-scale hydro-meteorological patterns*** addresses the development of flash flood early warning systems by combining local knowledge and science-based information. This is an interesting approach, especially in regions such as the one studied by the authors, where the available data is not detailed enough to have a good understanding of how flash floods operate, which would assist decision-makers in successfully dealing with the low response times that characterise flash floods. However, I have some major and minor remarks/question related to the manuscript, which I detail in the following paragraphs.

My main concern has to do with the lack of consistency between the title, the objectives of the research and the results obtained after implementing the proposed methodology. Thus, the combination of local knowledge with larger global scale datasets allows improving the classification of catchments according to their susceptibility to flash floods, but it can hardly be used to generate meaningful and trustworthy warning systems, as it is stated at the end of the manuscript's introduction. Therefore, I propose that, instead of improving early warning, the focus of the research be on improving flash flood susceptibility mapping based on the joint use of local knowledge and global datasets. In the absence of accurate and high spatial resolution data the definition of early warning systems is extraordinarily complex, as accurate and reliable predictions must be provided for a time window not exceeding 6 hours to help improve the capabilities of civil defense and other governmental and non-governmental agencies to enhance preparedness to cope with flash flood disasters and other associated emergencies.

On the other hand, some parts of the manuscript deserve to be explained in more detail. Thus, in section 3.1. Building the common knowledge of flash floods, the methodological approach used to identify the actors needs to be explained in detail. The number of actors selected, and their characteristics should also be explained thoroughly. Furthermore, I consider that the description of the results on the building of knowledge on flash floods needs to be expanded. Thus, in the explanation of the methodology, it is stated that the construction of such knowledge was based on interviews with national and local key actors, as well as on the holding of focus groups at the community level. However, the results provided are of a general nature and are therefore not in line with the methodology. In section 2. Study area, the geomorphological, land use and soil type characteristics of the study area must be explained in more detail. A description of a

significant flash flood event which has taken place in the study area would also help to contextualize the research undertaken. In this section, I also believe that the vulnerability of the population exposed to flash floods needs to be explained.

OTHER COMMENTS

- In Figure 1, what does the colour scale in the figure on the left mean? Please clarify in the legend or in the figure caption.