

Interactive comment on “Spatial Patterns and Characteristics of Flood Seasonality in Europe” by Julia Hall and Günter Blöschl

Anonymous Referee #2

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Dear authors,

This is an extremely interesting study that I would like to see published in Hydrology and Earth System Sciences journal. This manuscript presents an exhaustive and comprehensive spatial and temporal analysis of flood seasonality at European scale through the identification of region with similar characteristics. I really enjoyed reading the paper, which deals with the important and timely issue of notable interest and modernity, especially for the HESS readership. The paper accurately presents the methods and results. I have just a few minor comments/suggestions for the authors to consider.

1. In this manuscript, the authors always refer to flood. As mentioned in section 2 (study area and data), only annual maximum discharge or water level are used to run the statistical analyses. However, it is not always the case that annual maximum values

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convert to flood. Could the authors clarify this issue and explain how it may affect their findings?

2. As stated by reviewer 1, I suggest the authors to more details regarding the correlation between spatiotemporal flood pattern and meteorology.

3. The analyses on the mean flood seasonality and temporal flood concentration look very similar to the one recently proposed by the same authors in Blöschl et al. (2017). The authors have to clearly state the differences between the analyses in these two papers. If there are no differences, I recommend them to shorten or remove the results description to give more space to the ones on the characterization of flood spatial patterns.

4. Because of the amount of information and figure (16) it is sometimes difficult to follow the description of the results and grasp the main take-home message. I suggest the authors to summarize and select the main findings and key figures.

5. Dots in Figures 1, 2 and 3 are quite difficult to read because of the topographic map used as background. In addition, no legend is provided. I recommend to make cleared figures or remove them if not necessary.

Reference:

Blöschl, G. et al. (2017) Changing climate shifts timing of European floods, *Science*.

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