

## ***Interactive comment on* “Spatiotemporal patterns and driving factors of flood disaster in China” by Pan Hu et al.**

### **Anonymous Referee #1**

Received and published: 12 March 2019

In general, this manuscript mainly focuses on presenting the spatiotemporal properties of some environmental driving factors that may be relevant to flood disasters. This paper is more like a data report rather than a research article, because of the lack of quantitative analysis. It is also hard to find any methodological novelty. My major concerns for this paper are given as below: (1) The effects of these driving factors concerned in this study on flood disasters are not quantified. The authors displayed numerous data of the so-called driving factors, but they failed to explicitly give some quantitative relationships between these driving factors data and flood disasters. Without a well-defined relationship (even statistical relationship), it would be untenable to say that flood disasters are related to these driving factors. (2) This paper mentions both flood event and flood disaster. How are these two terms defined? What's the

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difference between these two terms? (3) It is unclear how GeoDetector for attribution analysis used in this study. (4) The authors performed an analysis for the changes of flood frequency. But the study data used in this paper are from 1984 to 2007. The results from such a limited length of data may be questionable in terms of hypothesis testing in the statistical analysis. (5) The manuscript claims that the spatial pattern of precipitation extremes and that of flood disasters did not match well, while it is also concluded that rainfall changes play the overwhelming role in driving occurrences of flood disasters, and topographical features and spatial patterns of socio-economy also have considerable impacts. The above statement seems to be an apparent paradox.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2019-73>, 2019.

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