Natural Hazards
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Discussions

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Interactive comment on "Spatiotemporal analysis of flash flooding events in mountainous area of China during 1950–2015" *by* Nan Wang et al.

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1. This paper has a strong contribution in the study of spatiotemporal variation and trend of flash floods at a national scale, and therefore fits the goal and objective of the journal. It also has an importance in risk assessment of flash floods in China under climate change conditions. 2. An emphasis on the importance of this research can be added in the abstract. 3. A short review of similar studies at different scales in China or other nations can be added in Section 1 if any. 4. The objectives of this study need to be clearly addressed in Section 1. 5. Section 2.1: Not clear how these FFEs were selected, by peak or by damage? Needs to have more descriptions on the criteria of flash floods at different scales. 6. Section 2.3: Watershed was used for calculating the temporal mutation and clustering. Were there a condition that the FFE locations in the

dataset have an upstream-downstream connection within the watershed? If this was the case, would it affect the assumption that FFEs were independent for the statistical analysis. Needs to have a clarification or discussion on this. 7. Better to give an equation or reference for wavelet variance in Figure 6 and wavelet coefficient in Figure 7 for an easy understanding. 8. A more description or equation is suggested for the index of dispersion in Section 4.4.2 and Figure 10. 9. Section 5.1: What does the light blue area in Figure 11 and Figure 12 stand for? How was the R90p calculated for a geomor-region? Is it possible to have a negative R90p in Figure 11(c) (a point in the left bottom corner)? How was the soil moisture estimated for a region? To what soil depth? Suggest to have a discussion on different soil moisture magnitudes in different regions, e.g. Figure 12(d) and Figure 12(e). 10. Figure 13: have a check of the figure title, four maps for each year (May–August of 1998; May–August of 2010), but 12 maps are in the figure. 11. Section 5.3: A brief discussion can be conducted on the influencing factors of flash floods which were not included in the analysis, for instance, vegetation cover, drainage area, landscape, soil texture, and geological conditions. 12. English can be further improved.