

## ***Interactive comment on “An analyses of long-term precipitation variability based on entropy over Xinjiang, northwestern China” by C. Zhao et al.***

**Anonymous Referee #1**

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I appreciate the authors' efforts to use entropy concept to quantify the disorder of rainfall distribution (both temporarily and spatially). The methodology is clearly presented and the text is well structured too. If I may, I think the following points could make the paper a bit more robust.

1. A very pronounced zonal trend was found by the research. But by simply looking at the map of raingauge location, it is clear that huge empty area (due to the desert) exists; whereas the problem of data scarcity is not so severe in the south. Does this contribute to the trend found by the author? Or in other words, should the geographical distribution of the raingauges be taken into the consideration.
2. I agree that the major findings are important to the local development planning,

Interactive  
Comment

but it might be even better to discuss what the indices defined in the paper mean and what do the findings mean to people who are not knowledgeable in linking findings to the real-world problem, for example, how they can be used in decision making as mentioned in the paper.

3. The method of averaging some indices may need a bit more explanation, i.e., on whether the average is made for the entire region or limited within a subregion.

Please see also the included pdf where I put some comments in as well as corrections. Please also check carefully other possible typos and language stuffs.

In principle, I think that the analysis is done well. However, a small amount of extra revision efforts might be needed to further substantiate the conclusion (w.r.t the data scarcity problem) and to render the paper added value for practitioners (i.e., not just a pure analysis but with more explanations of why the phenomena appear).

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/8/C1387/2011/hessd-8-C1387-2011-supplement.pdf>

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