Hydrology and Earth System Sciences

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Discussions

Interactive comment on "Global trends in extreme precipitation: climate models vs. observations" *by* B. Asadieh and N. Y. Krakauer

Anonymous Referee #2

Conditional on few minor revisions, I recommend the paper titled "Global trends in extreme precipitation: climate models vs. observations" to be accepted by HESS.

The paper has taken both parametric and non-parametric approaches to quantify and compare the changes in annual daily rainfall maxima between a relatively new observational dataset and CMIP-5 climate model data. The temporal and spatial matching between the observed and model data makes it a meaningful comparison. Few minor points have been suggested to make the paper better.

1. Consider adding few lines or citing a paper to explain the justification of using the linear regression, which is assuming that the annual block maxima (daily rainfalls) is normally distributed when block maxima should follow GEV.

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2. Since two types of methods-parametric and non-parametric, were applied, few lines could be added in discussion section explaining what were the similarities and differences in the results comparing the two methods.

3. Consider citing Chou & Neelin (2004)'s work when referring to wet getting wetter and dry getting dryer in page-11372, line-1.

4. Titles of all figures are wordy and not clearly readable. Additionally, for figure-2: the red dots are not clearly labeled.

5. In page-11376, line-7, the statement "The 19 climate models give 19 global averages..." gives an impression that 19 climate models were used while 15 were used with 19 runs.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 11, 11369, 2014.