Natural Hazards and Earth System Sciences Discussions

Nat. Hazards Earth Syst. Sci. Discuss., author comment AC2
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Reply on RC1

Ke Shi et al.

Author comment on "Evaluating Spatiotemporal Patterns and Trends of Drought in Japan Associated with Global Climatic Drivers" by Ke Shi et al., Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2020-416-AC2, 2021

We greatly appreciate you for your constructive comments and suggestions.

First of all, please allow us to make a brief reply. When the open preprint is over (until 17 Feb 2021), we will make a detailed reply and upload the corresponding revised manuscript.

Point 1: L49-59: While some relevant works about Japan drought have been cited, I feel the literature review appears weak. I recommend the authors to include all studies focusing on Japan drought. Discuss your results and compare them with the results from the previous studies in the appropriate places (results/discussion sections).

Response 1: Thank you so much for your comment. We will continue to look for papers about drought in Japan as much as possible to include all current papers related to drought in Japan in our introduction.

Point 2: L116: The study area of this paper is small, therefore, is the 0.5° resolution meet the purpose of this research? The author should explain that.

Response 2: Thanks for your comment. In fact, a resolution of 0.5° resolution is indeed challenging in identifying drought conditions in some specific areas. But the main purpose of this paper is to identify the drought homogeneous regions of Japan through distinct empirical orthogonal function (DEOF). And the change in resolution does not have much effect on the DEOF result. So, 0.5° resolution can meet the needs of this research.

Point 3~6:

L118: Add space before 'The'.

L163: I wasn't able to access the details of the data following the link. It appears that there may be a typo in the link, and potentially an access issue.

L169: Check the reference.

L167, L201, L218: Please check the font size.

Response 3~6: Thanks for your comments. Sorry for these mistakes, we will correct

them in the revised manuscript.

Point 7, Point 9:

L313-314: This part is interesting. The author should try to further explain the physical mechanism about the impact of spatial variation of rainfall on drought.

L330-339: Expand the explanation for physical interpretation of the DEOF1 and DEOF2. If needed, make a reference to other variables.

Response 7, 9: Thanks for your comment. We will add some physical mechanism descriptions in these parts.

Point 8, 10~12:

L321: Replace 'Spatial and temporal' with 'Spatiotemporal'. It should be consistent with the rest of the document.

L348 Figure 8: Show the W and N regions in your figure.

L393 Figure 12: Replace 'In' with 'in'.

L526 Figure A4: There is a strange horizontal line under the title of Figure A4(b). Please check all figures.

Response 8, 10~12: Thanks for your comments. Sorry for these mistakes, we will correct them and check all the figures in the revised manuscript.