

## ***Interactive comment on* “Linking drought indices to impacts to support drought risk assessment in Liaoning province, China” by Yaxu Wang et al.**

**Doris Wendt (Referee)**

dew637@student.bham.ac.uk

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The work of Wang, et al. presents not only an extensive and unique drought impact dataset, but it also shows how these impacts are linked to climate indices and how that relates to vulnerability to agricultural droughts in North East China. The presented case study shows that drought indices and impacts are linked throughout the region despite the large climate variability. Considering the novel application of linking these impacts and indices to a Chinese case study, I consider this work to be novel and its findings should be published in order to further ongoing drought research. However, I would suggest the following comments to improve the manuscript. My main suggestion is regarding the definition and use of drought terminology (see general suggestion 1 in attached PDF). Given the absent drought definition in the present manuscript, it is

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somewhat difficult to compare this research with other drought studies in North East China. For example, the droughts identified in the first result section are not compared to meteorological or agricultural droughts of national scale. Relatively minor changes to the manuscript could emphasize the link between historical droughts and therefore increase the outreach of the research. The second section of the Results, the drought vulnerability results, shows that some cities are more vulnerable to agricultural drought than other cities. This result is extremely valuable and underlines the potential for furthering the developed methodology. Furthermore, the evaluation of drought vulnerability in Liaoning province also shows that the developed method can be applied despite large differences in climate. This also strengthens the general thought that the research is highly valuable and applicable to other regions in China. It is, however, not entirely clear how the vulnerability assessment would be applicable to other regions (given the available data). Improving this would strengthen the use of the developed methodology. Hence, a few minor changes in the phrasing of the term 'vulnerability' would aid to the general understanding of the study approach and applicability. Furthermore, adjustments regarding the vulnerability factors would strengthen current findings and align these with previous drought research.

Please find the attached PDF with general and specific comments.

Please also note the supplement to this comment:

<https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2019-310/nhess-2019-310-RC4-supplement.pdf>

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