

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC2  
<https://doi.org/10.5194/nhess-2021-328-RC2>, 2022  
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## Comment on nhess-2021-328

Anonymous Referee #2

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Referee comment on "Different drought types and the spatial variability in their hazard, impact, and propagation characteristics" by Erik Tjardeman et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-328-RC2>, 2022

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### General Comments

This article explores characteristics of recent droughts in southwest Germany, contrasting several physical indicators of drought as well as records of drought impacts. It finds that as the scale zooms in to the most local level, causes and effects become more complex.

On the whole, I find this to be a strong paper, well-done, with interesting and informative figures. My comments are intended to help make it clearer. The rigorous analysis of how impacts do and don't align with physical indicators of drought at different spatial scales is particularly valuable and may be this paper's most unique contribution.

### Specific Comments

One of the conclusions is that "multivariate" drought management is needed, in recognition of the complexity of the relationship between drought and drought impacts, especially at the local level. It may be more appropriate to talk about multi-sectoral drought management, recognizing that, for example, water suppliers, farmers and ecologists generally measure and manage drought and drought impacts within separate scopes of decision-making. A reference to whether or not cross-sectoral drought planning occurs and is coordinated by any central authority, or whether that question requires further investigation, would be helpful.

It would be easier to read if the authors refrained from using variable abbreviations throughout the discussion, such as "I<sub>pv</sub>" instead of "initiation time", "Q" for "catchment," etc. The statements on lines 230-231 and 234-235 would be easier to read if they were converted to sentences, because their current form requires readers to remember several

different abbreviations.

Investigating the phenomena of "ordering, time-lag and lengthening" of drought at different spatial scales is central to this analysis. It would be helpful to provide more explanation and cite references. What does the conventional wisdom (the literature on ordering, time-lag and lengthening) say? Is that what is being tested in the hypotheses? Why or why not?

#### Technical Corrections

Editing for English syntax would be helpful, to streamline sentences such as the one on lines 84-86.

The authors use the abbreviation "for resp." several times and I am not sure what it means.

Line 121: Missing a word before "own"?

Line 340: missing word after "from"