

Online reply to the comments of reviewer 2:

We appreciate the useful comments (shown in black) and are confident that we can address them in a revised version should we be invited to submit one. Here we reply briefly (in blue) how we might address the 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.

This is a very good point though challenging to address globally. Our impression is that quite often drought management is indeed sectoral. In southern Germany there is still too little cooperation for example between agriculture and water management institutions with agriculture using weather forecasts and own crop models and surface water related water management using river flow monitoring. We suggest that for the revision we will search for some references and elaborate a bit more on the issue as suggested.

It would be easier to read if the authors refrained from using variable abbreviations throughout the discussion, such as “I_{pv}” 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.

Agreed. We will avoid the use of variable abbreviations in the discussion and will also rewrite lines 230-231 and 234-235 to full sentences.

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?

This comment is in line with the 5th comment of reviewer 1. We will provide more explanation and corresponding references on drought propagation processes and concepts in the introduction (Section 1). Then, in section 2.5, we will link this additional explanation to the hypotheses that are being tested.

Minor corrections:

All minor technical corrections pointed out are highly appreciated and will be addressed in the revision.