

## ***Interactive comment on “Vegetation vulnerability to drought on southeastern Europe” by Patrícia Páscoa et al.***

### **Anonymous Referee #1**

Received and published: 28 June 2018

General Comments: 1. Frequency, duration and spatial extent of drought conditions over the study area were considered, but the severity level was not analyzed, which would have been a valuable contribution to this work. Impacts of drought on vegetation vary according to both duration and severity of drought, and the authors did not account for acknowledge this gap in their study. The consideration of severity would greatly improve this work and the value of the method presented. However, it is acknowledged that this type of research would be complex. If the authors do not choose to add a severity component to the analysis, then at a minimum, they should discuss this gap, state why it was not considered and summarize the limitations of the specific drought conclusions that can be drawn from these results. 2. The paper contains many long sentences that are somewhat difficult to read and interpret the key

C1

points that are trying to be made. Suggest dividing many of the longer sentences into shorter, more precise sentence to improve the readability of the manuscript. Specific Comments: Section 120: What does 'status map' refer to here? Briefly explain what it is. Section 130: State the numerical ranges of the SPEI and corresponding drought severity levels for each range. Section 135: Briefly explain how the SPEI value threshold representing drought was selected from the data for this study. Section 210: The negative correlations and different relationship results for needle-leaved forest is not surprising given their primarily evergreen nature and fairly consistent NDVI response across the growing season. There is minimal NDVI fluctuation across the year because of their evergreen status and minimal NDVI often occur during drought compared to other vegetation types with a more pronounced, seasonal NDVI cycle This may be worth noting somewhere in the paper as this vegetation type appears to have consistently different results in the study. Section 220: What does “intense” refer for “intense negative NDVI...” Do you extremely negative? Consider using a different term here. Section 240 (and throughout paper): Suggest using a different phrase than “period of highest vegetation activity”, which is somewhat vague. Possible use a phrase such as “peak of growing season” or “peak of vegetated phase of plants”. Section 250: Considerable discussion of the SPEI results for the longer time intervals (6 months+) are presented here and in other parts of the paper, but only minimal discussion of the short time periods (e.g., 1 and 3-month SPEI). Why? This contradicts an earlier statement in the paper where the authors state that the longer period produced similar results and the longest periods would not be presented other than one representative longer time interval, yet the shorter periods are only minimal presented and discussed. Consider adding some discussion about the short SPEI time period results to the paper.

---

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2018-264>, 2018.

C2