

Review for manuscript “A multidisciplinary drought catalogue for southwestern Germany dating back to 1981”

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Journal: Natural Hazards and Earth System Sciences

Summary

Erfurt et al. present a long-term drought catalogue for southwestern Germany for the period 1801 – 2018 collected using four types of datasets: precipitation and discharge time series, tree-ring datasets, and drought impact information. The authors have seriously considered the two reviewers' comments, which has helped to improve the structure and methods description.

General comments

I thank the authors for addressing the points risen in my review of the first version of the manuscript. I think that it will be a good fit for NHESS after some language polishing. I provide some suggestions below and would recommend going through the whole manuscript again with a focus on the consistent use of tense (past vs. present), use of clear and simple sentence structures, choice of verbs, use of commas, and use of prepositions. For my taste, too many remarks are provided in between brackets. I would try to integrate them in the text directly in order to avoid interruption of the reading flow.

Suggested edits

I. 20: temporal patterns

I. 35: SSI seems to be a more commonly used abbreviation than SSFI

I.38-39: Can in my opinion be removed

I. 43: A single variable assessment provided sector relevant information. Analyzing the root zone soil moisture drought signal for example provides information relevant for agriculture.

I. 44: not necessarily linked in a similar way in different catchments?

I. 52-53: yes, but maybe you would like to acknowledge the impact data sources you are using in this study?

I. 55: potentially impacted instead of that may be impacted.

I. 56: Knowledge on past... (delete The)

I. 57: delete the in front of extremes and knowledge.

I. 65: 250 years derived using...

I. 69: in the countries part of the Danube?

I. 70: All these existing catalogues?

- I. 85: remove the in front of meteorological
- I. 86: add comma after datasets
- I. 89: add comma after the bracket.
- I. 165: SPI and SPEI were computed using...
- I. 169-170. I think this sentence is redundant with I. 167 and can be removed.
- I. 166-168: I would shortly comment on the stationarity assumption.
- I. 172: I would shortly mention the gof test used for the distribution fitting and report the p-values obtained.
- I. 174-178: I was wondering here why you did not use the standardized streamflow index to be consistent with the methods chosen for meteorological drought. I would add a short explanation here.
- I. 186: A bi-weight robust mean, which reduces...
- I. 194: SNR has been introduced above and the abbreviation can be used here in isolation.
- I. 206: I would specify how many indices were considered in total and per variable.
- I. 209: under drought
- I. 213: events identified using their... events identified according to...
- I. 218: we assured that we did not
- I. 227: for extreme events only.
- I. 231: I would write average number in the equation instead of total number/2 to be consistent with I. 230.
- I. 233: would remove 'both'
- I. 239: remove 'the' in front of extreme droughts.
- I. 249: replace in by at
- I.251: several years stick out
- I. 258: what does 'they' refer to?
- I. 260: remove 'the' in front of potential
- I. 264: remove in the streamflow dataset because this information is redundant.
- I. 329: indicate instead of indicating.
- I. 334: For 11 out

Figure 6: use lower caps for 'between'

I.409-411: sentence in my opinion needs rephrasing.

I. 439: Although care was taken when simplifying the impact dataset into three categories, the results...

I. 458: This highlights the need for...

I. 480: value of drought catalogue for drought management?

I. 512: I do not see the purpose of the sentence 'Time of occurrence of hydrometeorological water deficits is only one feature' as timing is not really considered in this study.