

Hydrol. Earth Syst. Sci. Discuss., referee comment RC2  
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## Comment on hess-2021-81

Anonymous Referee #2

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Referee comment on "Spatiotemporal and cross-scale interactions in hydroclimate variability: a case-study in France" by Manuel Fossa et al., Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2021-81-RC2>, 2021

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The paper by Fossa et al. describes spatial interactions and cross time-scale features of variability in hydro-climate variables across France. The work is timely and of potential impact, it is relatively well-written and the cross-scale analysis is quite innovative. Therefore, I see potential for publication in HESS, but only after the manuscript will undergo a substantial revision.

In fact, two main points must be addressed with care before the paper can be accepted:

- the methodology cannot be taken for granted for the majority of the readers of this journal. Figure 2 should be a milestone of this manuscript, while instead it is useless in this form, and likely wrong since the caption does not correspond to what is plotted. Instead, figure 2 should clearly show the workflow that leads the reader to acknowledge the results. Also, more explanation on the meaning of the wavelet significance test should be documented.
- the results are not described in depth, and also they lack of a discussion that is necessary to enrich the paper. In particular, a few figures are almost neglected in the description, but in general all results are not discussed in depth, rather there is only a documentation of what can be read in the plots.

Specific comments can be found in the attached documents (I recommend to open the document with Acrobat Reader).

Please also note the supplement to this comment:

<https://hess.copernicus.org/preprints/hess-2021-81/hess-2021-81-RC2-supplement.pdf>