

Interactive comment on
“Interannual-to-multidecadal Hydroclimate
Variability and its Sectoral Impacts in northeastern
Argentina” by Miguel A. Lovino et al.

Anonymous Referee #2

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General comments:

The manuscript assesses the joint interannual to multidecadal variability of precipitation, river flow and maximum and minimum temperatures over northeastern Argentina representing a contribution to scientific progress within the scope of Hydrology and Earth System Sciences. Overall, the manuscript is well written and presented in a clear and well structured way. The authors perform an exhaustive review of literature addressing the sectoral impacts of hydroclimate variability and trends including a comprehensive discussion of these impacts at different timescales of interest. Nevertheless I consider the results are not able to show robustly what is the novelty of the present

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study. In my opinion the results presented in this research are not well balanced compared to the review the authors perform based on the previous studies in the topic of interest. Some examples of results which are not novel are detailed in the specific comments. Authors should definitely put a major emphasis on what they consider to be new in their study which has not been performed or updated in the existing literature.

I recommend to reconsider the manuscript after major revision.

Specific comments:

-P.2, L.3-5. Authors should try to update references in relation to studies in the region. What has been done since 2010 regarding the understanding of regional hydroclimate and its sectoral impacts to increase the resilience of the affected populations in Argentina and SESA?

-P.2, L.32-33. Authors state they will “assess the impacts of hydroclimate variability and trends on water resources, agriculture and human settlements”. Based on Section 5, I consider this is more a review of the existing literature in relation with sectoral impacts (with a comprehensive and appropriate discussion of them at the different timescales) rather than a concrete “assessment” of the results.

-P. 9, L.6-7. “Our results show that all the main frequencies of the ENSO are also replicated in the regional precipitation”. I suggest to check for references since these kind of research have been well explored in previous studies and it is not novel.

-P.9, L. 11-25. I found the description of results based on Fig 3b and Fig 3c not new. I suggest to highlight the novelty in these results which has not been discussed by other studies.

-P.11, L.10-17. “These results suggest that all extraordinary floods of Paraná River occurred during strong or very strong El Niño events”. Same as above comment but with Figure 4.

Technical corrections:

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-Table 2. Include units of the leading frequencies in the table caption. In the text authors refer to period (units: years). Please check to be consistent.

-P.12, L.2. Please revise the exhibited Tmx frequencies which you mention in the text to be close to 3, but results indicate to be 2.4.

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