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Hydrology and Earth System Sciences
Discussions
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Interactive comment on "Interannual-to-multidecadal Hydroclimate Variability and its Sectoral Impacts in northeastern Argentina" *by* Miguel A. Lovino et al.

Anonymous Referee #1

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General comments: The manuscript examines the interannual and multidecadal scales of global SSTs and its relation to precipitation, river flow and maximum and minimum temperature over Northeast Argentina. The authors analyzed and correlated these hydroclimate variables by applying low-pass Lanczos filter, EOFs and SSAs. To conclude their study, the authors analyzed the impacts of hydroclimate variablity and trends on the water, agriculature, and human sectors.

The manuscript is well-written and contributes substantially to the scientific progress within the scope of Hydrology and Earth System Sciences by utilizing a different filtering method compared to the usual running-mean method in analyzing the climatic vari-

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ables. The authors used observational and reanalysis datasets including river gauge station datasets. However, the authors were not able to put forward what is something new in their study. I would recommend the authors to highlight the novelty of their work. For example, is the transition from dry and cooler climate to wet and warmer decades in northeastern Argentina novel? Also, the Pearson correlation coefficient method was also used to correlate SST anomalies with precipitation, stream flows and temperature. But, there is no significant tests employed. How significant are these correlations? In addition, some specific comments are mentioned below for consideration.

I recommend the manuscript as accepted with minor revision.

Specific comments:

Abstract: L.15: transition from what climate to wetter and warmer climate?

P.3 Figure 1a. bold black contours and blue polygon Figure 1b. sub-basins are black contours, rivers and tributaries in blue contours

P.4 L. 25. Lanczos filter, how many weights used? Is the use of Lanczos filter more useful compared to the running-mean method?

P.6 Figure 2. missing SST in 120-month low-pass filtered SST label and wrong label for Panel j. What do you mean with partial reconstructions?

P.18 Table 5. Higher concentrations of air pollution

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