Report

Specific Comments (note: line numbers refer to clean, edited document):

This may be part of my ignorance, but I feel the causal trend results can use some more contextualization in section 3. We feel that contextualizing the meaning of a positive/negative causal trend between the trigger variable and the target variable is important, especially with regards to the actual directions of the variable trends. This can get especially confusing once the causal trends are contextualized with the actual variable trends. Adding some clarifying statements will greatly improve and help readers understand what these results imply/mean.

Specifically:

- Section 3.2: A summary sentence describing what the positive/negative trend means between SWE-Discharge and Rain-Discharge would be helpful to the reader.
- Section 3.3: In this section, the author combines the results of section 3.1 and 3.2 to describe water stress. However, how these results align with water stress is not described adequately. How does the totality of the trend results relate to water stress in the different regions? The statements in lines 380-381 (really 377-381) state the trends, but don't really contextualize how these trends are indicating water stress. The authors do this in the conclusions in lines 776-779, but these are important results that should also be stated in the results section as well, and adding similar sentences to this section will greatly improve how these results are indicating water stress. We suggest including a couple of clarifying statements in this section will greatly help contextualize these results and highlight important insights that this analysis is capable of.
- Section 3.4.1-3.4.6: Again, a statement of what the positive or negative trend means for the causal effect might help improve the readability and contextualize these results further. It could also be "increasing causal coupling of snowmelt and discharge (positive coupling trend".

Technical Comments:

- Figure 4: y-axis label includes "Riverdischarge"
- Lines 321-323: Figure is just referred to as "5B" or "5C"
- Line 342: "60° and 20° North". Suggest change to 20°N to 60°N
- Line 350-351: "detected a continuous effect and therefore trend" . Suggest rewording.

- Figures 9 and 10: The word Strength in the Coupling Strength panel is misspelled. Also, in the caption of Figure 9, “Anomaly magnitude” is used while Figure 10, “Anomaly Size” is used. The captions and panel label should be consistent.
- Figure 11: The 15 basins in green have no causal trend detected, correct? Maybe this can be highlighted either in Section 3.3 or in the legend?
- Line 695: The citation style is inconsistent