We thank the editor Peter Morse for the constructive comments and suggestions. Below we respond point-by point to the comments:

I do have one major concern that needs to be rectified. I am not sure but I think that it relates to the precipitation component of the ERA-Interim dataset. If you look at Figure 8b, you can see a very distinct artifact in the mapped data, especially in the inset.

Response: We agree that the distinct artifact of precipitation 2000-2016 ERA-Interim dataset showed in the Figure 8b is a major concern, but we used it in the previous version to expand the time frame of the analysis. The results were consistent with the main conclusions that we made using University of Delaware 2000-2014, giving us confidence that these data could be used even with the artifact. However, we should have pointed out this artifact in the previous version of the manuscript to clarify this choice. For the new revision, we sought another source of precipitation and temperature data that would not have the artifact and would extend through the 2016 water year. To this end, we chose MERRA2, which has coarse resolution (0.625×0.5 grid), but it does not show a distinct artifact, and the main conclusions are similar to those we found using the ERA-Interim and University of Delaware datasets.

Minor comments:

P1,L24: Delete "in magnitude"

Response: these words have been deleted.

P1, L34: Change "warming" to "increasing"

Response: this change has been made.

P2, L5: comma after (17°S to 31°S)

Response: this change has been made.

P2, L13: Change "related with" to "related to"

Response: this change has been made.

P2, L16 and elsewhere: There is always a space between the value the "°" symbol for temperatures

Response: we added a space after all "°" symbols.

P3, L4-6: Change "The Andes Mountains cross seven countries (Vene ... tina) along more than 8,000 km across a wide range of latitudes ... They represent ... and are the longest mountain chain..." to "The Andes Mountains cross seven countries (Vene ... tina) and a wide range of latitudes ... They represent ... and are the longest (8,000 km) mountain chain..."

Response: this change has been made.

P3, Figure 1: Please put a black box in the main map around the area that is "zoomed in to" in the inset, and thicker lines connecting the two.

Response: this change is included in a new version of Figure 1.

P4, L5: Comma after "area"

Response: comma was added after area.

P4, L7: Change "In these latitudes" to "At these latitudes" *Response: this change has been made.*

P5, Figure 2 (and other similar composed figures): It is not obvious that the West/East relates to continental divide. Perhaps you should include this in the caption. How about changing "Mean monthly hydroclimate variables by latitude..." to "Mean monthly hydroclimate variables by location with respect to the continental divide and latitude..."

Response: we included this suggestion in all of the relevant captions.

P5, L16: Change "continuing in real time monthly" to "continues in real-time monthly increments"

Response: this change has been made.

P5, L18: Given the different resolutions of these datasets and the 0.5° working resolution of the paper, please include a line about how the data were combined and the interpolation of the ERA-Interim data. Was there any fitting of one to the other? *Response: We did not interpolate ERA-Interim or MERRA2 datasets; rather we resampling the spatial resolution to 500m to fit with MODIS resolution. We included an explanation about this in the methods section.*

P6, L8: Change "surface temperature regions (SST)" to "surface temperature (SST)" regions"

Response: this change has been made.

P6, L15: Please define NOAA here and delete from P14, L8.

Response: NOAA was defined in this page.

P6, L22: Change "America" to American"

Response: this change has been made.

P6, L38: R is used for all analysis, so move much of the text from P7, L10-11, to here. Change "Saavedra et al. (2017). For the remaining pixels we used the" to "Saavedra et al. (2017). For the remaining pixels we conducted geo-statistical analysis on the data using the statistical computing R software (R core Team, 2013). We used the" *Response: this change has been made.*

P7, L14 and elsewhere: the parameters r and r2 should be italicized. This affects text throughout the main document, tables and figures.

Response: this change has been made throughout the manuscript.

P7, L26: Delete "show"

Response: this word was deleted.

P8, L17: Comma after "29°S"

Response: this change has been made.

P10, L4: change "common range of change values are in the range of" to "common change values are on the order of"

Response: this change has been made.

P13, Figure 6: The line symbol for the continental divide is not visible in the legend or the figure.

Response: a new version of Figure 6 is included.

P15, L11: Change "is represented as a line for significant (not significant) in thick, (SP,S-), (thin, lines." To "is represented where significant as a thick line (SP,S-) and a thin line where not significant (SP,NS+)."

Response: this change has been made.

P15, L12: Change "of UDELv4 and ERA-Interim datasets" to "from UDELv4 to ERA-Interim datasets"

Response: this change has been made and includes the new MERRA2 dataset.

P15, Figure 7: Lines for N3 and MEI are indistinguishable. Traces are also very pixelated. I hope that final line art diagrams for this manuscript will be vector based and smooth. Classes of Niño/Niña events are difficult to distinguish and need more contrast.

Response: a new version of Figure 7 is included to address this comment.

P16, Figure 8: Obvious artifact in (b). Can't see the line symbol for the continental divide in the figure or legend

Response: this change has been made.

P19, Figure 10: Obvious artifact in (a) and (b).

Response: a new version of Figure 8 was included with MERRA2 dataset.

P20, Figure 11: (b), is this PRI or RI? Please coordinate with caption. (c) part of figure title is missing. (d) is this RI or PRI?

Response: a new version of Figure 11 is included to address this comment.

P22, L16: Effect of apparent precipitation anomaly on results?

Response: we changed the precipitation dataset to avoid the anomaly.

P23, L28: What is the effect of the apparent precipitation-related anomaly on this conclusion?

Response: we changed the precipitation dataset to avoid the anomaly.