Reply #2 to Anonymous Referee 1

We thank Referee 1 for reviewing our responses and once again providing valuable feedback. Below we provide our responses to each point raised.

Comment: P8L8 – on the spatial average. (Add text to manuscript)

Reply: To further clarify the purpose for and process by which spatial data is averaged we have added the following to the working manuscript (P8, L8 – P9, L5):

"The first principal component (PC) from the gridded variable region, representing the dominant signal in the gridded field, correlated with the spatial average of the gridded variable region can identify if the signal is spatially homogenous (representative) across the region. If the first PC does not correlate well with the spatial average, the heterogeneity of the dataset is likely important, and adopting the spatial average as a predictor may be ineffective. For example, the spatial average of SSTs (Fig. 4 (c.)), a potentially significant predictor of streamflow for the Elqui River, correlates highly (>0.9) with the first PC of the gridded SST data. This region of SSTs is closely aligned with the quintessential ENSO pattern in the equatorial Pacific Ocean, and is evident when correlating the entire ONDJ streamflow record with SST anomalies in the preceding MJJA, which suggests ENSO, in general, plays some role in explaining streamflow variability within the Elqui Valley (Fig. 4(c.)) Having identified SSTs as spatially homogenous, and consistent with the Niño 3.4 region, we select the Niño 3.4 Index as a potential predictor of streamflow, in lieu of the SST region initially identified (Fig. 4c), as it is well-known, well understood, and well-studied."

Comment: P19L20-21 –on the 40%. (Add text to manuscript)

Reply: To further clarify the Stat-P&S model criteria we have added the following to the working manuscript (P20, L21-25):

"These ranges are transitional and do not provide skillful categorical forecasts for the May 1st lead. For this reason, the coupled statistical prediction model defers prediction for these years to September 1st, when the Stat-PCR model is skillful." The Stat-PCR approach provides deterministic forecasts of ONDJ streamflow, it is only skillful at a September 1st forecast lead, which may limit water rights holders ability to benefit from longer lead times."

Comment: It is better to call them "wind vectors" rather than "vector winds", but not asking the authors to make any change about that.

Reply: To avoid any confusion, we provide reference to both vector winds and wind vectors in the manuscript. The term "vector winds" is common amongst the climate community, thus we have opted to retain it as well. (P7, L20):

"…vector (also referred to as wind vectors) and meridional winds…."