Forecast Explanation: pueblo_reservoir_inflow 2023-03-15

The model estimates the following range for naturalized seasonal volume (KAF) of pueblo_reservoir_inflow on 2023-03-15, {10th quantile: 222, median: 304, 90th quantile: 422} (Fig 1). The prediction is similar to historical values for the median and is slightly up for each quantile compared to the previous prediction due to an increase in the observed precipitation (Fig 2, Fig 5-9). The predictions for the median monthly volumes within the streamflow season are also similar to historical values (Fig 4). The biggest drivers for this prediction are the precipitation (Acis), which is 0.49 standard deviations above historical, and the observed value for the previous month of naturalized streamflow which the model interprets to be indicative of lower naturalized seasonal streamflow (Fig 10-13).

Fig 1: Quantile Model Ensemble

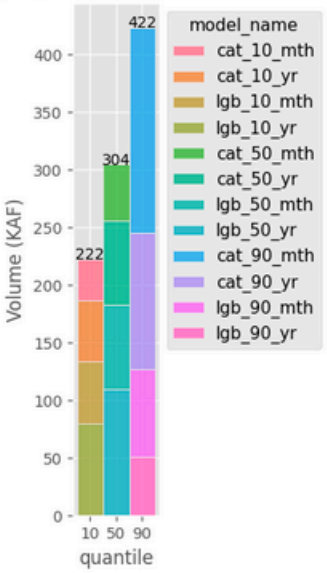

Fig 2: Predicted Volume Quantiles vs Historical Quantiles by Issue Date

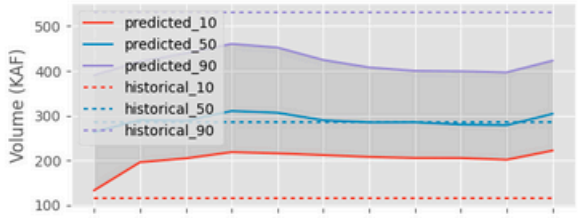

Fig 3: Feature Z-Score Value by Issue Date

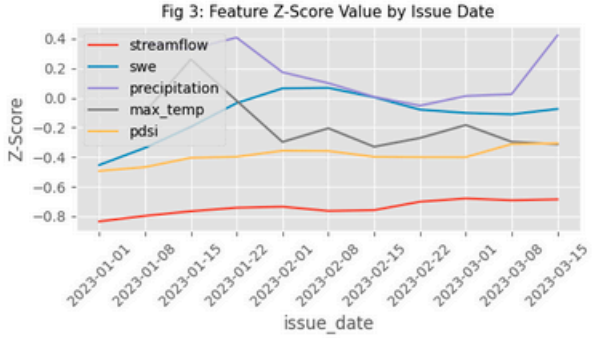

Fig 4: Monthly Predicted Quantiles vs. Historical

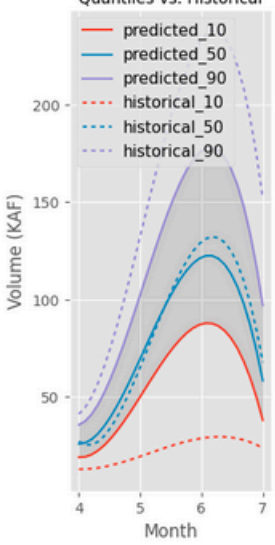

Fig 5: Z-Score Change from Previous Issue Date

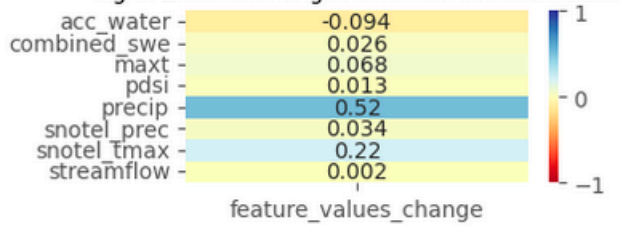

Fig 6: Z-Score Value on Issue Date

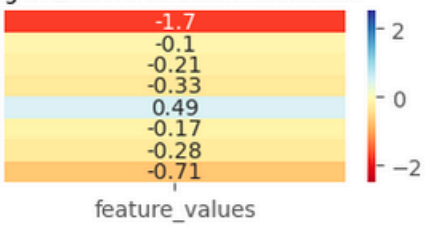

Fig 7: Changes from Previous Issue Date - Monthly Model Ensemble - 10th Quantile

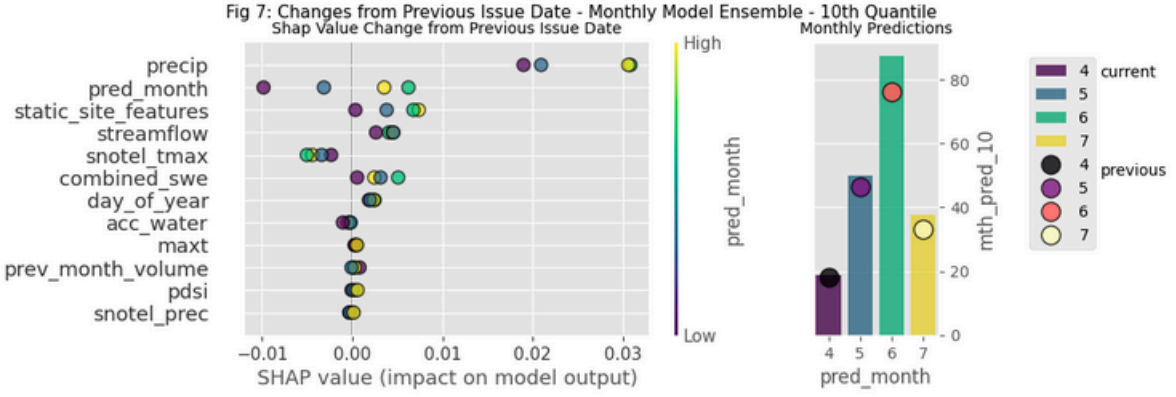

Fig 8: Changes from Previous Issue Date - Monthly Model Ensemble - 50th Quantile

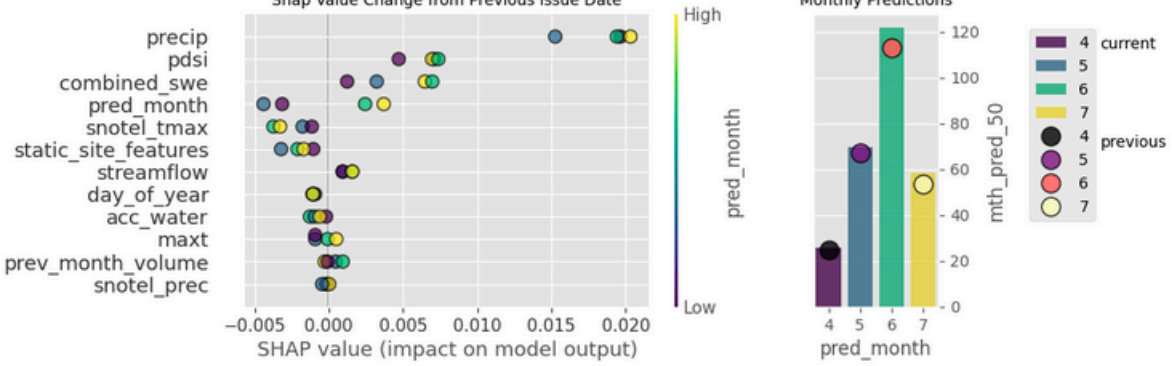

Fig 9: Changes from Previous Issue Date - Monthly Model Ensemble - 90th Quantile

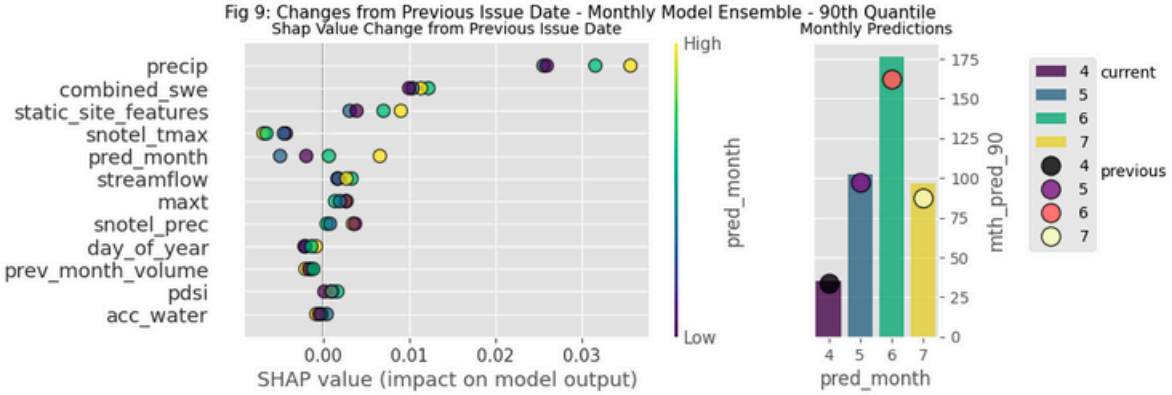

Fig 10: Yearly Model Shap Values - 10th Quantile (log Volume KAF)

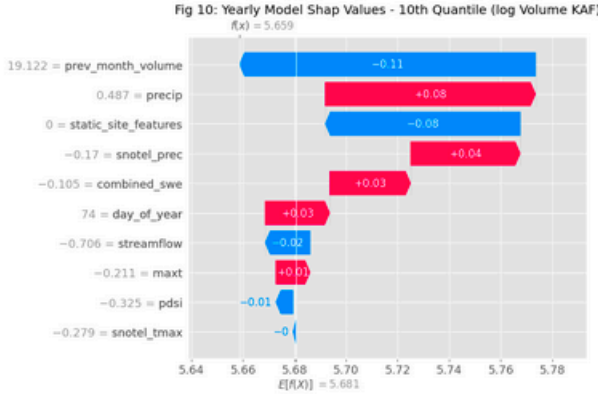

Fig 11: Yearly Model Shap Values - 50th Quantile (log Volume KAF)

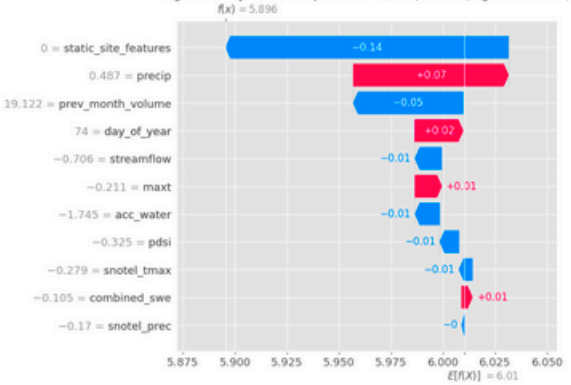

Fig 12: Yearly Model Shap Values - 90th Quantile (log Volume KAF)

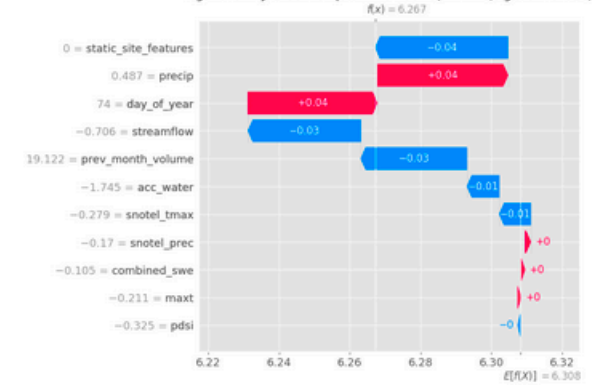

Fig 13: Snotel SWE Deviation (Correlated Stations) on 2023-03-15