The Seasonal Forecasts of the QBO Showed Skill out to 5 Months

S2S QBO Forecast Error (1980 - 2018)

S2S forecast vector amplitude error (m/s) based on 1,835 9-month forecasts from 1980-2018: monthly mean (dark blue), monthly median (light blue) values, and individual monthly forecast values (light blue points). Also shown are the mean (dark gray) and standard deviation region (light gray) of the phase propagation model. Note that the zero labeled month is less than a full month as the S2S initialization starts before the start of the first full month.

Good QBO Forecasts were not Correlated with Improved NAO Forecasts

The correlation between MERRA-2 analyses and one month S2S retrospective forecasts of the sea level pressure difference between (0°E, 65°N) and (0°E, 45°N) valid for January, February, and March (red curve). The blue and brown filled circles show the correlation sorted by S2S QBO one month forecast errors below and above the median value respectively. The vertical white lines cover the standard deviation when half of the S2S forecasts are randomly selected.