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Oral
(Virtual Talk)
Long periods of extreme precipitation can cause significant impacts to life and property. Planning for these periods would ideally begin at the subseasonal to seasonal (S2S) time scale, yet prediction of precipitation at this time scale has low skill. A database of 14-day extreme precipitation periods across 16 North American regions (clusters) was used to assess the current predictive skill of synoptic variables during the extreme periods within three S2S project model hindcasts, including 500hPa geopotential heights and various levels of specific humidity. These variables were chosen because they have previously been shown to be potentially skillful predictors of 14-day extreme precipitation periods. The highest skill is seen for geopotential height, with Anomaly Correlation Coefficient (ACC) values near 0.7 at Week 1/2. Since ACC drops below climatology by Week 2 for all variables, model bias during the extreme periods was examined. During the extreme periods, there is a dry bias that increases with lead time for specific humidity. The models also have an inability to realize the magnitude of 500hPa geopotential height dipole, common to all extreme periods. While, on average, skill is low past Week 2, there are cases where the precipitation period is driven by large- scale atmospheric conditions and has skill out to Week 4.
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