Subseasonal Predictability of North American Winter Weather Regimes

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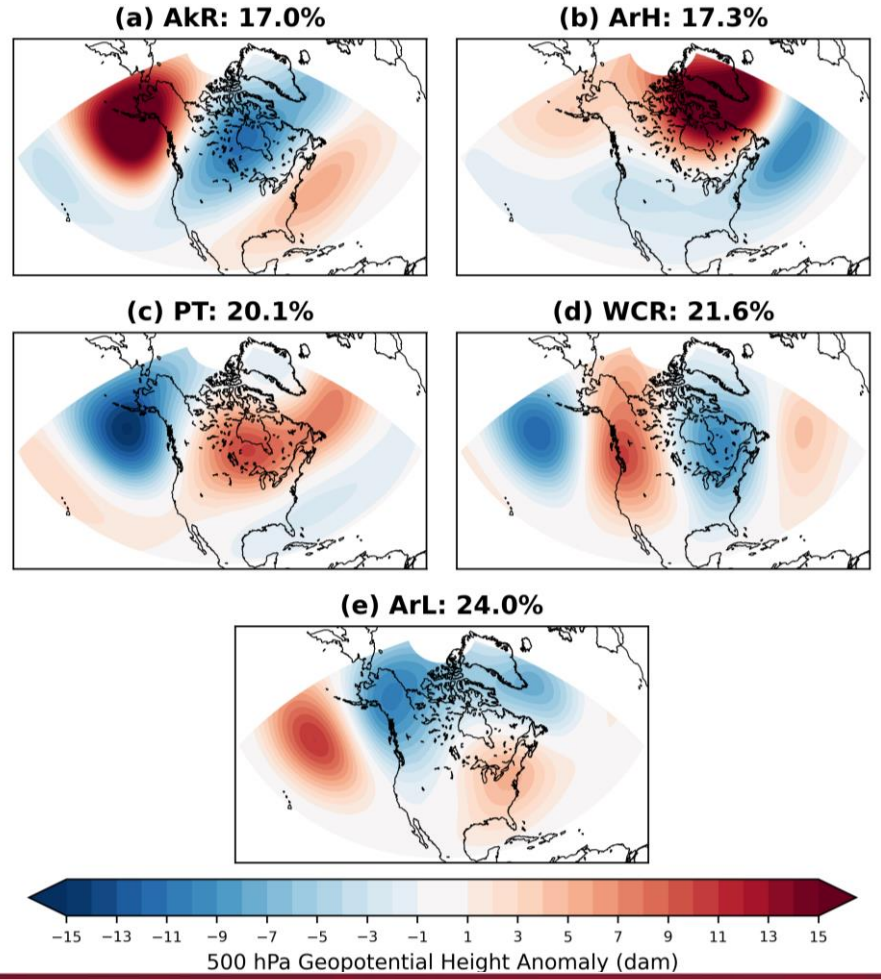

OBJECTIVES

1. Quantify the forecast skill of these regimes using hindcasts from the S2S Project Database.
2. Investigate how the simulation of those processes deemed important for **blocking regimes** contribute to the S2S forecast skill of those regimes and associated extreme weather events.

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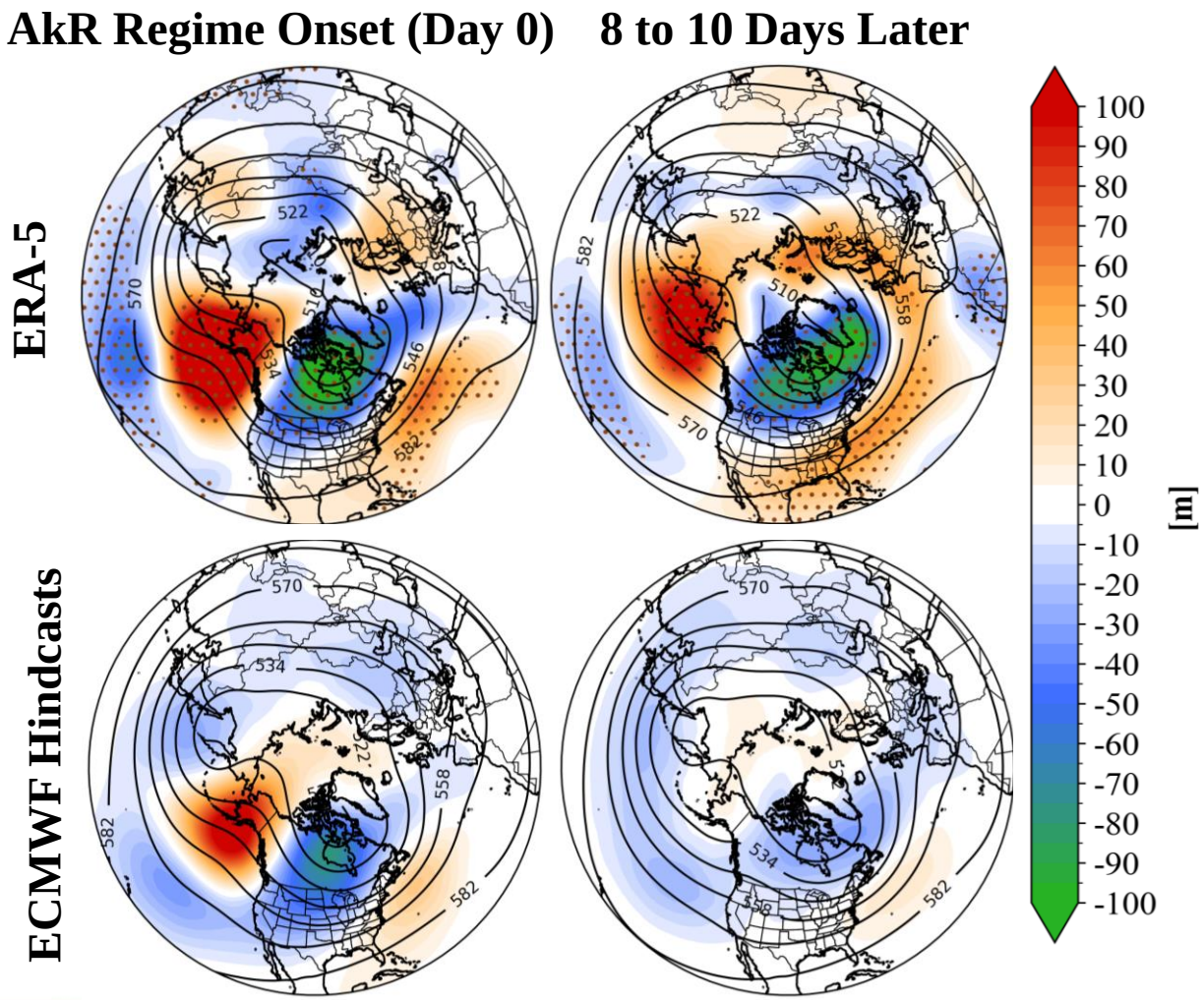
Three Key Results

1. Hindcasts show skillful predictions for all regimes out to about Week 2 on average.
2. Models dissipate the tropospheric blocks too soon, reducing longevity of subsequent North American winter weather patterns.
3. A key process for successful forecasts of the Alaskan Ridge and Arctic High regimes is ***warm conveyor belt (WCB) outflow***. Runs with less persistent and/or less strong WCB anomalies have reduced skill.

500 hPa GPH/GPH Anomalies



Shading: *500 hPa GPH Anomalies (m)*
Contours: *500 hPa GPH (dam)*
Stippling*: Significant anomalies ($p < 0.05$)*
Data: *ERA-5 and ECMWF Hindcasts*