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Title: Prediction of Arctic Climate using Partial Least Squares

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Abstract:

Pronounced climate change across the Arctic has led to an increased demand for climate diagnostics and predictions of the affected environment. We will employ a novel statistical method called Partial Least Squares (PLS), documented by Smoliak et al. (2010), in order to identify where changes in boundary conditions (sea surface temperature, sea ice concentration, and snow cover) influence an assortment of Arctic variables. We will evaluate these forcings by creating and assessing seasonal climate predictions for the Arctic, such as air temperature and sea ice extent, and also assess our capacity to forecast the broader extratropical atmospheric circulation, such as the Arctic Oscillation.

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