



How good is persistency for seasonal temperature forecasts in the sub-Arctic?

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Long time-series of monthly mean temperatures from Iceland have been explored for seasonal persistency. The purpose is not only to contribute to a general description of the climate, but also to seasonal forecasting.

There is very strong seasonal variability in the persistency of temperature. A warm summer month is significantly more likely to be followed by another warm month than by a cold month. There is however relatively little correlation between the monthly mean temperatures in mid-winter. The mean temperatures in March to May are indicative of the temperatures of the summer months.

The persistency in the summer may be explained by the persistency of temporal anomalies in sea surface temperatures. In the summer, there is less advection of remote airmasses than in the winter and local surface conditions are likely to play a greater role in modifying the air temperature of the region. The correlation of late-winter temperatures and the temperatures the following summer are particularly strong during cold periods and appear to be influenced by the extent of the sea-ice north of Iceland and low sea-surface temperature anomalies.