



## **Changes in Seasonal Cycle and Daily Variance Statistics for Climate Variables in the High Latitudes**

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We present a new method for calculating a smooth daily climatology from monthly averages. This method is then used to examine the changes in the timing of the seasonal cycle of northern hemispheric sea ice and gridded data of surface air temperature, sea level pressure and 500 hPa height. Furthermore we can then apply the method to calculate the statistics of daily variance from this new smooth climatology, the resulting fields are mapped and their temporal variation examined.

The results of the analysis show how the seasonal cycle of sea ice modulates the surface air temperature east of Greenland in late winter. Weaker amplitude signals of seasonal cycle modulation can also be seen off the west coast of Alaska, and in the subtropical North Atlantic. Locally this signal is also apparent in the 500 hPa height field. Furthermore, the variance statistics show changes in wintertime cyclone activity along the North Atlantic storm track since the mid-1990s.