



## **Intercomparison of Greenland climate interannual variability in global and regional models and relation to the NAO**

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The interannual variability of temperature in a set of global and regional climate model is compared at several locations on Greenland, choosing model grid points in proximity to the Iullissat and Tasiilaq weather stations where long term observations are available and to ice core drilling sites on the plateau.

While the regional model MAR correlates closely to observations due to its nudging to observations, also the global models show variability on the interannual scale that resembles to the one observed - less so, however, on an interdecadal time scale.

The first EOFs of the models surface pressure resemble the NAO pattern. Principal components derived from temperature and surface pressure are highly correlated, which shows that the NAO's effect on temperature is well represented. The relation breaks down when only data of the Greenland sector are used, suggesting that other factors, like large scale circulation patterns not related to the NAO, affect climate variability in the region. However, for the western coast, a relation to Labrador and Baffin Bay sea ice extent could not be shown.