

## **Exploring the spatial coherence of high and low latitude North Atlantic Sea Surface Temperature Anomalies from paleoclimate proxy data.**

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Climate model-based studies have hypothesized a link between Atlantic sea surface temperature (SST) anomalies since the late 1800s and Atlantic Meridional Overturning Circulation (AMOC) variability. However, model representations of North Atlantic SST variability associated with AMOC tend to match observations better in the subpolar gyre than in the tropical North Atlantic. It is unclear if this is because the multidecadal SST anomalies observed in the tropical Atlantic are not closely related to AMOC and the higher latitude SST anomalies, or if the models are not adequately capturing the low-latitude processes that lead to coherent SST anomalies in low and high latitudes. In this study we explore the suitability of existing paleoceanographic temperature proxy data for testing the coherence of SST anomalies in the northern tropical Atlantic and subpolar gyre regions. This project is the product of a graduate-level issue study course focused on making connections between modern and paleoclimate observations of AMOC.