

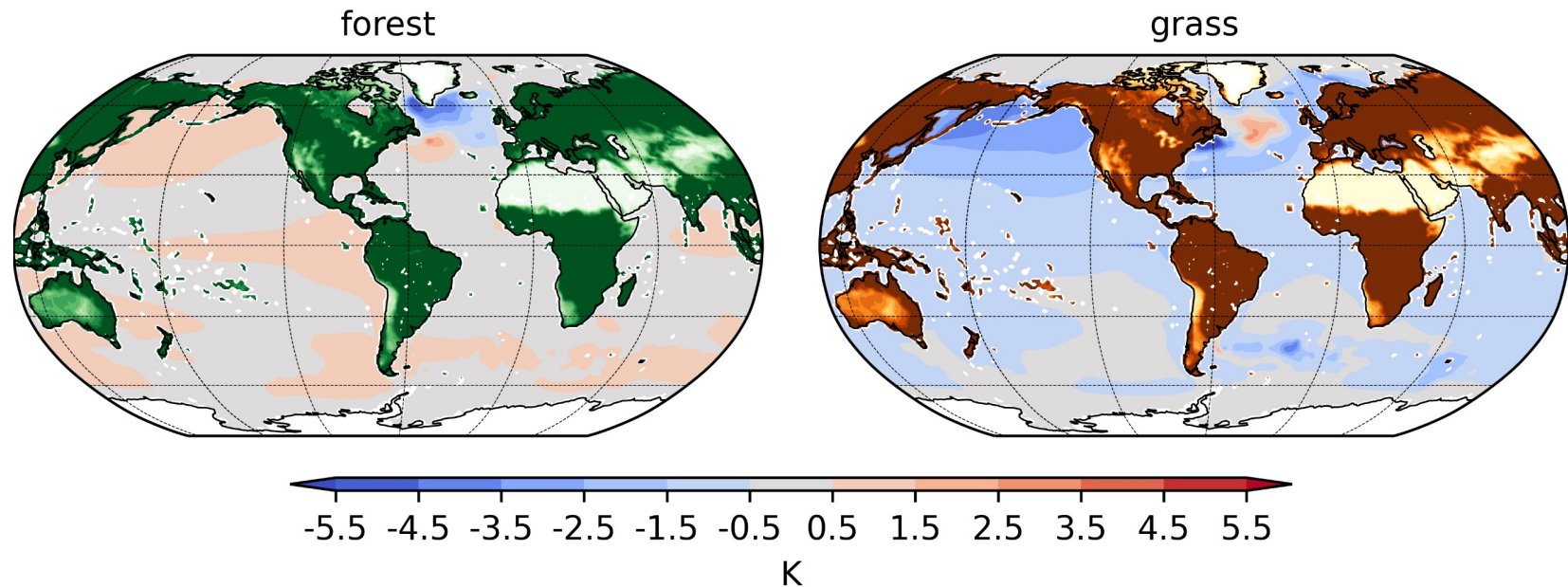
# Climate Dynamics: Response of the Global Ocean-Atmosphere Circulation to Forest Cover Changes Over North America

**Interests:** atmospheric circulation, atmosphere-ocean interactions, and/or ocean circulation. Interest in analysis of large data sets.

**Data & tools:** 5 fully coupled CESM2 simulations, programming ideally with Python. Experience with cdo/nco an advantage but not required.

**Background:** Planetary-scale forest cover changes have a significant effect on the earth's climate. A striking similarity between modelled afforestation and climate change scenarios is the response in the North Atlantic sea surface temperature. We hypothesize that air transported towards the North Atlantic is warmer, which reduces air-sea heat fluxes in the Labrador Sea and Gulf Stream.

## SST Anomalies



**Aim:** Investigate the heat transport and air-sea interaction downstream of North America using air parcel trajectories. Studying changes in heat transports on the global scale, potentially including a box model approach.

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