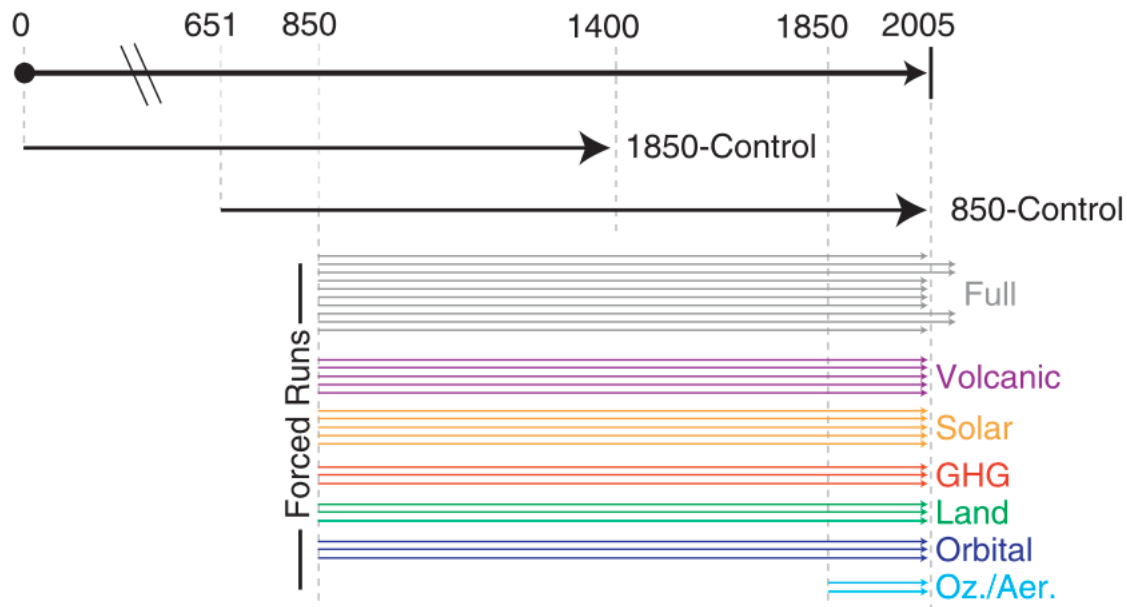
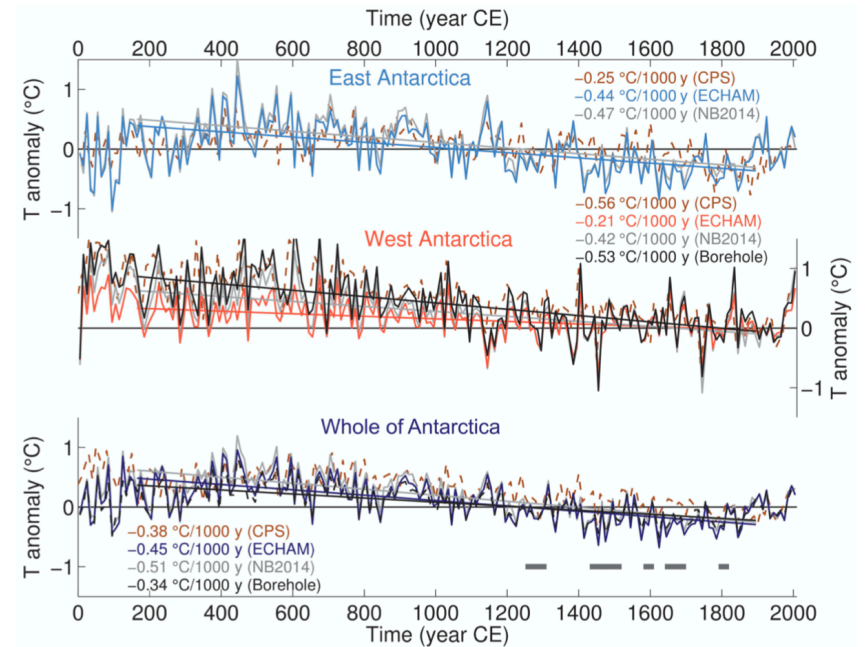


Integrating proxy and model estimates of Antarctic climate variability over the last millennium

Olivia Truax, Bette Otto-Bliesner, and Esther Brady, Christina Riesselman

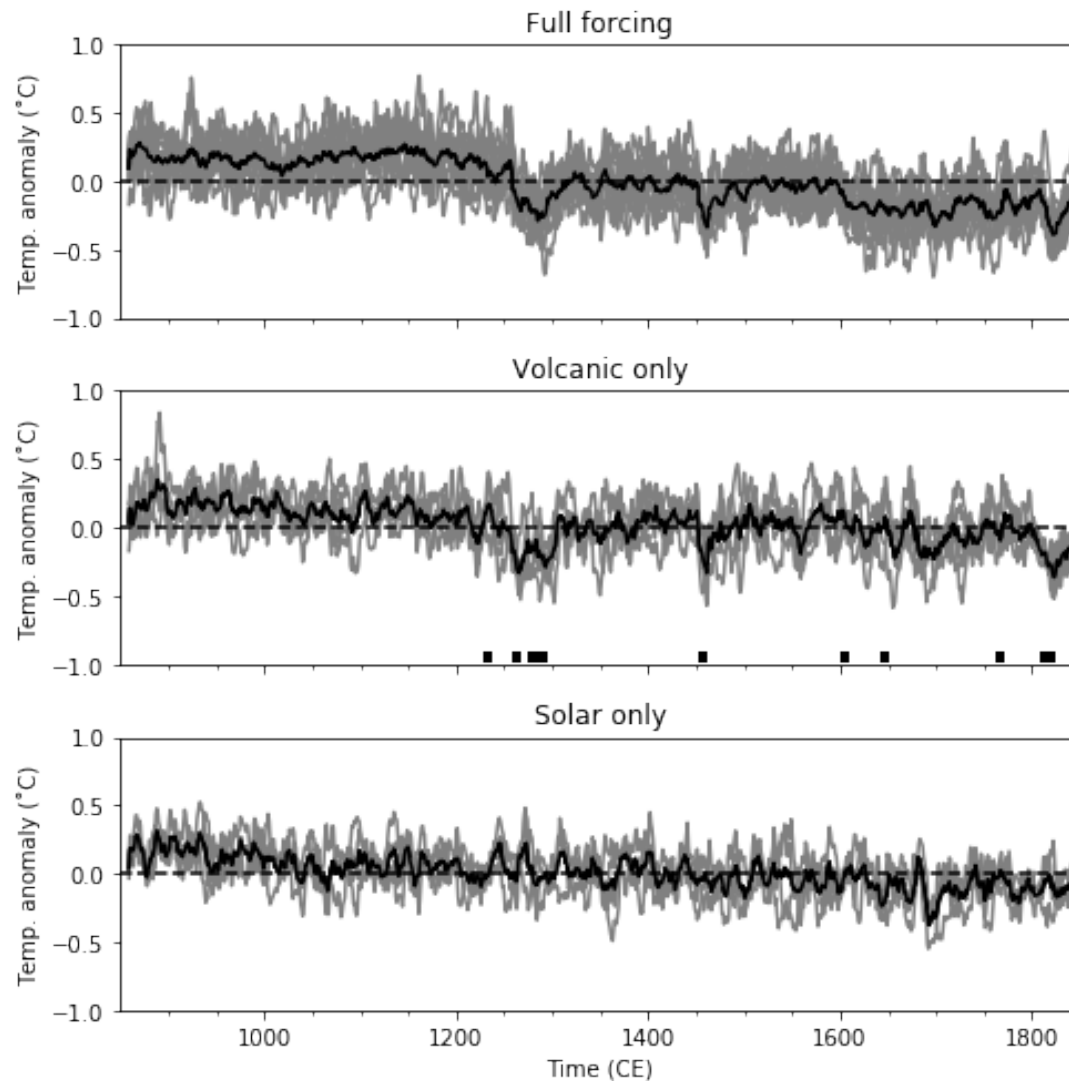
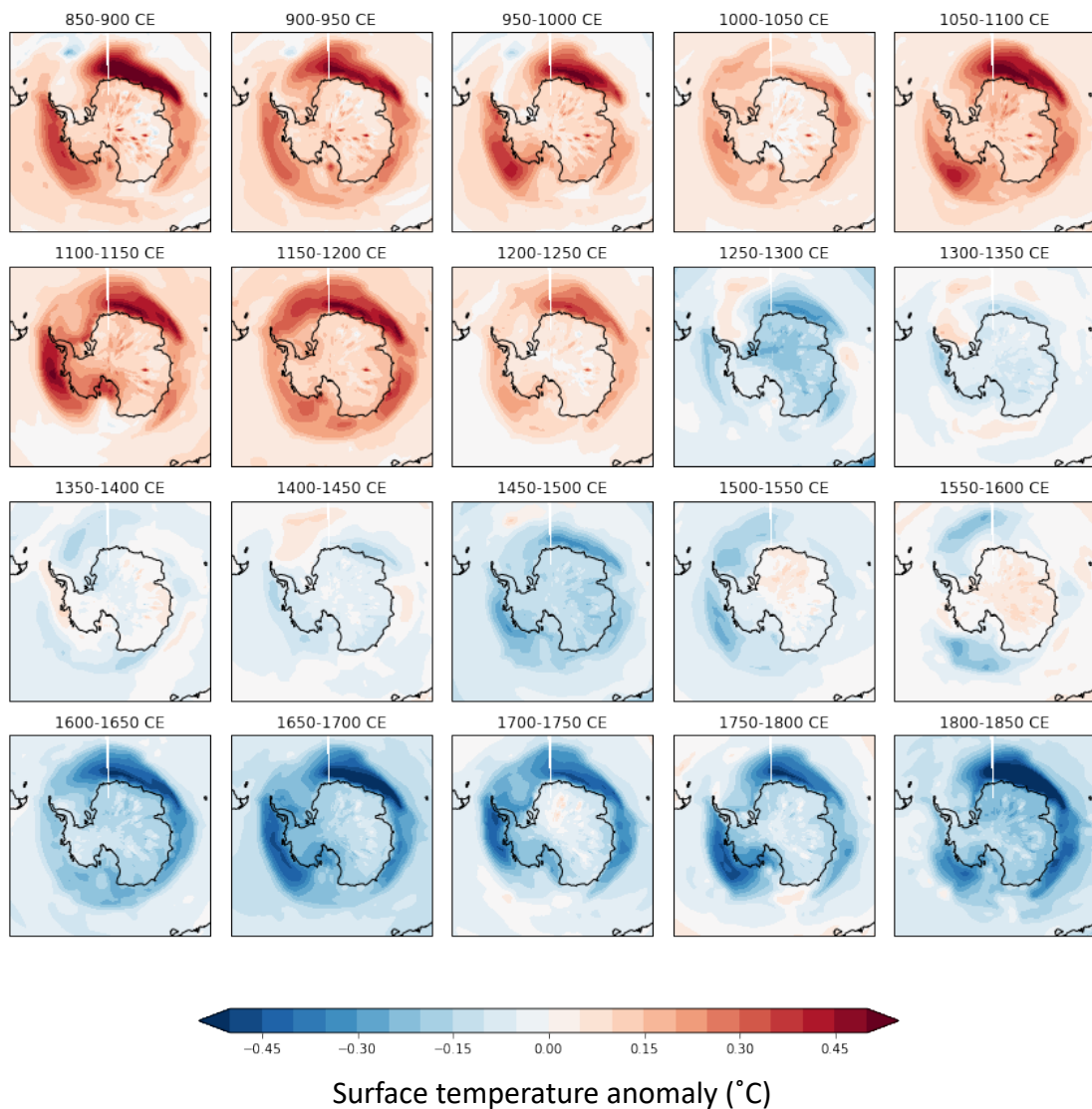


Otto-Bliesner et al., 2016

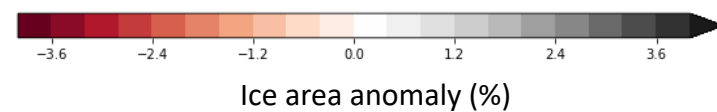
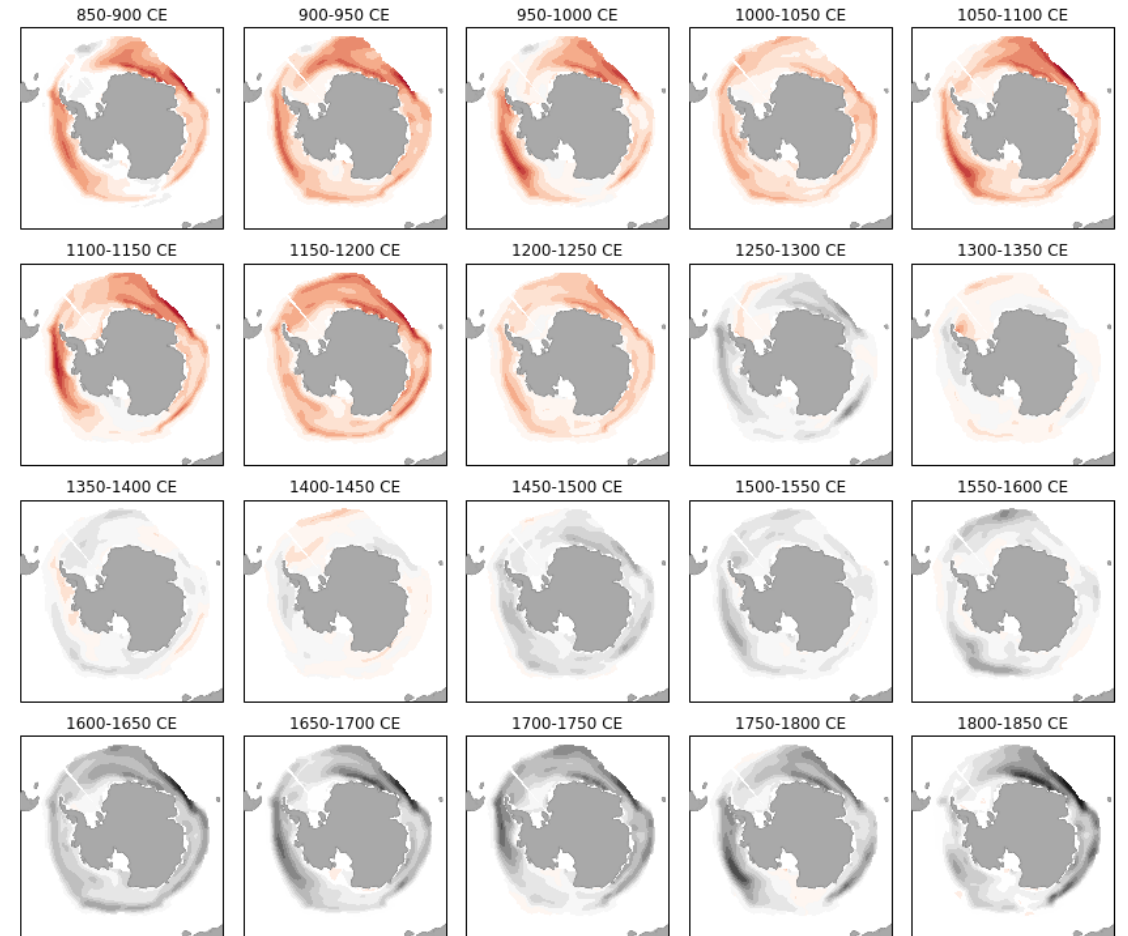
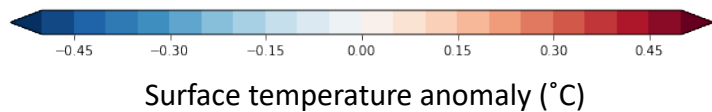
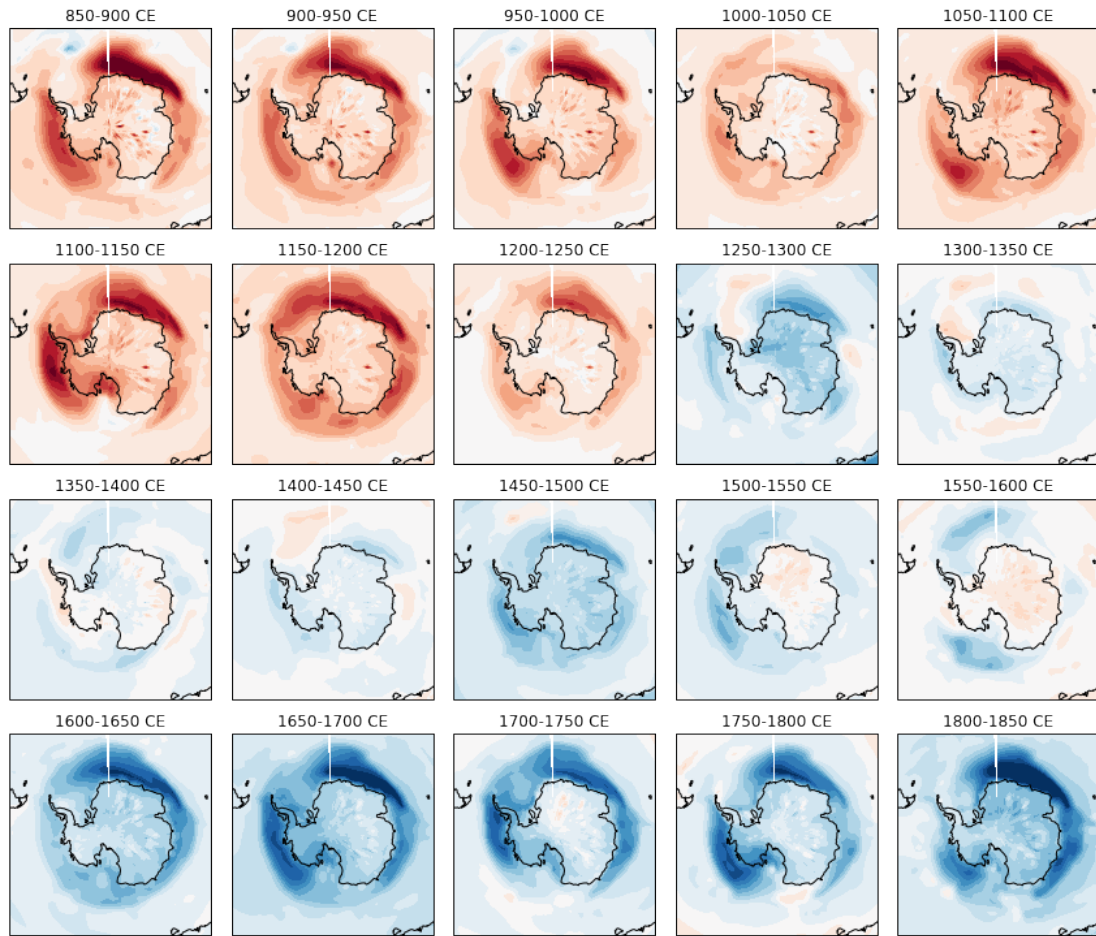


Stenni et al., 2017

Consistent with estimates from ice core reconstructions, the LME simulates $\sim 0.5^{\circ}\text{C}$ of cooling in the southern high latitudes over the last millennium

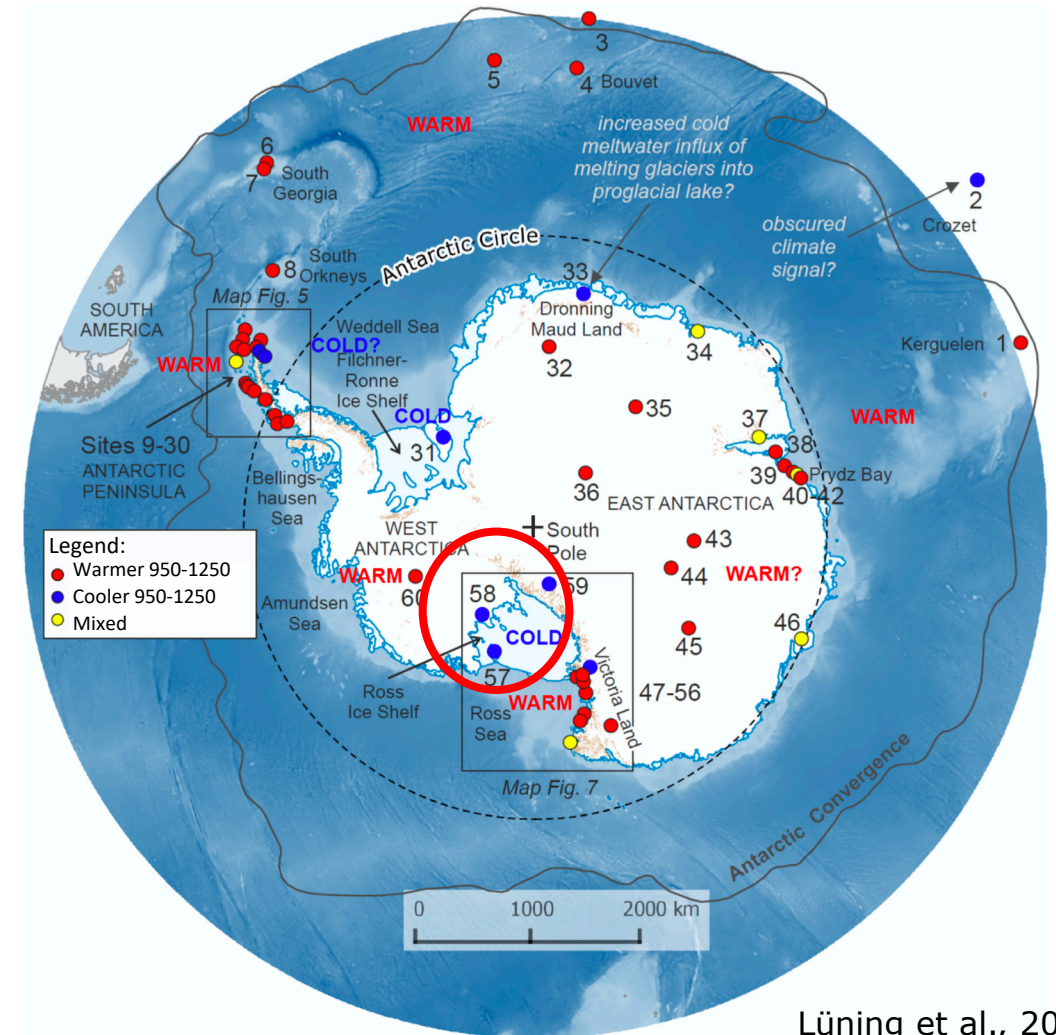
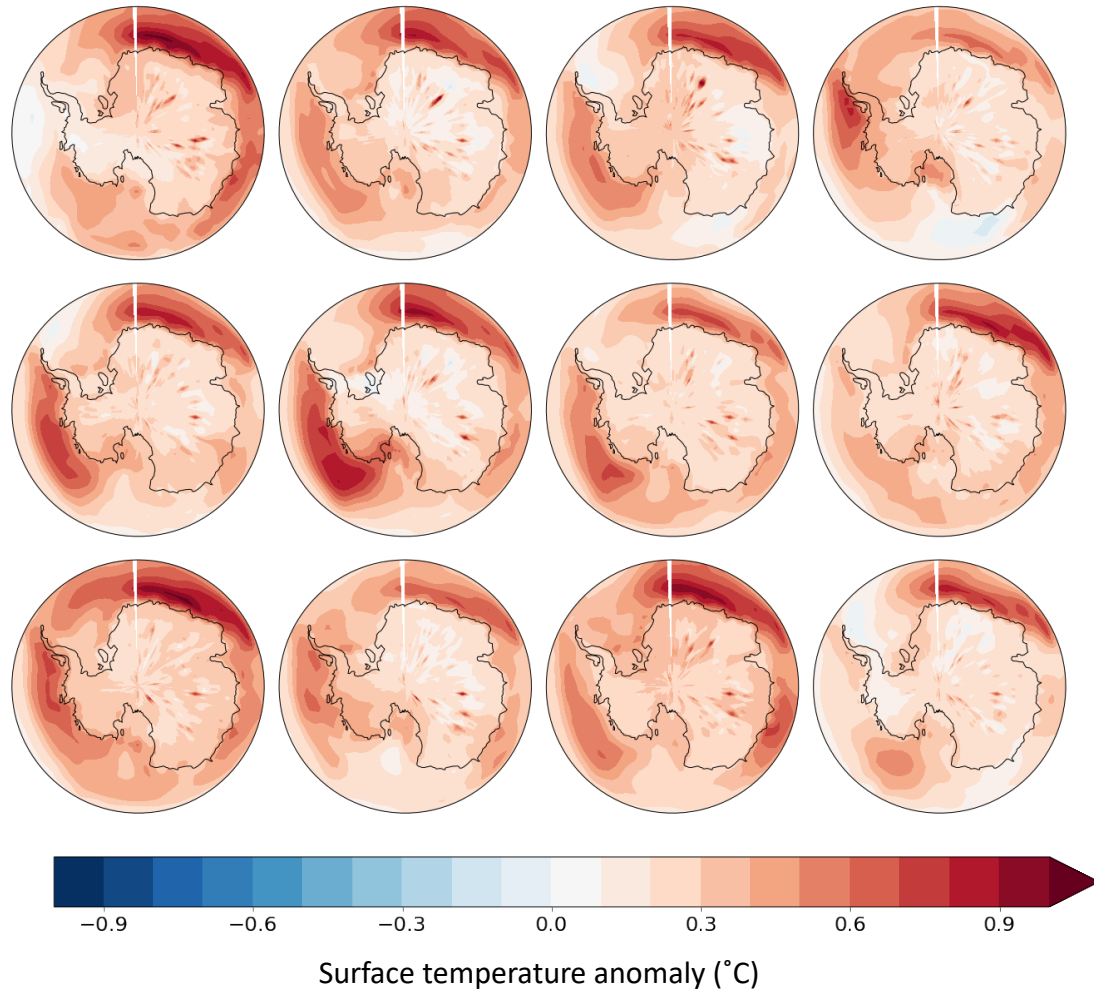


Cooling is greatest over areas of the Southern Ocean with largest increases in sea ice area – sea ice-ocean feedback mechanism

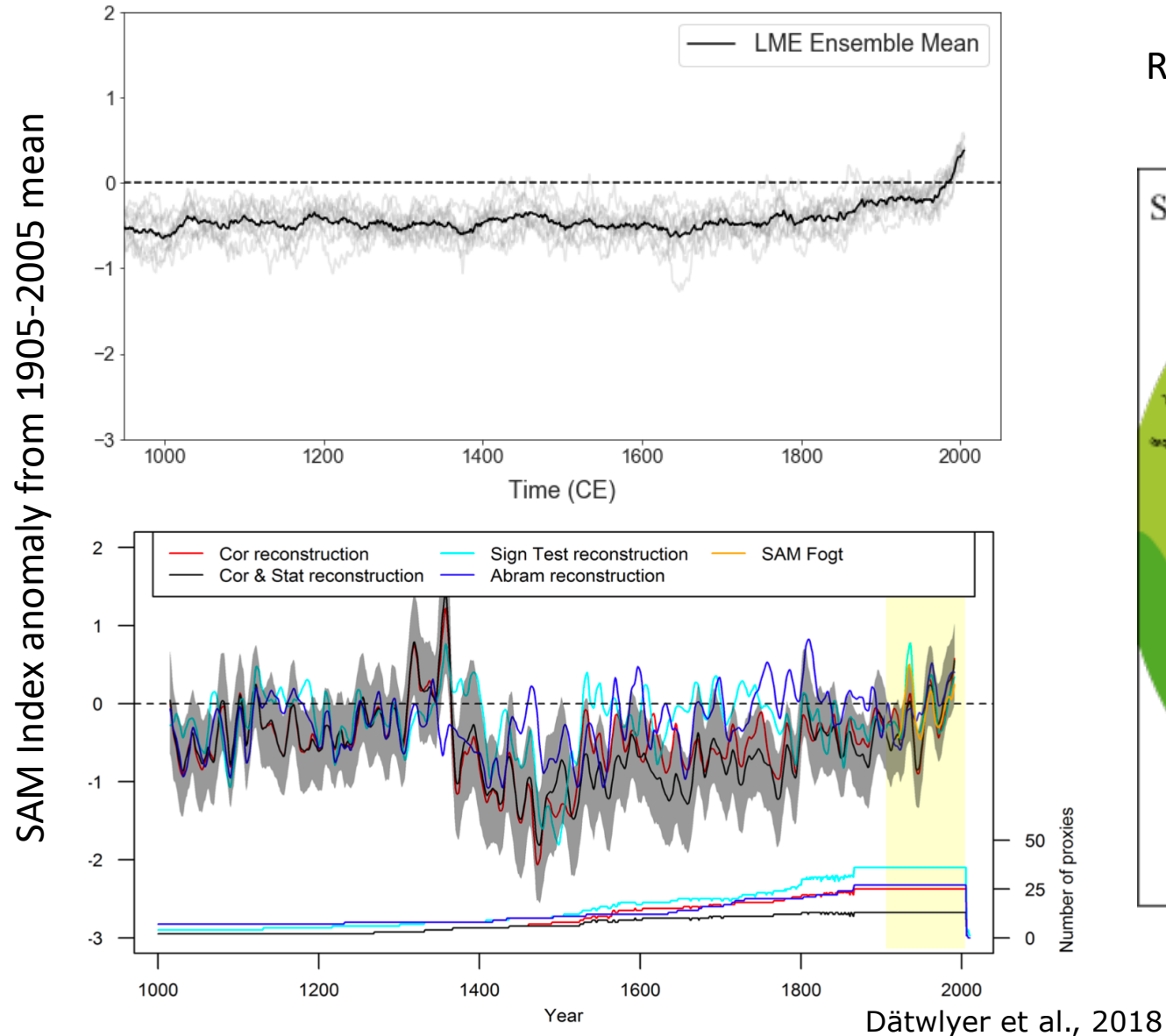


The LME does not simulate the regional heterogeneity in temperature inferred from proxy records

LME full forcing simulations
MCA (950 – 1250) – LIA (1450-1850)



Potential role of multi-centennial trends in the Southern Annular Mode?



Regression between the surface air and the SAM index for the averaged over JJA from 1980-1999

