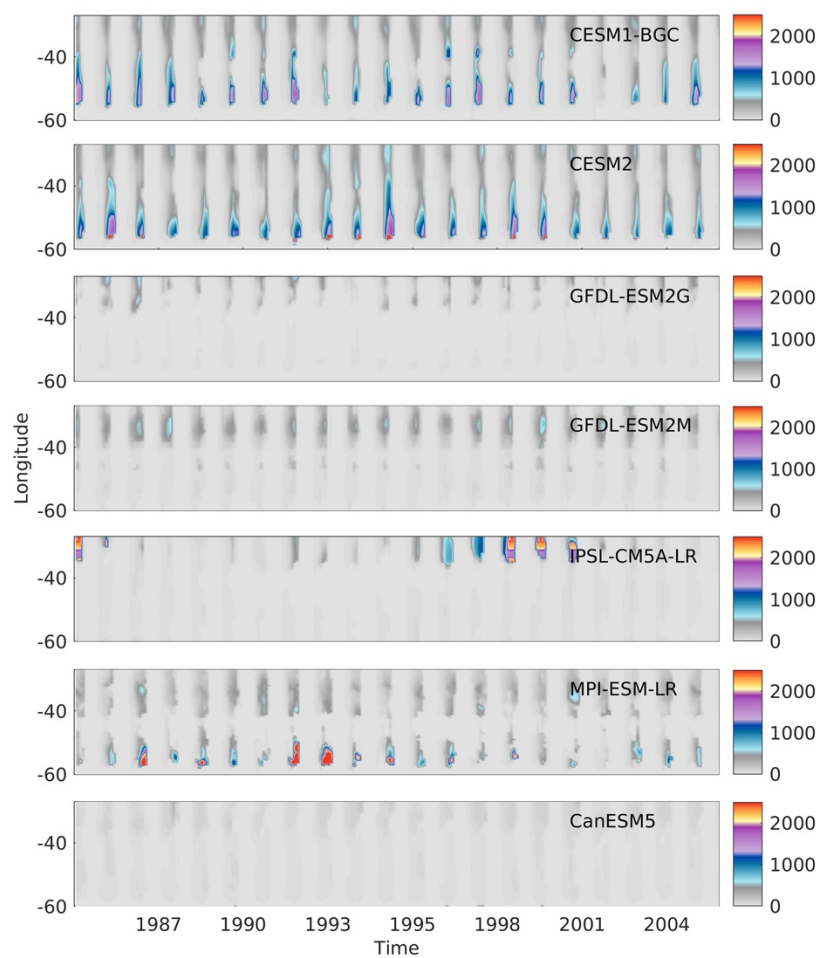
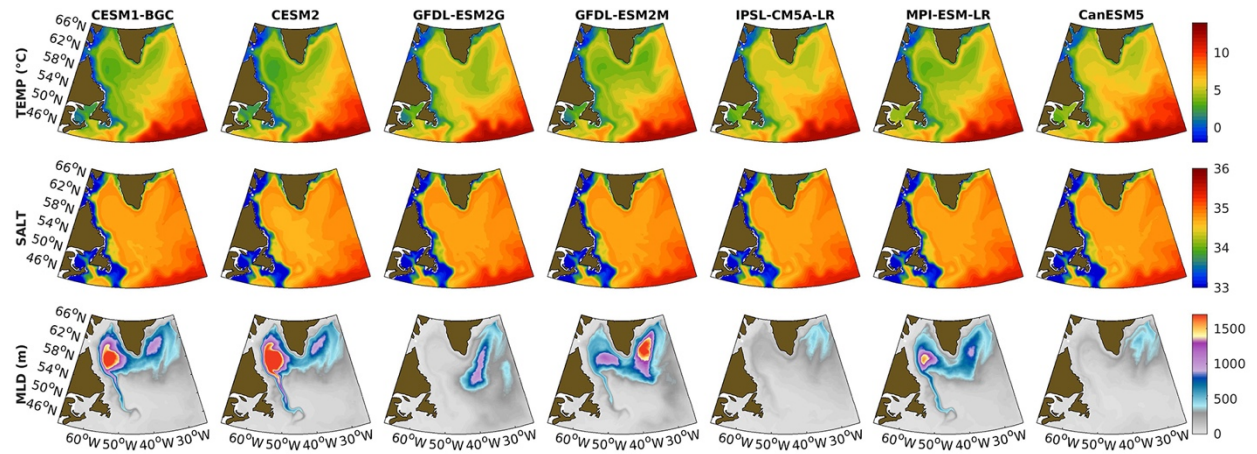


Supplementary Material for
Drivers of coupled climate model biases in representing Labrador Sea
convection

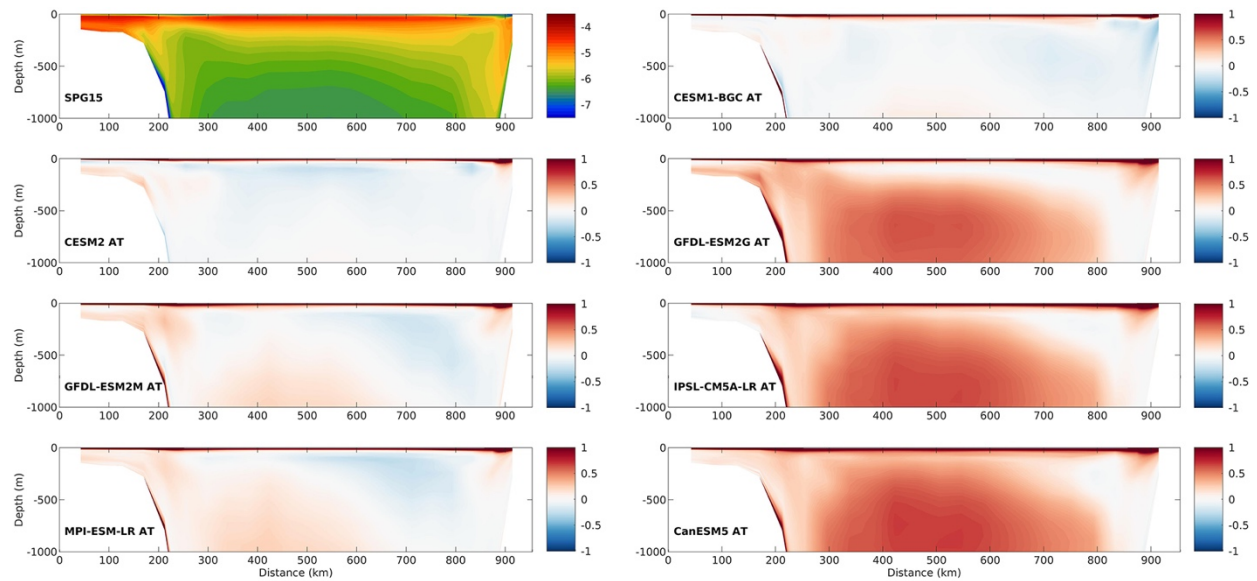
Guangpeng Liu, Filippas Tagklis, Takamitsu Ito, Annalisa Bracco



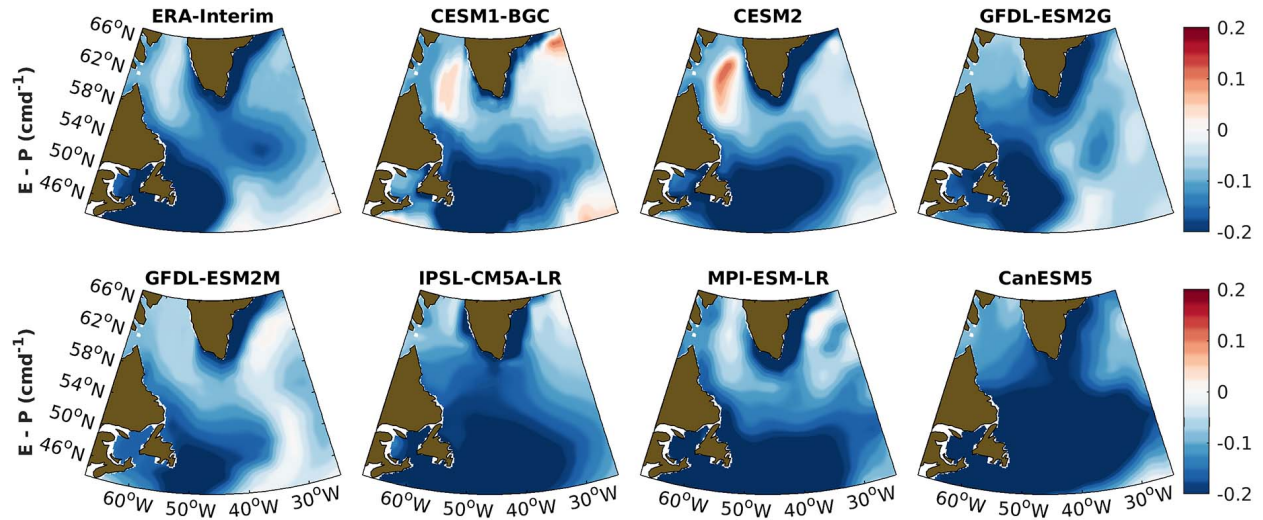
Suppl. Mat. Figure 1 Hovmöller diagrams of MLD at 58° N in the ESMs over the 1985-2005 period.



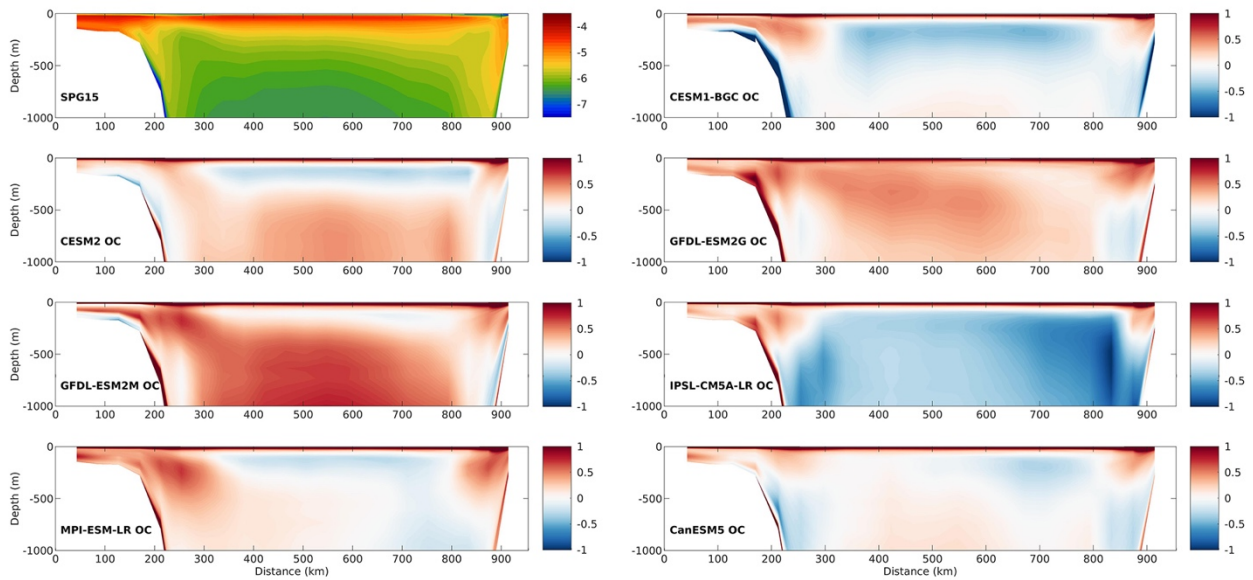
Suppl. Mat. Figure 2 From top to bottom: Upper 700 m yearly climatology (1985-2005) for temperature (top), salinity (middle) in the upper 700 m of the water column, and convective season MLD (bottom) climatology in the seven AT integrations.



Suppl. Mat. Figure 3 Brunt-Väisälä frequency of SPG15 (logscale, $1/s^2$) and the bias in the AT simulations with respect to SPG15 across the central Labrador Sea transect shown in Figure 1 of the main text.



Suppl. Mat. Figure 4 Annual climatology of the evaporation minus precipitation fluxes in ERA-Interim and the ESMs calculated over the 1985-2005 period



Suppl. Mat. Figure 5 Brunt-Väisälä frequency of SPG15 (logscale, unit: $1/s^2$) and the bias in the OC simulations with respect to SPG15 one across the central LS transect shown in Figure 1.