

1 Research question

When and to which extent did deep convection occur in the eastern Subpolar Gyre?

Changing spatial patterns of deep convection in the subpolar North Atlantic

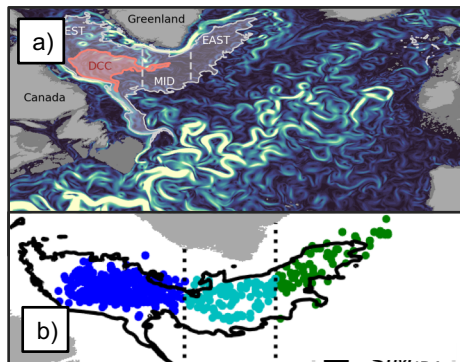
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currently under review for JGR: Oceans

2 Material & methods

Mixed layer depth (MLD) from eddy-rich ocean model simulations (VIKING20X) and ARGO data

Simulated surface speed (snapshot)

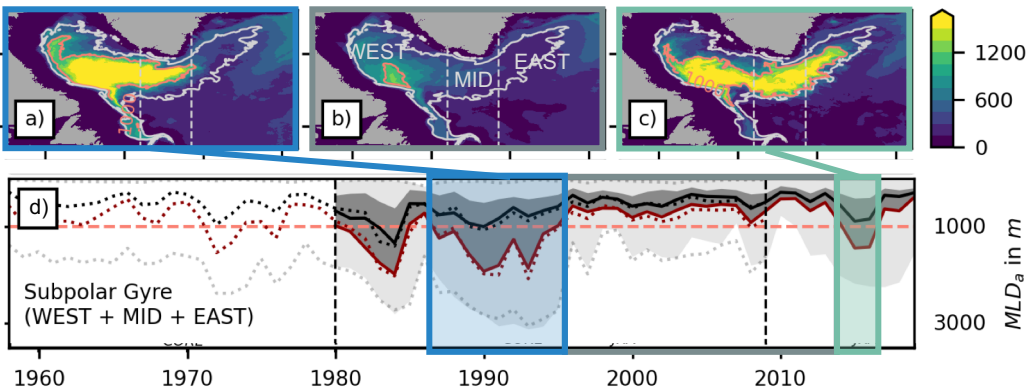


Simulated (line) & observed (dots)
MLD > 1000 m (2000-2019)

3 Key results

- Large variability of spatial deep convection patterns (1958-2019)
- In 2015-2018, unprecedented shift towards eastern Subpolar Gyre
- Shift linked to freshening trends (associated with Greenland melting?)

Mean simulated annual maximum MLD (MLD_a) in m



Temporal evolution of spatial MLD_a aggregates: median, upper quartile, range