



Team: SPGECCO

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We investigated the heat content in the subpolar gyre and its influences

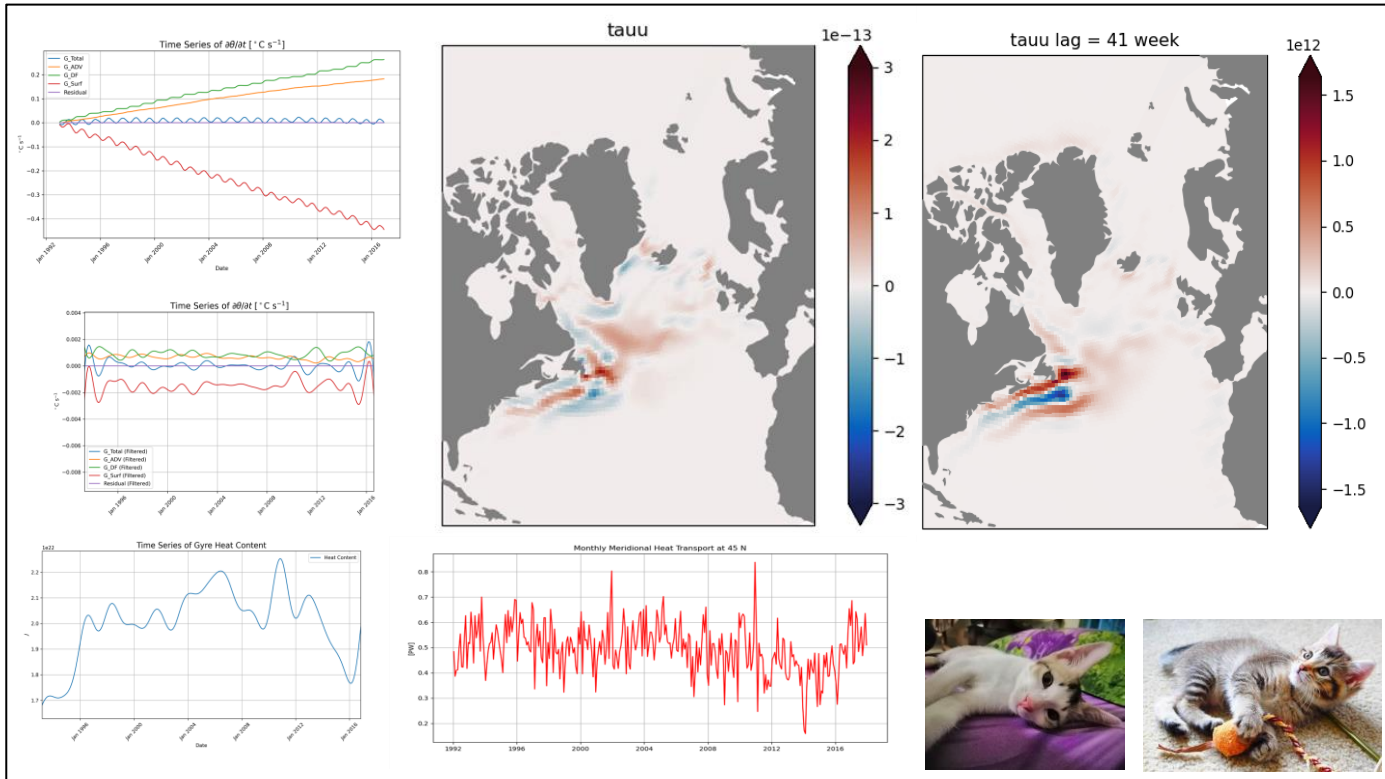


Accomplishments:

1. ID'd subpolar gyre.
2. Surface forcing is the largest contribution to heat budget
3. Heat content increased during 1993-2011 and decreased during 2011-16
4. Attribution to zonal wind stress **may** cause expansion of subtropical gyre.

Future Outlook:

1. More work is needed on long-term implications of anomalous events.
2. Correlation between the SPG and the poleward Ocean Heat Transport requires further investigations.

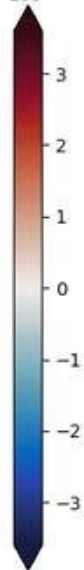


Adjoint sensitivity $\partial J/\partial(\text{ctrl})$

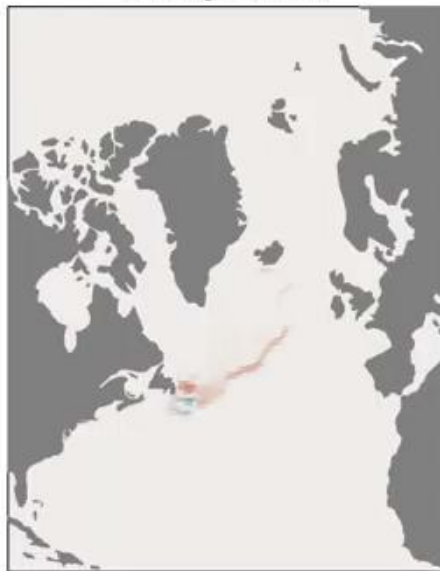
qnet lag = 1 week



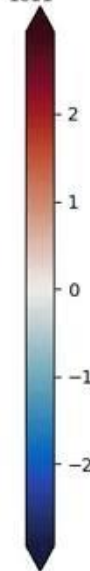
1e8



tauu lag = 2 week



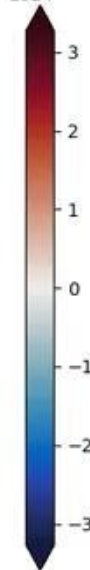
1e11



empmr lag = 1 week



1e14



Backward tracer

