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SO-WARM: Southern Ocean - extreme Warm event Analysis of dynamical Forcing and iMpacts

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Project Homepage:
https://github.com/ECCO-Summer-School/ESS25-Team_So-Warm

Objectives:

1.Investigate the drivers behind the strong February 2017 Marine Heatwave in the Southern Ocean

Methods - Data:

-ECCOV4r4 (1992-2017)
-Heat Budget (0-50m)
-Adjoint Model (Lag 18 months)
-EMU Convolution Tool

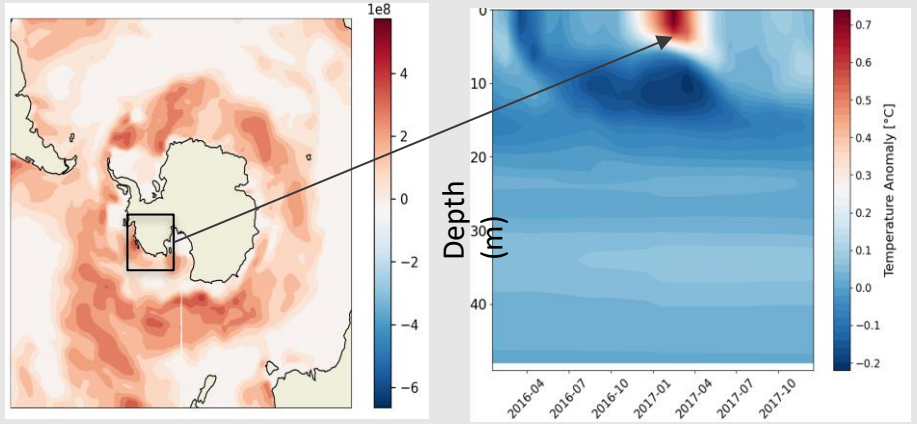
Challenges:

Processing ECCO V4r4 / EMU output

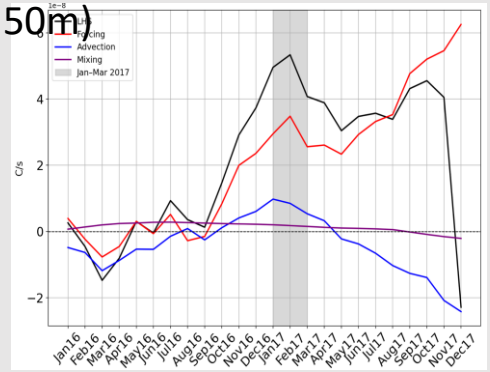
Future Work:

Did this event have an impact on the physics of the region?

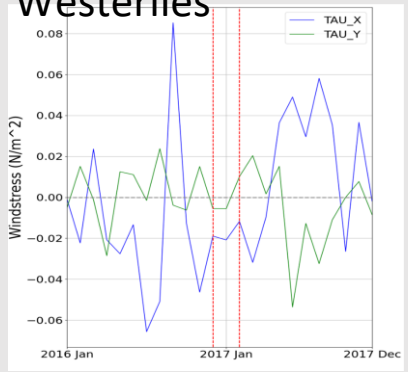
1.February 2017: Highest Anomalous Heat Content (0-50m) of 1992-2017



2. Atmosphere dominates local Heat Budget (0-50m)

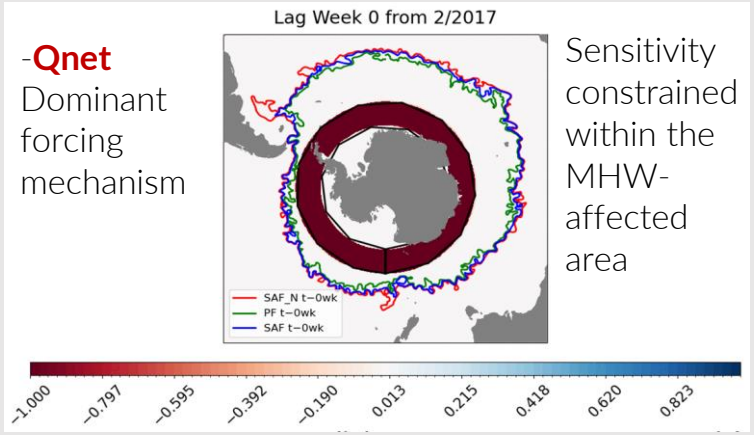


3) Weak Westerlies



3.Adjoint Tool: OBJ. Function temperature

-**Qnet** Dominant forcing mechanism



Sensitivity constrained within the MHW-affected area

4.Convolution: Qnet + Wind remote