

How are ocean eddies modulating air-sea-ice interactions ?

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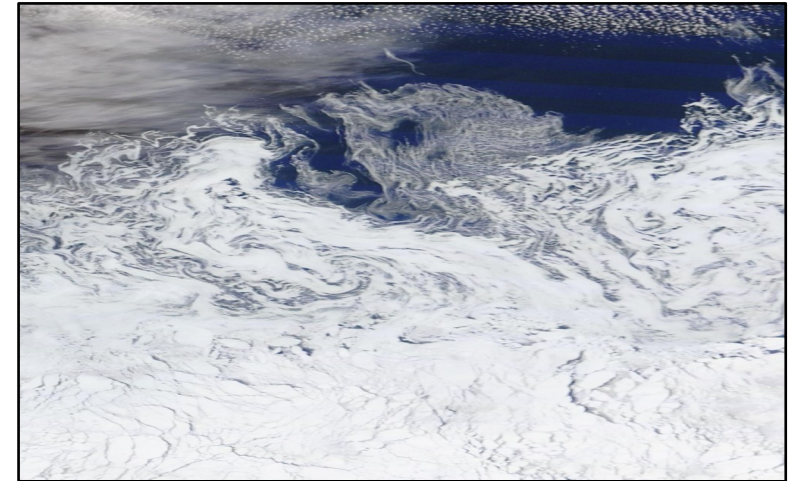
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What we did:

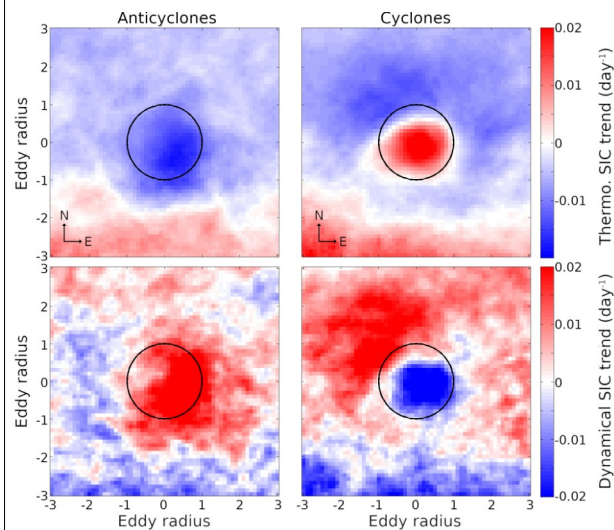
- one coupled air-sea-ice model of the Adélie sector:
2 km (NEMO-LIM) and 5 km (MAR) resolution.
- two experiments: with (REF) and without (SMOOTH)
modulation of air-sea-ice interactions by eddies.
(online smoothing of oceanic fields before exchange with atm. or sea ice)

Ongoing work !

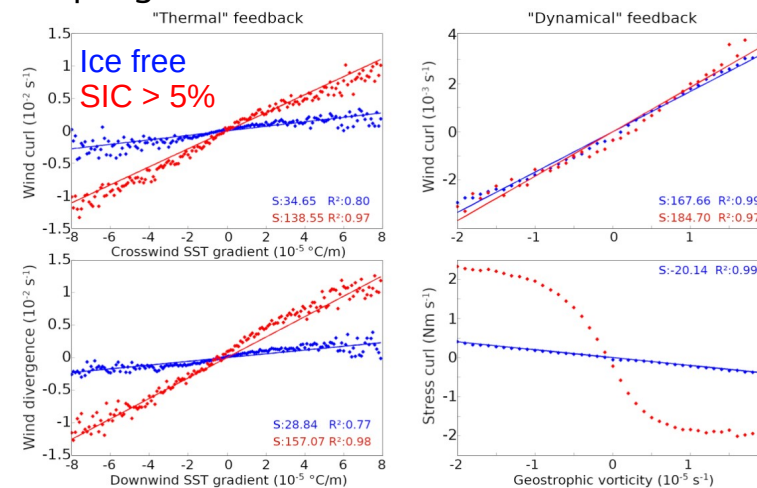
*Swirling sea ice in the →
Weddell Sea: imprint of
ocean eddies ?*



Imprint of eddies on sea ice:
eddies affect sea ice growth rates
and advection.

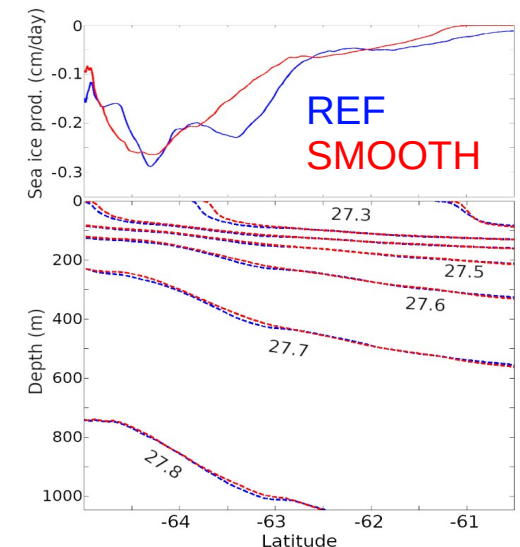


Mesoscale air-sea(-ice) coupling:
- thermal air-sea coupling is amplified in
presence of **sea ice** (not the dynamical coupling).
- strong mesoscale ocean-ice dynamical
coupling.



With eddies:

- larger offshore freshwater fluxes
- flattening of the isopycnals



Potential implications for: SO overturning, EKE budget of the ACC, heat/CO₂ storage ...