Fast Warming of the Surface Ocean Under a Climatological Scenario
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OBJECTIVE
Isolating the ocean dynamics from the atmosphere

Wind speed standard deviation

PROCEDURE:
- Companion experiments driven by fully varying or climatological winds
- Ocean model coupled to an atmospheric boundary layer model (cheapAML)
- Regional configuration of the North Atlantic at 1/4° of the MITgcm

Why do we use CheapAML?
- To relax the assumption of an infinite heat capacity for the atmosphere
- Avoid suppression of SST variability

SUMMARY
- Upper ocean vertical mixing associated with fast varying wind speeds maintains a realistic cooler surface ocean
- The use of artificial climatological wind has dramatic consequences often disregarded (usually damped by a prescribed atmosphere)
- An alternative strategy: ‘Normal’ year definition (minimizing low frequency atmospheric variability)