**TACE: Modelling Tropical Atlantic mesoscale field**
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**CLIVAR Questions:**
→ What explains the annual cycle of the AMI?
    How is the interannual variability of the AMI connected to the interannual variability of the tropical SST?

**Overall Hypothesis:**
**Nonlinear ocean dynamics, frontal processes and the details of coastal upwelling along the African coast are essential features of TAV and need to be resolved to reproduce and realistically simulate the variability of the AMI from seasonal to decadal time-scales.**

Previous studies by Jochum and Malanotte-Rizzoli show that resolving the mesoscale field is crucial to correctly reproduce the SST seasonal cycle.

**Approach:**
Numerical simulations with coupled ocean-atmospheric models.

→ **Complex OGCM in eddy-resolving configuration** (Reduced gravity, primitive equation, sigma-coordinate model of Gent and Cane with oceanic mixed layer coupled to atmospheric boundary layer model for interactive heat flux computations.)

→ **Simple atmospheric model of Lindzen and Nigam** (Shallow water model evaluating surface winds based on SST distribution, radiative heating and friction.)

**Strategy:**

1. Control run:  coupled models with ¼° resolution.
2. Coarse resolution ocean forced by climatological winds
3. High resolution ocean forced by climatological winds
4. High resolution ocean coupled to coarse resolution atmosphere