TASKS/QUESTIONS

1- What controls the evolution of oceanic mesoscale eddies and how do they interact with oceanic mean structure?

2- What is the impact of submesoscale and mesoscale oceanic structures on the interaction between the oceanic and atmospheric boundary layers?

3- How does the oceanic mesoscale variability influence atmospheric shallow convection on the regional scale?

4- Understanding sub-mesoscale processes in mesoscale features (e.g. processes that drive mixing).

5- How do eddies influence pCO2 and air-sea gas exchange?

6- Spatial and temporal variability of biogeochemical processes and key players

7- Can we close mixed layer heat budget?

8- What are the diurnal processes influencing sea surface temperature/heat fluxes?

9- What is the role of freshwater lenses on turbulent mixing?

10- Can we quantify momentum fluxes between ocean and atmosphere?

ACTIONS

A- Identify eddies based on sea surface height (and then (L)ADCP)

B- Two ships working on same eddy (in case of 3rd and/or 4th ship being granted)
   a. One ship synoptical study, one deep profiling

C- pCO2 measurement on one ship, possibly more or all?

D- Relate pCO2 to primary production, O2/Ar underway measurements and connect pCO2 measurements to pumpCTD profiling

E- Integration of temperature, velocities and other parameters (horizontal advection) with gliders/autonaut (mixed layer budgets)