Ocean Observations Breakout

- What themes organize ocean observations?
  - What is the best way to challenge the models?
    - » identify processes that we think are not well modeled
  - Integral budget closure
  - Remote sensing calibration
  - Initialization research for ocean component of coupled models
  - Coastal impacts measurement to compare with models
  - Developing new/better end-user tools

process foci

- nonlocal transport/large eddies (coherent structures) and shear in surface layer
  - high horizontal resolution (AUVs)
- surface waves frequency-direction spectrum
    - Stokes drift
    - wave-generated TKE
- momentum flux and TKE fluxes
- shear instability at base of mixed layer
    - time scale for setup
    - solo floats with dissipation measurements
    - need to sort out horizontal advection contributions, in the presence of oceanic mesoscale features
    - ADV pulsed for shear and turbulence
- near-inertial resonant forcing and spatial variability (incl. role of advection)
- spatial variation of ocean response to hurricane

observing needs

- detailed surface windstress (or winds if we know the height and other related info)
  - more aircraft measurements
  - plus ocean-based wind measurements (acoustic)
  - dynamic pressure measurement from surfacing instruments
- data management (QC,QA)
- logistical support organization/local capacity
  - recovery of non-expendable instruments
  - fast response deployments
  - sensor development/repair
  - technical support
- adaptive sampling for floats and other AUVs

observing needs

- selective redundancy of instrumentation
  - or rapid response replacement by aircraft or fast boat
- determine surface mixed layer
  - from aircraft
  - through data assimilation
- XCP that can measure salinity
- Coordination with NOAA for aircraft work
- TKE profiles
  - wave-breaking contributions and bubble damping