Oceanographic Observations During VOCALS, Leg 1

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Why are we looking for eddies in the STRATUS region?



- 1-D balance does not explain observations.
- Input of cold and fresh water is required to close the budget.
- Upwelling region along the Chilean/Peruvian coast is a likely source of eddies for the STRATUS region.
- But, we don't know much about the properties of these eddies...

Source: Bob Weller (unpublished)

Mesoscale features as seen from satellite altimetry and the *R.H. Brown*'s current profiling system



- Found several cyclonic features along 20°S
- Diameter of O(200 km)

Hydrographic and velocity structure of mesoscale features



Scales:

- 150-200 m deep
- 30-50 cm/s
- Weak surface T/S signal





Mean Atmospheric Forcing at STRATUS/DART





WHOI Stratus buoy 2007 Mean wspd 6.6 m s⁻¹ Mean incoming swr 205.7 W m⁻² Mean incoming lwr 371.8 W m⁻² Mean sst 20.09°C Mean at 18.97°C DART buoy 2007 Mean wspd 5.4 m s⁻¹ Mean incoming swr 178.2 W m⁻² Mean incoming lwr 378.5 W m⁻²