SIO219b - Collaborative Analysis

Winter Quarter 2015
Class Meetings: Wednesdays 1pm-3pm PST

This course is offered as a continuation of the work completed by students in the Fall 2014 section of SIO219 - Experiment Design and Proposal Writing. Having successfully designed, proposed, and executed an experiment aboard the R/V Robert Gordon Sproul, students will use the data collected to address the scientific questions posed in the original proposal. During the first 6 weeks of the course, each student will be responsible for processing and providing preliminary analyses of a portion of the raw data. The class will meet weekly to share individual work with the group, discuss and collaborate on any problems encountered, and discuss scientific analysis goals. In the final four weeks of class, the students will focus on data analysis, with the goal of submitting a note to Geophysical Research Letters at the culmination of the writing phase of the course to be taught in Spring quarter.

The following questions from the proposal completed in SIO219a will be addressed over the course of the quarter:

1. What is the incoming internal wave energy flux to the La Jolla canyon? How does this flux change along the axis of the canyon?
2. How much energy dissipates within the canyon? Where does that dissipation occur?
3. Do we observe nonlinear processes that enhance dissipation and potentially transport heat and mass?

Week 1: Processing Shipboard meteorological and underway data; locating, obtaining and using local datasets
Week 2: Set-up and Processing of Shipboard and bottom-mounted ADCP data
Week 3: Processing Shipboard and WireWalker CTD data (Processing transmissivity, chlorophyll fluorescence, and oxygen)
Week 4: Processing Lowered ADCP
Week 5: Processing Chi-Pod data
Week 6: Re-cap week
Week 7: addressing Question 1 - Energy Flux
Week 8: addressing Question 2 - Dissipation
Week 9: addressing Question 3 - Nonlinear Processes/Biological signatures?
Week 10: Wrap up