Marine Sedimentary Processes:
Elwha River Dam Removal Impacts

Research Apprenticeship at Friday Harbor Laboratories (FHL)

Spring Quarter, March 29 - June 4, 2010 (10 weeks)

Oceanography 492 (15 credits)

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Dam removal projects are becoming an increasingly popular way to restore the habitats of depleted fisheries and river ecosystems. Rivers are the major source of sediment to the ocean, and dams act to block this sediment from reaching the nearshore, potentially causing beach erosion and loss of marine habitat. But we do not understand the full range of effects our “restoration” will have. For example, what will happen when the impounded sediment is free to flow downstream into the ocean? Will the sediment behave as a benefit by nourishing local beaches or a hindrance through the burial of critical habitats?

This research apprenticeship focuses on designing and performing baseline studies prior to dam removal on the Elwha River. Students will evaluate the impacts of the existing dams on the nearshore environment, as well as the impacts of dam removal.

Apprentices will:

- participate in an oceanographic research cruise to the Elwha River mouth and collect data for their research project.
- have the opportunity to design and conduct laboratory experiments.
- take weekly field trips to a range of environments from the source region of the Elwha River (Olympic Mountains) to coastal sedimentary environments (e.g., local tidal flats and the Skagit River delta).

Students will gain an understanding of the range of sedimentary processes that occur near river mouths throughout the Pacific NW. This knowledge allows scientists to predict hazardous material transport, shoreline erosion and accretion, and changes in seabed habitats due to dam installation and removal. The apprentices will gain knowledge and skills that will prepare them for graduate programs or to become the scientists and managers in charge of decision-making in future projects.

How to Apply: http://depts.washington.edu/fhl/

fhladmin@u.washington.edu (206) 616-0753

Financial support is available. Please contact FHL labs for more information.