

Climate Change Research Position

Organization/Agency: Joanna Nelson, ENVS doctoral student Date: 9 October, 2008
Supervisor/Sponsor: Dr. Erika Zavaleta Supervisor/Sponsor title: Asst. Professor, ENVS dept.
Address: ENVS dept., 1156 High Street, Santa Cruz, CA 95064 Email: jolektra@ucsc.edu
Phone: 831-454-6893 Fax: 831-459-4015 Website: _____
of interns needed/Hours Needed for quarters: Options (choose one)
worked per intern: X Fall X Winter Remove your listing by _____
1 intern/ 12 hrs/wk X Spring X Summer X Or keep on file for one year

Describe the internship assignment:

Agency: I am an Environmental Studies doctoral student studying climate change, nutrient cycling, and biodiversity at the land-sea interface. My research examines the potential interactions between sea-level rise and nitrogen loading – as human activity changes the nitrogen cycle dramatically – on salt marsh habitats in Elkhorn Slough. Salt marshes have been identified as a “coastal filter,” performing the ecosystem service of uptake and transformation of the excess nutrients which can lead to eutrophication in coastal waters, and sea-level rise directly affects the distribution of marshes. I am using approaches from biogeochemistry and community ecology to investigate salt marsh dynamics and implications for conservation and forecasting ecosystem services. I study with Erika Zavaleta in the Environmental Studies Department.

Role of the intern: This internship will provide students with the opportunity to learn and conduct salt marsh plant identification, ecological field work, and methods of gas analysis and water sampling related to water quality and microbial activity: these skills are a part of an estuarine ecology project examining directional change and the functions of salt marsh in filtering water for improved coastal water quality. The internship begins in Fall 2008, and there is a possibility to extend the internship to winter, spring and summer quarters, either with a modest stipend or as a springboard to a senior honors project. Major tasks include: FIELD: tromping around salt marsh; harvesting plant samples; deploying benthic flux chambers; taking water samples with attention to detail. LAB: sorting, drying, and grinding plant samples for analysis; preparing and analyzing water and gas samples. Note: I care about student learning – I have taught for 20 years in academic and wilderness/experiential education – and while you and I may work independently due to schedules, I have no intention of sticking you with the grunt work; we’ll both participate in the fun and the tedium of science.

Summary: Assist with fieldwork and lab work ~ 12 hours/week, in the Elkhorn Slough National Estuarine Research Reserve (near Moss Landing, California, about 30 miles south of campus) and at UCSC.

Prerequisites Biggest prereqs: thoughtfulness, motivation, and ability to learn and create.

Prefer: Coursework in ecology; ability to think critically and write well (I will ask for a writing sample); able to wade in knee-high – and, at times, chest-high – water in Elkhorn Slough; able to carry 20 lbs. routinely in the field and up to 45 lbs. infrequently; awareness of boating safety; kid-friendly; friendly in general; tolerance for, or enjoyment of, mud, algae, and marsh.