DGE Newsletter, March 2005

SEMINARS

Mar. 1 (Tues.) - Deborah Clark, Department of Biology, University of Missouri-St. Louis
Title: Tropical Forests and the Changing Global C Cycle: Recent paradigm shifts, major data gaps, & an agenda for moving forward.
Deborah and her husband David Clark are Scientists in Residence at the tropical LaSelva Research Station in Costa Rica. See <www.fiu.edu/~carbono/>. She presented results of on-going, long-term studies of the effects of temperature increases on the growth and death of forest trees. Results so far indicate that global warming could cause serious distruction of this tropical ecosystem.

Mar. 2 (Wed.) - Michel Loreau, Ecole Normale Superieure and Pierre and Marie Curie University, Paris
Title: Biodiversity & Ecosystem Functioning: Linking Theory & Experiments.
Current extinction rates are 100 times higher than natural background rates. Dr. Loreau made the case for quantifying these losses in various ecosystems with the goal of trying to reduce them.

Mar. 9 (Wed) - Karl Turekian, Yale University
Cosmogenic S-35 in the atmosphere and the fate of sulfur species. Karl described how the measurement of sulfur and lead isotopes in the atmosphere can lead to identification of the sources of aerosols and dust far from where they originated.

Field Lab Meetings

March 4: Discussion continued around the Scientific Publishing business, especially questions of legality and priority in on-line publishing of preprints and/or completed papers.
Yuka Estrada brought the tasting. She first made a batch of salsa according to her husband's recipe, divided it into five equal parts, and added a measured amount of a different hot pepper species to each part. Chips were used to dip into the different pepper salsas, and yogurt was provided for those who needed to cool their palates. We learned that capsicum, the active ingredient in peppers, is fat-soluble which explains why milk or beer is a better chaser than water.

ALUMNI NEWS

On March 7, Lydia Olander informally answered questions about AAAS Science and Technology Policy fellowships and what her current work involves. After receiving her PhD with Peter Vitousek, she worked in Asner's lab until last fall, and is spending this year as a AAAS Congressional fellow working with Senator Lieberman on environmental issues including climate change, energy, clean air, and national parks.

Asner Lab News

Attached is my account of the Carnegie-Stanford AVIRIS-05 flight campaign in Hawaii. This was a phenomenal period of effort -- from field studies across the islands to extensive laboratory work to aircraft operations, and with many challenges overcome, especially clouds. We worked as a team across agencies, from private to state to federal, to get this job done and to get several new collaborations underway using the unique remote sensing data provided by AVIRIS. With the in-kind contribution from John Arveson of Cirrus Digital Systems, we also acquired extremely high spatial resolution photography, in concert with the AVIRIS spectroscopy data. From my viewpoint having used many types of airborne and space-based sensors, I cannot think of a more powerful combination than the highest performance imaging spectrometer available today and a very high spatial resolution camera. This is a ground-breaking event in ecological remote sensing and conservation/invasive species research.

The flight plan was highly complex, spanning an enormous range of ecosystems spread over many miles of terrain across islands. My sincere thanks goes to Michael Eastwood, the AVIRIS flight coordinator and engineer, for his incredible, totally spirited effort and leadership of the AVIRIS and aircraft crews in Hawaii. I hope you enjoy the slides. From science and conservation points of view, I really know we are just getting started now that we have this
imagery. In the months ahead, my group will be busy analyzing it and collaborating much further with all the key people involved. I am thrilled. From Volcano, Hawaii--Greg

March 24-27, Chris and four members of his group drove to and camped near Death Valley in the Department Van. It has been an unusually wet year and the photos we saw at the Lab Meeting on April 1 were spectacular.

Chris Field traveled to Cairns, Australia on March 12 to attend a meeting of the IPCC for about a week.

**Outreach**

**March 9: Chris Field** and **Stephen Schneider** represented the Stanford faculty on an expert panel to discuss the film screening of part two of a National Geographic series called *Strange Days on Planet Earth*. This episode, *The One Degree Factor*, is about climate change. This was the second of four in the series which will be premiering on PBS April 20, 2005.

Chris Field is teaching a Freshman course for eight students on *Climate Change: Drivers, Impacts & Solutions*. The Course meets twice a week for two hrs each time during Winter Quarter.

David Lobell is leading a Graduate Seminar on *Ecosystem Modeling* for six students during Winter Quarter. The Course meets for two hours on Mondays. David also recently received an **EPA Star Fellowship** to continue to support his graduate work. This month he accepted a 3-year Post Doc. Fellowship to work at the Lawrence Livermore National Laboratory on land use and climate modeling. He expects to begin sometime this summer after he defends his Thesis in May.

On March 29-30, Asner gave a presentation before the World Bank on selective logging and deforestation, and on March 31, he appeared before the US Senate sub-committee hearings on satellite monitoring of tropical regions.

**Berry Lab News**

**March 16: Joe Berry** and **Larry Giles** flew to South Africa to install some new instrumentation. We hope to learn more in a couple of weeks.

**Visitors**

**Barry Osmond** from the Australian National University in Canberra visited **Joe Berry** on March 9. On the same day **Govindjee** from the Univ. of Illinois also visited the Grossman lab. and gave a noontime lecture on the history of photosynthesis (from his viewpoint). Both men have spent considerable time at Carnegie's Dept. of Plant Biology over many years.

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