

## NREL NEWS NOTES

*NATURAL RESOURCE ECOLOGY LABORATORY*  
*Colorado State University*

*No. 6 May 1994*

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### **Announcements**

Bill Parton was a panelist for the Symposium on Sustainable Development in Colorado held in Boulder on April 13.

A promotion to Senior Research Scientist was approved for Kathy Galvin by the State Board of Agriculture at their May 4th meeting. Kathy's promotion will be effective July 1, 1994.

Jeff Welker will be serving on Andrea Rayte's Master's thesis committee in RES where she is studying alpine tundra responses to disturbance in RMNP.

David Valentine, Bill Pulliam and Paul Bacalis spent April 6-25 in the Valentine, Nebraska area to establish field experiments on CH<sub>4</sub> and CO<sub>2</sub> flux in marshes in the Nebraska sandhills.

A recommendation for tenure and promotion to Associate Professor for Indy Burke has been forwarded by the Provost to the State Board of Agriculture.

Bob Niles and Mark Easter spent April 11-15 at the University of California, Riverside sampling field plots for the USDA citrus agroecosystem project.

Jeff Welker gave a guest lecture titled "Arctic Grazing Systems" on April 11 to Dave Swift's RES course.

### **Meetings**

Chuluun Togtohyn was invited to a BLM Summit Meeting of Managers in Incline Village, Nevada, April 26-28. He spoke on "Comparison of the Mongolian Steppe and Northern Mixed Prairie."

The CPER-LTER held two retreats recently to discuss current important topics. Both retreats were

held on campus and were attended by over 25 scientists, graduate students, and technicians. The first retreat, held Feb. 25, was a continuation of the meeting from last fall where they discussed the conceptual framework for the CPER-LTER. Progress was made in defining and synthesizing the important parts of the conceptual framework. The second retreat, held March 4, included presentations and discussions of research topics to be included in the LTER Augmentation proposal due May 1. As a result of this retreat, a proposal is being submitted to NSF that focuses on the CPER and northeastern Colorado, and includes human dimensions, atmosphere-biosphere interactions, regional ecosystem processes, and holocene soil and climate reconstruction.

Tim Kittel was invited to present an overview of the VEMAP integrated climate database and climate change scenarios at the USDA Forest Service Global Change Research Program workshop on Climate Scenarios, held at the TERRA Lab in Fort Collins, Jan. 19.

The LTER Network Office sponsored a meeting at NREL on April 15-1 to discuss LTER Long - Term Decomposition Study: Modeling Results and to work on a paper that describes modeling of the LIDET decomposition data using different models. Those attending were: Bill Parton, Mark Harmon, Oregon State U Bill Currie, Univ. of New Hampshire Ed Rastetter, Marine Biol. Lab Daryl Moorhead, Texas Tech U. and Jerry Melillo, Marine Biol. Lab.

Kathy Galvin presented a poster titled "Wealth and Nutrition of Maasai Pastoralists in a Wildlife Conservation Area, Tanzania" at the session on Human Biological Variation: Health and Disease, The American Association of Physical Anthropology annual meetings on March 29-April 2 in Denver. She also chaired a session at the meetings.

Dennis Ojima, Tim Kittel, Dave Schimel, Tom Painter and Becky McKeown attended the Workshop on Test and Evaluation of the USGS 1- KM AVHRR-Land Cover Characteristics Data for the Conterminous United States: Results and Recommendations, April 18-20 in Sioux Falls, SD. Dennis presented a paper titled "Ecosystem modeling of land cover patterns in the conterminous United States."

Dave Schimel and Tim Kittel hosted a 2-day results workshop for the Vegetation/Ecosystem Modeling and Analysis Project VEMAP in Boulder, April 21 - 22. VEMAP is an EPRI, USFS, and NASA funded project to compare the climate change and CO<sub>2</sub> sensitivities of 3 ecosystem physiological models and 3 biome distribution models and to investigate the coupled responses of these two classes of models. Dennis Ojima and Bill Parton participated in the meeting and presented results from CENTUR runs for the conterminous U.S.

Jill Baron presented a seminar to the USGS Water Resources Division on Integrated Regional Modeling of the Colorado Front Range in Boulder, April 28.

Tim Kittel, Jerry Meehl NCAR and G.A. Meehl presented a paper titled "Regional intercomparison of IPCC-archived coupled model runs" at the IPCC Working Group I Regional Climate Evaluation Workshop on Feb. -9 in Sydney, Australia.

A guest lecture on "Advanced GIS Techniques in Global Change Modeling Studies" was presented by Tim Kittel for a graduate seminar course on GIS Applications in Ecological Modeling at the Dept. of Zoology and Physiology, Univ. Wyoming, Laramie on March 16.

Diana Freckman is attending a Global Change and Terrestrial Ecosystems GCTE planning workshop in Nairobi, Kenya, May 9-13. This workshop is a project of IGBP titled "The Response of Multi-species Agricultural Systems to Global Change: The Role of Biodiversity and Complexity" with a major objective to develop a research plan for the topic in question and will form part of the overall GCTE operational plan.

## Visitors

Dr. Deiter Sauerbeck, Former Head of Institute of Plant Nutrition and Soil Science, Federal Research Center of Agriculture, Braunschweig-Voelkemode FAL, Germany was sponsored by Vern Cole and spent April 18-26 at the NREL working with Vern and Keith Paustian to complete the "Order Draft" chapter on Agriculture and Mitigation for the 1995 IPCC Assessment.

## New Employees

Kevin Swab is a new programmer on the CSU-UVA modeling project. Kevin is working with Debra Coffin and Bill Lauenroth to revise the STEPPE model to simulate grasslands of the central Great Plains.

Diana Freckman has three new employees in her lab: Mark Easter, Research Associate and Lab Manager, Mary Kratz, Research Associate and Chris Andre, Lab Technician.

## Grants Funded

Jeff Welker, in conjunction with colleagues at INSTARR M. Walker, S. Walker and T. Seastedt, have been awarded a 5- year, NSF-Office of Polar Programs grant to study the "Comparative Responses of Moist and Dry Alaskan Tundra to Altered Snow Cover and Warmer Temperatures". The program of research will commence this summer and the field work will be based at Toolik Lake, Alaska.

Diana Freckman and Debra Coffin have been awarded 1 year of funding for the NSF-International Programs titled "Development of Hungarian-American Collaborative Research Efforts: Biodiversity and Long-Term Ecosystem Research Sites". This project will focus on long-term biodiversity research and proposes an international program to promote the exchange of knowledge between Hungarian scientists and U.S. scientists. Results of workshop meetings will be published jointly.

## Proposals Submitted

Diana Freckman submitted "Anglo-U.S. Workshop on Soil Biodiversity" to NSF.

Jill Baron and Bill Parton submitted "Dynamic Land Surface/Atmospheric Parameterization at Different Spatial Scales for the South Platte River Drainage" to NOAA.

Frank Singer and Mike Coughenour submitted "Population Estimation, Plant Interactions, Forage Biomass and Offtake, and Carrying Capacity Estimation of Elk in the Estes Valley" to USDI-NPS.

Bill Lauenroth and Indy Burke submitted a cross-site LTER proposal titled "Constraints on Production and Decomposition in Temperate Semiarid Grasslands" to NSF.

Indy Burke, Kathy Galvin, Roger Pielke, Gene Kelly and Mike Coughenour submitted "Augmentation Proposal for the Shortgrass Steppe LTER Project: Regional and Long-term Interactions Among Human, Atmospheric and Ecological Processes" to NSF.

Dennis Ojima submitted "Predicting the Effect of Global change on Vegetation in Park Landscapes in the Central Grasslands Biogeographical Area" to NPS.

Jeff Welker, Mike Coughenour and Bill Lauenroth submitted a cross-site LTER proposal titled "A Cross-Grassland Analysis of C N Dynamics in Response to Asymmetric Warming and Increased Summer Precipitation" to NSF.

Dennis Ojima and Arvin Mosier submitted a cross-site LTER proposal titled "Trace Gas Cross-Site Comparison: A TRAGNET Project" to NSF.

Jill Baron and Jeff Welker submitted a LTER Augmentation proposal titled "Change in the Front Range: Toward an Assessment of Regional Sustainability" to U CO/NSF.

Dennis Ojima, Ted Elliott, Keith Paustian and Arvin Mosier submitted "Affects of Changing Temperature, Moisture, and Nutrient Availability on Microbially-Mediated Trace Gas Processes" to EPA.

Jill Baron and Dennis Ojima submitted "Responses of Hydrologic and Aquatic Ecosystem Processes to Potential Climate Change on Watershed, Drainage Basin, and Regional Scales" to U.S. NPS.

Tom Stohlgren and Mike Coughenour submitted "National Parks Resource Bibliographies" to NPS.

### **Miscellaneous**

Elliott, E.T., H.H. Janzen, C.A. Campbell, C.V. Cole and R.J.K. Myers. 1994. Principles of ecosystem analysis and their application to integrated nutrient management and assessment of sustainability. Pages 35-5 in R.C. Wood and J. Dumanski Eds. Sustainable Land Management for the 21st Century. Proceedings of the International Workshop on Sustainable Land Management for the 21st Century, University of Lethbridge, Lethbridge, Canada, June 20-26, 1993.

Coffin, D.P., and W.K. Lauenroth. 1994. Successional dynamics of a semiarid grassland: effects of soil texture and disturbance size. *Vegetatio* 110:6 -82.

Kotler, B.P., J.E. Gross, and W.A. Mitchell. 1994. Applying patch use to assess aspects of foraging behavior in Nubian ibex. *Journal of Wildlife Management* 532:299 -30.

Milchunas, D.G., J.R. Forwood, and W.K. Lauenroth. 1994. Productivity of long-term grazing treatments in response to seasonal precipitation. *Journal of Range Management* 4:133 -139.

Chen, D- and M.B. Coughenour. 1994. GEMTM: a general model for energy and mass transfer of land surfaces and its application at the FIFE sites. *Agricultural and Forest Meteorology* 68:145-11.

### **Personals**

On behalf of the clerical and accounting support staff, we want to THANK the Scientific Staff for the wonderful 2- hour lunch at the Olive Garden, Ted and Diana for the lovely corsages, the Programmers for the delightful ice cream social and Dennis, Jill and Bill P. for a fantastic wine and cheese party at Dennis and Jill's home. our very generous gifts in honor of "Secretary's Week" are sincerely appreciated it is very nice to be acknowledged and pampered. We enjoy working with all of you and being a part of the NREL organization. Again, thank you all very much.

Shirley and Roy Hodson proudly announce the birth of their first grandchild. Ryan Christopher Pacht was born in Littleton on March 24, weighing 7 lbs., 13 ounces and 22 inches long.

Congratulations to Dave Valentine and By Brown on their recent engagement

Mary Ann Sheetz, work-study for Arlene, plans to work at NREL all of this summer. Another of our work-study's, Heather Taylor will be studying in Australia this summer.

Colleen Orth who works for Dan Reuss in the Lab will be receiving her Bachelors degree this month. Congratulations

*The NREL NEWS NOTES will be published the first week of each month. Please give your news items to Kay by the last Monday of each month.*

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