

## NREL NEWS NOTES

*NATURAL RESOURCE ECOLOGY LABORATORY  
COLORADO STATE UNIVERSITY*

*No. 13 June & July August 1995*

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### Announcements

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#### *NREL HOME PAGE*

**It is a pleasure to announce our informative and up-to-date NREL Home Page on the World Wide Web which went into effect June 1, 1995 for your convenience.**

**Our address is: <http://www.nrel.ColoState.EDU/NREL.html>.**

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Bill Parton has been asked and has agreed to serve as an editor for the Second Edition of the Glossary of Meteorology, published by the American Meteorological Society.

David Schimel was promoted to Senior Scientist in the Climate and Global Dynamics Division of the National Center for Atmospheric Research on July 17 by the UCAR Trustees. Dave is the first *Ecologist* to achieve that rank at NCAR. He has appointments at both CSU and NCAR.

Indy Burke will be an Associate Editor for the journal *Ecological Applications* beginning in September.

In June, Diana Freckman was named Chair, National Research Council, Committee on Noneconomic and Economic Value of Biodiversity: Applications for Ecosystem Management.

Dennis Ojima is a member of the Steering Committee of the IGBP SAC IV meeting to be held in Beijing, China, October 23- 27. He is the Chairman of the poster sessions and has been asked to be the special editor for the symposium volume.

Jim Detling will be on sabbatical in Australia from September 12, 1995 to April 30, 1996.

Mary Ann Vinton has accepted a tenure-track position as Clare Booth Luce Assistant Professor of Plant Ecology in the Department of Biology, Creighton University in Omaha, NE.

Mike Coughenour had a very productive visit at the National Rangelands Program of CSIRO Division of Wildlife and Ecology in Canberra, Australia. There was considerable interest in using the SAVANNA spatial ecosystem modeling approach to scale up process level understanding of pastoral ecosystems in Australia, particularly the semi-arid woodlands. It is likely that Mike will be collaborating with the Australians to apply the model there. The broad

objective would be to use spatially explicit ecosystem modeling to develop scenarios of plant, soil, biodiversity, and livestock production responses to alternative land and herd management practices and land use allocations at local through regional (25,000) spatial scales and 5-100 year time scales.

Keith Paustian will chair an expert group, under the auspices of IPCC/OECD, to revise methodologies for country-level inventories of CO<sub>2</sub> flux from agricultural soils. Arvin Mosier, USDA, is chairing the group revising inventory methods for CH<sub>4</sub> and N<sub>2</sub>O emissions from agricultural soils.

Dr. Shiou Pin Huang completed his sabbatical at NREL (July 15, 1994-July 2, 1995) and has returned to the University of Brasília, Brazil. While at CSU, Dr. Huang worked on nematode biodiversity and community structure in Colorado shortgrass steppe natural ecosystems (LTER) to assess the impact of cattle grazing.

Dan Binkley spent May and June at the Swedish University of Agricultural Sciences in Umeå. He and Peter Höglberg evaluated whether atmospheric deposition of N is threatening the health or productivity of Swedish forests. Sweden has some of the best long-term research studies on forest productivity and nutrient cycling, offering a great opportunity to do more than just speculate. A reviewable draft of Dan's

assessment should be available early in the fall - if you are interested, ask him for a copy.

## Meetings

Brian Newkirk presented a talk on Loch Vale research and nitrogen and sulfur deposition to park interpreters at Rocky Mountain National Park on June 9.

Dennis Ojima attended a joint meeting of the International Workshop on Global Databases and GLOBE in Boulder, May 30-June 2. He presented a talk titled "Terrestrial ecosystem modeling, global input and validation data" and led a discussion group on "Data availability, data access and dissemination rights."

Jill Baron presented an invited paper at the XXI Assembly of the International Union of Geodesy and Geophysics in Boulder Colorado, July 1-14. This paper was published concurrent with the Assembly. (See Baron et al. 1995 in the [Manuscripts Published](#) section of this Newsletter) Loch Vale watershed was well represented with 5 other papers given by USGS scientists who work collaboratively with NREL scientists in Loch Vale.

*Correction to April & May issue:* Tim Gittel **presented** rather than attended a seminar titled Ecosystem Sensitivity to Climate and CO<sub>2</sub> Change: The VEMAP Model Intercomparison at the Department of Botany, University of Wyoming, Laramie on March 17. Tim attended a VEMAP meeting in Washington, DC on May 11. He visited Steve Running, Ray Hunt, and other members of the Numerical Terrestrial Simulation Group at the University of Montana, Missoula, June 15-22.

Bill Parton and Dennis Ojima attended the sixth annual Aspen Global Change Institute, Summer Science Session in Aspen, July 9-22. Dennis presented a talk titled "In situ methods comparisons with remote sensing" and Bill presented "Numerical modeling of vegetation."

David Theobald presented a poster entitled "Land Use Change on the Rocky Mountain Forest Fringe" at the Western Conference of the Western Association of Fish and Wildlife Agencies in Big Sky, Montana, July 1-20.

Dennis Ojima, Menwyelet Atsedu, Chuluun Togtohyn, and Gondwosen Asfaw (visitor from Ethiopia) attended the Fifth International Rangeland Conference, Salt Lake City, July 23-24. Dennis and Chuluun also presented posters.

Arvin Mosier and Dennis Ojima organized a TRAGNET workshop, held July 29 and 30 in Snowbird, UT, just prior to the ESA meeting. The purpose of the workshop was to assemble everyone who plans to input data and/or models

into TRAGNET, so they can begin the TRAGNET intersite comparison project which was funded by NSF.

John Gross presented a paper titled "Simulating genetics, disease, and metapopulation dynamics of bighorn sheep: an individual-based approach" at the annual meeting of the Society for Conservation Biology held at the Lory Student Center, CSU on June 9-10. John, Gary Skiba, Tom Nesler, Judy Sheppard and Chris Pague presented the poster "Ranking conservation priorities of vertebrates in Colorado." John also moderated the session on Population Modelling at that meeting.

Dave Swift was in China from May 20 to June 5, working on a program aimed at improving degraded rangelands in northern China. Chinese scientists are beginning a major research and extension effort to modernize grazing management in the Inner Sand Lands of Liaoning Province and the Inner Mongolian Autonomous Region. Dave is part of a team of international (U.S. and Canadian) scientists and Chinese National counterparts who are serving as an external advisory panel to this project, funded by the Asian Development Bank. The consulting team includes NREL alum Jerry Dodd of North Dakota State University, and others. Plans are for Dave to return to the People's Republic in late August for 2 weeks, and to spend a total of 7 more weeks on two trips during 1996.

Brian Newkirk participated in the TRAGNET Trace Gas Network meeting and workshop held July 29-30 in Snowbird, UT, where he gave a demonstration of the prototype data access and display system for trace gas data using the World Wide Web and Netscape on Saturday. On Sunday, he ran a hands-on workshop for the TRAGNET participants so they could try the system and provide feedback.

Diana Freckman attended and presented a proposal to the SCOPE I General Assembly in Tokyo for a Committee on Biodiversity and Ecosystems Function: Soils and Sediments, May 24-June 2. She attended a meeting of the Scientific Advisory Board (SAB) for the National Center for Ecological Analysis and Synthesis at UC Santa Barbara on June 2-3.

Tim Gittel presented a paper titled "A bioclimatic, soils, and land cover database for simulation of U.S. ecosystem/vegetation responses to global change: The VEMAP dataset" at the IUGG 1995 General Assembly held in Boulder, July 2-11. This paper was authored by T.G.F. Gittel, N.A. Rosenbloom, D.S. Schimel, T.H. Painter, and A. J. Grimsdell.

Dennis Ojima and David Schimel co-organized an ESA symposium on global change at the ESA meetings held in Snowbird, UT, July 30-August 3. The symposium was well attended and the group was honored with a summary

presentation by Professor Thomas Rosswall, Rector of the Swedish University of Agricultural Sciences.

The ESA 10th Annual Meeting at Snowbird, UT, July 30-August 3, was a howling success. Many

NREL members participated in many ways. Dee Brendel worked tirelessly at the registration desk, and was helped by Eric Allstott and Brian Newkirk. Brian and Eric also helped keep the meeting going in innumerable ways. Session chairs from NREL were: Melannie Hartman, Rob Bremer, David Valentine, Bill Pulliam, Bob Niles, Geneva Chong, Gillian Bowser, Deb Coffin, Mary Ann Vinton and former NREL employees - Neal Scott, Tad Day, Steve Archer and Robin Reid. Symposium conveners were: David Schimel, Dennis Ojima, Tom Stohlgren, Dan Binkley and Bob Stottlemyer. Papers were presented by all of these people, as well as Robin Martin, Brian Newkirk, By Valentine, Menwelet Atsedu, Indy Burke, Bill Lauenroth, Alan Covich, Beth Holland and Tim Littel. Program Chair, Jill Baron was honored at the awards ceremony for tireless efforts in organizing the meeting, and took a well-deserved vacation immediately after the meetings.

Bill Parton attended and gave a keynote speech at the NATO, Advanced Research Workshop titled "Ecosystem model comparisons: Science or fantasy world?", May 21-26 at IACR Rothamsted, Harpenden, Herts, UK. He also presented a paper titled "CENTUR model description."

Tom Stohlgren and Cindy Correll (USFS) sponsored a meeting on June 26 to discuss the use of double sampling and multi-scale nested sampling methods to assess map accuracy for use in the USFS Integrated Resource Inventory (IRI). Those attending: Tom Stohlgren, Mohammed Alkhan, Geneva Chong, Cindy Correll, Lisa Schell and 5 other USFS participants.

Bill Parton attended the annual meeting and workshop for the NSF project titled "Soil organic matter in the tropics" held in Hawaii, June 13-17. He then traveled to Potsdam, Germany, June 20-22, to present a paper titled "Intercomparison of global models of net primary productivity" at the 2nd IGBP-DIS/GIAM/GCTE International Workshop.

David Schimel attended the National Research Council summer study to review the U.S. Global Change Research Program and NASA's Mission to Planet Earth. Dave was group chair for the Large Scale Terrestrial and Marine Ecosystems working group. This meeting will report to Chairman Walker of the House Science Committee through the NAS concerning priorities and implementation of the USGCRP.

## NREL all 1995 Seminars Schedule

Seminars will be held in A302 NESB every Friday, 11 am - 12 pm except where noted.

*June 28:* Dr. Paul Oomer, Tropical Soil Biology and Fertility Programme, Nairobi, Kenya presented a Special Seminar titled "Understanding and modeling carbon and nutrient dynamics under shifting cultivation"

*August 1:* Dr. Andrew Ash, CSIRO, Division of Tropical Crops and Pastures, Queensland, Australia presented a Special Seminar titled "Grazing Research in the Tropics: Towards Sustainable Use of Resources in Tropical Woodlands and Savannas. CSIRO is sponsoring a major research effort on "Managing Tropical Woodlands for Production and Conservation". This program has major strands that focus on the ecology of exotic woody weeds and on grazing ecology. Dr. Ash leads the grazing ecology group, and will present results from his studies on the interactions of plants and herbivores, and on grazing behavior at levels from the plant to large paddocks (1000's of hectares)

*October 6:* Dave Valentine - "Boreal Ecosystem Atmospheric Study (BOREAS) The Documentary"

**\*\*October 9:** Edith Allen - "Trajectories of Succession and the Need for Restoration." 10 PM, Anatomy/Biology 1100

*October 13:* Jim Ellis & Cathy Galvin - "Resource Conservation and Rural Development in South Africa."

*October 20:* Menweylet Atsedu - "Defoliation Responses of Shortgrass Steppe Plants in Relation to Long-Term Grazing History."

*October 27:* Robin Kelly - "SOM Responses to Reduced Plant Inputs on Shortgrass Steppe: Ants, Herbicides, Simulated Cow Pies, and what I did with my summer vacation"

*November 3:* Dave Theobald - "Simulating Land Use Change in Colorado."

*November 10:* Johan Si - "Soils and Land Use in the Eastern Region of South Vietnam."

*November 17:* Deb Coffin - TBA

*November 24:* NO SEMINAR

*December 1:* Andres Cibils & Adnan Beker - "Animal-Plant Interactions in an Atriplex-Canescens Dominated Community Browsed by Cattle on the Shortgrass Steppe: Some Research Questions."

*December 8:* Clifford Martinka - "The Changing Organizational Context for Science."

## visitors

Jonathan Scurlock visited NREL, May 29-June 3 to work with Bill Parton on a project with Oak Ridge National Lab.

Dr. Andrew Ash, CSIRO, Division of Tropical Crops and Pastures, PMB, Aitkenvale, Queensland, Australia visited John Gross and other NREL research scientists to work on joint interests in determinants of herbivore foraging patterns, August 6-12.

Dr. Gondwosen Asfaw, Rangeland Specialist, Ministry of Agriculture, Ethiopia visited at NREL July 25-August 19 to work on the Greenhouse Gas Mitigation Project in the rangeland and highlands of Ethiopia. He was sponsored by Dennis Ojima.

Dr. Tibor Toth, Soil Scientist with the Hungarian Academy of Sciences, visited CSU during the week of July 17-21. Tibor was part of the NSF Hungarian-US LTER program funded to Diana Freckman and Deb Coffin. He visited with scientists and students conducting research at NREL and at the CPER LTER site. His major research area of interest is in the ecology of salt-affected soils. Mark Easter has copies of his most recent reprints, if you are interested in seeing them.

Dennis Ojima, Bill Parton, Ted Elliott and Dave Valentine sponsored a visit to NREL on July 6 by Dr. Maqberan, TIGER Programme Manager, Institute of Hydrology, Wallingford, Oxford, England to discuss global change research.

Dr. Paul Oomer, TSBF, Nairobi, Kenya visited NREL June 26-July 2 to work on CENTUR Model studies for slash-and-burn practices. He was sponsored by Bill Parton and Dennis Ojima.

NREL had a number of international visitors the week of August 7, most of whom had attended the International Rangeland Congress in Salt Lake City. These included several scientists from CSIRO Div. Wildlife and Ecology in Canberra, who were visiting Mike Coughenour and others: Ben Hodgkinson, Jim Noble, John Ludwig, Dave Freudenberg, Jill Landsberg. Joel Brown and Andrew Ash from CSIRO Tropical Crops and Pastures in Townsville were also here. Harry and Rena Biggs, from Kruger National Park, South Africa visited Mike Coughenour, to discuss the possibilities of using the SAVANNA modeling approach in Kruger. Mark Hardy, from CEDRA Agric. Dev. Inst., Pietermaritzburg, South Africa visited Mike Coughenour and Bill Lauenroth. Mark was interested in











RESEARCH ASSOCIATE  
(Laboratory Manager)

POSITION:

Research Associate, Natural Resource Ecology Laboratory and Department of Rangeland Ecosystem Science, Colorado State University, Fort Collins, CO. Research projects are focussed on elucidating the function of nematode biodiversity in managed and unmanaged ecosystems (for example, Antarctic Dry Valleys, Central Plains Experimental Range (CPER)-Long Term Ecological Research (LTER) site, and Michigan State University-Kellogg Biological Station LTER).

QUALIFICATIONS:

M.S. preferred in ecology, microbial ecology, biogeochemistry, plant pathology, or a related field. Background in soil ecology or nematology desired, but not required.

JOB DESCRIPTION:

Supervision, coordination, and maintenance of soil ecology laboratory.

Responsibilities include the establishment and maintenance of field, laboratory, and greenhouse experiments, in addition to:

- Supervision of research associates and student workers
- Collecting and processing soil samples to determine biotic, chemical and physical properties
- Identify and enumerate free-living and plant parasitic nematodes
- Maintain laboratory equipment
- Coordinate data entry, assist with data analysis
- Participation in preparing research proposals and papers

The successful applicant must have supervisory experience and strong organizational skills. Further, it is essential that the candidate possess interpersonal and communication skills for working with other members of the laboratory in a team effort. Additional preferred skills include experience in one or all of the following:

- Nematode and/or soil microbial extraction methods.
- Statistical analysis.
- Isolation, purification, and maintenance of laboratory microbial cultures.
- Utilization of computer software for spreadsheet analysis, word processing, routine statistical analysis, graphics, and communications.
- Biogeochemical soil analysis.
- Molecular applications in soil ecology

BEGINNING DATE: Fall, 2000

SALARY RANGE: 200,000 - 25,000

APPLICATIONS:

Applications must be postmarked by **August 25, 1995**. Forward complete curriculum vitae, including academic transcripts, description of research interests and goals, and the names, addresses, and phone numbers of three references to:

*Dr. Diana Freckman / Dr. Robert Niles  
Natural Resource Ecology Laboratory  
Colorado State University  
Fort Collins, CO 80523-1499  
(970) 491-1965 FAX*

Additional information may be obtained by contacting Dr. Freckman at (970) 491-1965 or Dr. Robert Niles at (970) 491-1965.

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