The Soil Ecology Society

The Newsletter for Members of The Soil Ecology Society December 2000

Upcoming International Conference to be Held in Georgia May 20-23, 2001

by Dave Coleman and Janice Sand

The eight biennial meeting of The Soil Ecology Society is scheduled to be held May 20-23, 2001 at Callaway Gardens in Pine Mountain, Georgia. Located in the foothills of the Appalachian Mountains, the Gardens are just an hour south of metro Atlanta and 30-minutes north of Columbus.

This conference, entitled 2001: A Soil Odyssey, will emphasize interactions between theoretical and applied ecology (e.g., forests and agroecosystems). The program will include oral presentations organized around specific session themes as well as poster sessions, and opportunities for informal group discussions.

Dr. Gregor W. Yeates of the Landcare Research Institute in New Zealand will present the keynote address. The address will be held following an evening reception on Sunday, May 20. The program will continue on Monday, May 21 and run through Wednesday morning, May 23. Oral paper sessions will be conducted in the morning sessions and posters will be presented in the afternoon sessions. A country barbecue will be hosted on Tuesday evening.

A workshop on soil protists, led by Sina M. Adl (adl@sparc.ecology.uga.edu) is scheduled for Sunday, May 20 from 1 to 5 p.m. prior to the evening social. The workshop will entail discussion of methods and protocols for extraction and enumeration of functional groups of soil protists and, quantifying their role in nutrient transfer through trophic interactions. The workshop session will include short presentations on comparison of techniques, their efficiency and reproducibility, as well as the limit of resolution they provide. We intend to leave ample time for open discussion and suggestions for standardization. A useful outcome would be to outline the problems associated with some methods, directions for standardization of protocols between research groups, and suggestions for progress in the future.

We have optional field trips available for Wednesday afternoon. The first option is to the Joseph Jones Ecological Research Center in south Georgia. Participants will observe research in the wiregrass-longleaf pine association, once dominant in the southeastern coastal plain. Travel time is 2 hours. We will visit several sites at the station, returning by 7 p.m. to the Atlanta airport. The second option is the Providence Canyon, which dates back to the early 19th century and is the largest erosion gully east of the Mississippi. It is a shorter trip, taking ca. 3 hours, including the 2 hours in roundtrip travel time. Please indicate on registration materials if you are interested in participating in either of the proposed field trips.

Abstracts are being solicited for both oral presentations and posters. The deadline for submitting abstracts for papers and posters is **March 23, 2001**. Oral presentations will be scheduled at 15-minute intervals. Posters will be displayed for a full day with afternoon sessions devoted to viewing posters. Only one oral presentation per senior author will be permitted;

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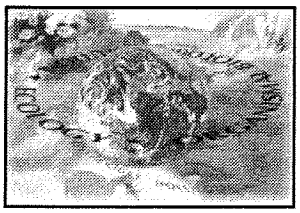
OTHER NEWS

Ohio State University

Research On-Going in the Lab of Ralph Boerner

by Ralph Boerner



For most of the last 4000 years the oak-hickory forests of eastern North America have experienced frequent, low-intensity, dormant season fires at intervals of 3-11 years. With the advent of widespread and effective fire suppression beginning early in the last century this changed drastically, and this widespread ecosystem type was converted to one with infrequent low-intensity fire and a much higher risk of catastrophic fire. Over the last half of the 1900's, both the structure (e.g. tree species composition and age structure) and functional properties (e.g. C and N sequestration) of these forests have undergone considerable alteration. In 1994, our lab at Ohio State joined in a collaborative effort with scientists from the USDA Forest Service, The Nature Conservancy, the Ohio Department of Natural Resources, the Mead Corporation, and Ohio University to determine the efficacy of prescribed fire at two different frequencies in restoration of oak-hickory forests in southern Ohio. Four study areas, each comprised of three contiguous, watershed-scale treatment units were established. Responses of vegetation, soil and forest floor organic matter, birds, and soil and forest floor arthropods have been monitored throughout the 1996-1999 period. We anticipate burning again in 2003 or 2004, pending funding. Listings of work published to date can be found at the web sites of the Forest Service Northeastern Research Station (http://www.fs.fed.us/ne/delaware/4153/4153.html) and our Ohio State web site (http://www.biosci.ohio-state.edu/~eeob/). More recently, we joined with a larger group of ecologists and forest scientists in a national-scale network for the experimental assessment of the relative effectiveness of prescribed fire and structural treatments (e.g. thinning from below, mechanical removal of dead woody material) for both forest ecosystem restoration and wildfire hazard reduction in ecosystems that had been converted from high-frequency, low-intensity fire to a high risk of infrequent but extremely high intensity fire. This project entitled the Fire and Fire Surrogates (FFS) Study, includes a total of eleven study areas in California, Oregon, Washington, Montana, Arizona, New Mexico, South Carolina, Florida, and Ohio. One of the strengths of this national-scale experiment is that a common set of core response variables (vegetation components, birds, small mammals, coarse woody debris and other fuels, soil chemical properties, soil organic N transformations, aspects of plant pathology, and treatment economics) will be measured in each site using a common set of sampling and analysis protocols.

This large-scale experiment presents great opportunities for soil ecologists. Although N mineralization/nitrification rates and soil organic C and N will be monitored at all sites as part of the core design, our overall budget precluded including other

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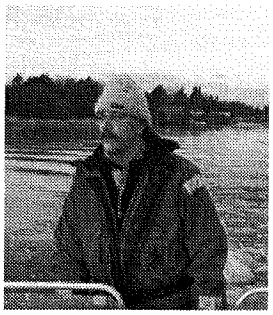
Swedish University of Agricultural Sciences

'Areal' or Land-Use Related Research and Education

by Olle Andre'n

I have a Professor position paid for by our EPA and a long history at the Department of Ecology and Environmental Research. My main task is working on national soil C budgets for agricultural soils, but I am allowed to go quite deeply into basic science if needed – even as far as soil mites. We have a small group (co-leaders: Thomas Kätterer and myself) working with the ICBM family of models – simple soil C and N balance models, analytically solved, which can be downloaded as Excel or SAS programs from my www-site below. We use the models for long-term (10 – 100 yr) field data, for extrapolations of short-term results, e.g., with/without fauna, and also for C/N budgeting of individual farms with various crop rotations (Thord Karlsson, doctoral student). In connection to this, we use our own (work by Anja Lomander, doctoral student) and other lab data for examining principles for temperature/moisture effects on decomposition – to be able to move our and other models to places around the world.



In this work we cooperate with CGIAR institutes (CIMMYT, CIAT, IITA) and I have a doctoral student (Kristina Röing) at IITA, Nigeria, investigating decomposition in tropical soils. I am also involved in an experiment with elevated CO_2 in a semi-natural grassland close to SLU in Uppsala. Our group's main contribution is root studies – we have five years of data and Erik Sindhöj will soon defend his Ph D thesis on this material.

Ralph Boerner...continued from page 2

biochemical/microbial responses or analyses of soil food webs. Opportunities abound for soil ecologists to visit these sites and establish collaborative studies of other soil biological and biochemical responses. Let's hear from you! The full FFS project design, description of study sites, contacts for research collaborations at each site, and core design can be found at http:www.ffs.fed.us.

Conference Details...continued from page 1

however, authors may present both papers and posters.

The registration fee for the conference is $150 ($75 for students) if postmarked by **April 1, 2001**. The fee after that date will be $175 ($100 for students). The fee includes admission to all sessions, the meeting program, refreshment breaks, and admission to the Sunday evening reception. No single day registrations are available.

A block of rooms has been reserved at the Callaway Gardens Inn. A one night's deposit is due by **April 20, 2001**. To make a reservation call 1-800-543-7121. Identify yourself as a Soil Ecology Society participant when making your reservation. Rates start at $106 for single/double occupancy. Cottages and villas are also available.

There are several shuttle services recommended by Callaway Gardens from the Atlanta International Airport. Atlanta Airport Shuttle (800-842-2770); Peach State Transportation (www.peachstatelimo.com; 800-848-2520); Meeting That Move (770-640-6004); Total Meeting Resources; 404-371-5880); and Limo/CNT Vans (404-634-8557). Prices vary based on number of passengers.

The Gardens has 14,000 acres of natural woods with numerous nature trails, butterfly center, flower gardens, horticulture center, bicycle trail, tennis and golf. For more information, check their website at http://www. callawaygardens.com/.

For complete details about this conference, see the website http://www.wcsu.ctstateu.edu/ses/conference.html or contact Janice Sand at jsand@arches.uga.edu or 706-542-6013.

Other News continued

University of Georgia

Progress Report from the Soil Ecology Laboratory, Institute of Ecology

by Dave Coleman

We have ongoing studies in decomposition in hillslope and riparian zones at the Coweeta LTER site, and also in the French Broad River Basin of North Carolina, with Mitch Pavao-Zuckerman carrying on studies on an urban-to-rural gradient in a fashion similar to the studies of Richard Pouyat et al. in the Northeastern USA. In joint studies with Drs. Mark Hunter, Cathy Pringle and Sina Adl, we have some pilot studies underway across a range of habitats, upland, riparian, and in-stream, to compare decomposition rates of a range of leaf qualities at both Coweeta and Luquillo LTER sites.

We are also studying soil organic matter levels and biotic diversity in a chronosequence of site managements in the sandy soils of Coffee County in south Georgia. Our sites span a range from conventional tillage, and 3, 7, 14, 24 years in conservation tillage, and a 95+ yr. old loblolly pine site. We are collaborators in a proposal to the SARE program of USDA to pursue more extensive studies in these sites.

Horseshoe Bend is being maintained with an NSF LTREB grant, and our research there, with Paul Hendrix and Sharon Lachnicht in charge, focuses on the long-term non-target effects of Bt and non-Bt cotton. We have had two years of work there now, and will present some of our results (there are some non-target effects) at the May 2001 meeting. Dac Crossley, although officially retired, continues active in sampling macro- and micro-arthropods at Horseshoe Bend.

About the Society

The Soil Ecology Society (SES) is an international organization of researchers, students, environmental professionals, educators, and others interested in the advancement and promotion of soil biology and ecology. The SES holds a biennial conference which addresses contemporary issues in the field of soil ecology, and which provides a forum for ecologists, soil scientists, and members of related disciplines to present original research results, participate in meeting symposia and workshops, and identify priorities for future research. The proceedings of these conferences are often published as books for special journal issues. SES members are also eligible to receive the journal Applied Soil Ecology at a professional discount. For information on becoming a member of the Soil Ecology Society, contact:

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