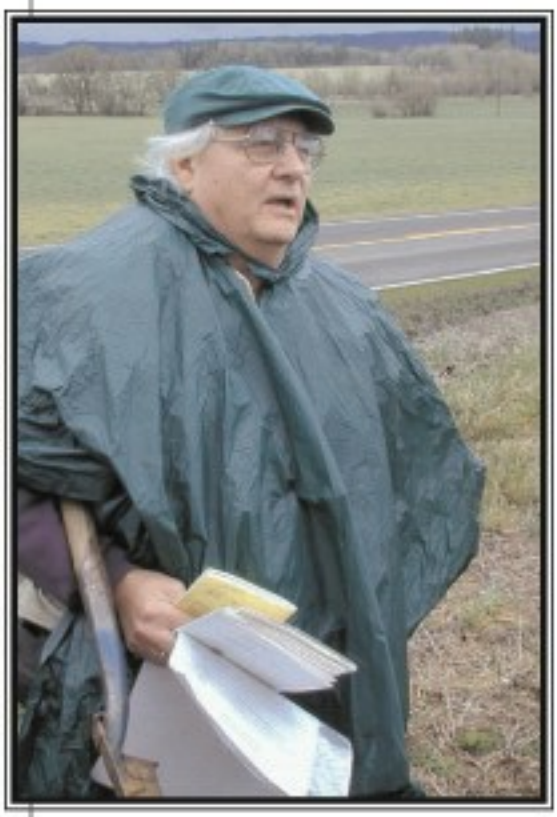
SHARPSHOOTER

OREGON SOCIETY OF SOIL SCIENTISTS

VOL. XVI NO. 2

The Heart n' Soul of Oregon Soils



* 2003 Winter Meeting *

by Steve Campbell

Our outgoing president, Jay Noller, put together an excellent program for our Winter Meeting. We met at the LaSells Stewart Center at Oregon State University in Corvallis on March 6-7. Jay Noller presented the opening remarks. He emphasized that a goal of the meeting was to define a vision for Oregon soil resources.

Jay also wanted the meeting to be a forum to increase profes-

(Continued on page 4.)

Stop 1 - Frank Reckendorf explaining geomorphic surfaces on Oregon Soil Science Society Winter Meeting Field Tour, north of Corvallis in Benton County. Brateng geomorphic surface.

THE SUB

by Stan Winther

An informal survey of soil surveyors reveals that a disproportionate number are married to teachers. Very curious. Is such a combination more successful than other pairings? Is discussing "problem" students over dinner just as interesting as talking about "problem" soils? The relationship between a teacher and a soil surveyor has its ups and downs as you might expect.

One of the downs is the inevitable debate in which the teacher-wife complains about how easy the surveyor-husband has it. For example, the husband does not have to take home 20 soil samples every night and grade them. Furthermore, he does not have to deal with the parent material of each dirt clod. These mature, subsoil layers always believe their offspring should be in the A horizon or at least be near the top even though the C horizon from which they formed have slow, massive structure. In other

(Continued on page 8.)

President's Message

Tom Clark
OSSS President

Abert Rim:
Stand beside a vertical face more than a quarter mile high. This 30-mile long fault rises 2,000 feet above Lake Abert and is one of the longest exposed fault escarpments in North America. It began forming during geological upheaval several million years ago. (only 30 min. North of Lakeview!)

The next year promises to be an exciting time for the OSSS. For the Summer Tour in August we will be heading to the Fort Rock Valley - Christmas Valley area. Participants will look at soils, geology, landscape and history of this "outback" of Oregon, portrayed so well in E.R. Jackman and Reub Long's classic book, "The Oregon Desert." To my knowledge this is the first time the OSSS has chosen this area for their Summer Tour.

For the Winter Meeting in February 2004 we will journey to Bend. There was an OSSS Winter Meeting held in Bend sometime in the 1980s, so this won't be a first for the Society. But it will be a first for many of our newer members. The agenda will focus on Central and Eastern Oregon soil and ecological issues. The OSSS 2004 Winter Meeting promises to be a great time in scenic Central Oregon!

Jay Noller deserves special thanks for a job-well-done on the OSSS Winter Meeting. Great job Jay! Jay's agenda, which featured the most pure "soils related" topics of any recent Winter Meeting, leads me into a point of discussion. One of the strengths of the OSSS is that we have integrated other disciplines into the OSSS much more than we did, say, 10 to 20 years ago. This has brought in more members who have a deep interest in soils, but it isn't their main focus on the job or in school. It's great that land use, wetlands, ecological concerns, etc. are topics of discussion within the OSSS. My only concern is that we strive to keep soils at the front of our agenda while integrating these other disciplines. We should never arrive at the point in which we don't talk about classification of soils, interpretive values, soils research, hydric soils, lab analysis and other technical aspects of soil. A forum to discuss soils is what the OSSS offers its members that no other professional society can.

Please feel free to contact me with any concerns, suggestions or ideas you may have. See you at the Summer Tour!

Some of Lake County's Natural Attractions

(From: http://www.lakecountychamber.org/attractions.html)

This is a list of some of Lake County's Natural Attractions.
This is, by no means, a complete list but it will give you an idea of why those who have been to Lake County previously continue to come back...

Abert Rim (pictured above)
Christmas Valley Sand Dunes
Crack in the Ground
Derrick Cave
Devil's Garden Wilderness Study Area
"Old Perpetual" Geyser
Green Mountain
Fort Rock
Four Craters
Lava Mountain
Lost Forest
Sunstone Area
Summer Lake State Wildlife Area
Ana Reservoir
Abert Lake
Lake Chewaucan Lake Bed

EASTSIDE NOTES

by Ed Horn

We have two new east-side folks added to the board after the winter meeting. Please welcome, Vice President Mark Keller and Secretary Kathy Clark. A Major Land Resource Area 1 (MO1) meeting occurred in Pendleton Oregon. It gave soils people from a 3 state area (Oregon, Washington and Idaho) a chance to rub elbows, hear soil singers, get current with the latest information from the top, and to view first hand, the latest in upcoming technology for soil surveying.

EDITOR'S NOTES

By Steve Campbell

Thanks to everyone that has contributed information and articles to the Sharpshooter. We welcome any information you care to submit related to soil science activities in Oregon.

DUES REMINDER

This is now the start of the new membership year. so please send your dues to the OSSS treasurer:

OSSS
c/o Frank Wildensee
8027 S.E. Yamhill St. Ste. A
Portland, OR 97215

Membership rates

$25.00	Voting member
13.00	Associate member
30.00	Sustaining member
5.00	Student member
250.00	Lifetime member

In addition to your dues, please consider an additional amount for:

- the "Soil Judging Team"
  __ $10 __ $25 __ $___
- the "OSSS Student Scholarship Fund"
  __ $10 __ $25 __ $___

DATES TO REMEMBER

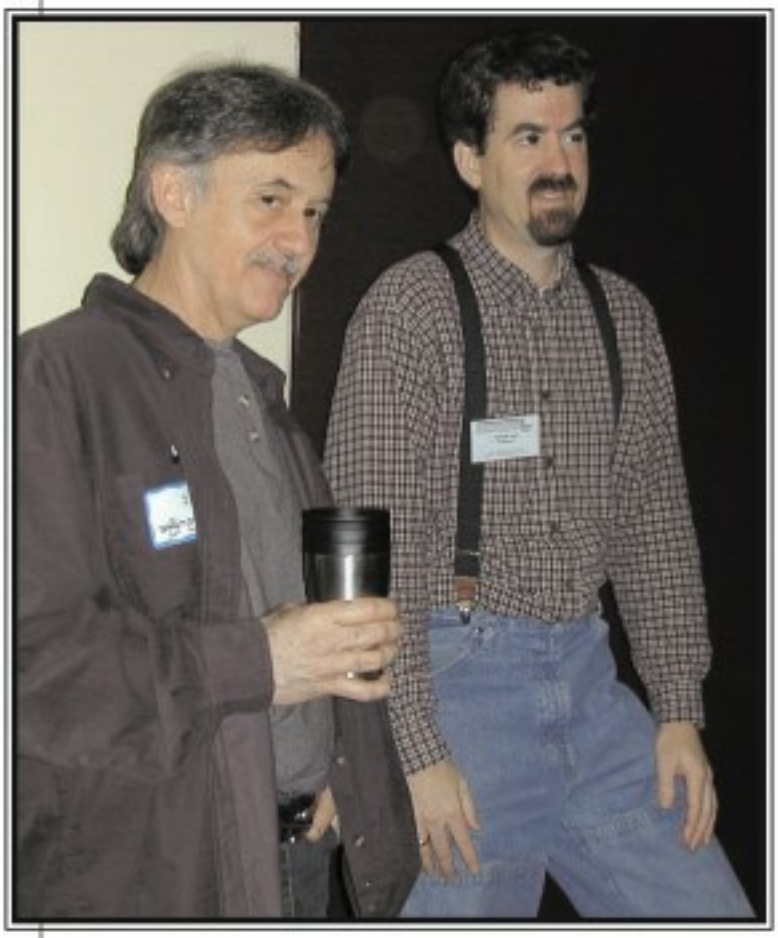
May 9, 2003
OSSS Board Meeting - Redmond

July 26-30, 2003
Soil and Water Conservation Society Annual Meeting; Spokane, Washington. Information available at: http://www.swcs.org/

August 22, 2003 (tentative)
OSSS Summer Tour - Bend

November 2-6, 2003
Soil Science Society of America Annual Meeting; Denver, Colorado. Information available at: http://www.asa-cssa-sssa.org/anmeet/.

Winter Meeting *from page 1.)*



Jay Noller (right) and Russ Langridge (left). Russ spoke on "Oregon Soils: Present and Future."

sional, educational, and outreach opportunities in soil science.

The first speaker was Russ Langridge, NRCS Soil Data Quality Specialist in the Pacific Northwest Soil Survey Region (MO1) office in Portland. Russ gave a presentation on the current status of the soil survey program in Oregon.

The next speaker was Ron Reuter, the new soil science professor at the OSU Cascades Campus in Bend. Ron gave us an overview of his background and filled us in on soils related activities on the Cascades Campus. Ron received his Ph.D. from the University of Idaho so he's already familiar with the Pacific Northwest.

Ron worked in Minnesota on a wet soils monitoring project. The project involved a slope catena hydrologic study that quantified water movement. The study used digital elevation models and field mapping of hydric soils to compare the accuracy of field mapping with GIS derived hydric soil boundaries.

Ron then went to North Carolina on an EPA post doc. He studied the effects of long term saturation on soil morphology.

Ron concluded with an overview of soils-related activities at the OSU Cascades Campus. He informed us that they are expanding natural resources courses, and he's working on an undergraduate research program. Some of Ron's research interests include urban impacts on soils, Eastern Oregon ecosystems, and soil carbon storage. Ron is also interested in using technology to enhance distance education.

After an excellent buffet lunch organized by Kathy Clark, we

Stop 5 - Helmick soil - Somewhat poorly drained, Very-fine, mixed, superactive, mesic Vertic Haploxerepts. Brateng geomorphic surface - Large erratic stone by oak tree. Scott Burns in the foreground.

took a field trip to look at soils and landscapes in the recently completed update of the Benton County soil survey. Our field trip leaders were soil survey project leaders Matthew Fillmore and Dave Johnson, and Frank Reckendorf, retired NRCS.

We had two break out workshops and a poster session on the second day. See the following article by Jay Noller for descriptions and results of the workshops.

A banquet was held Thursday evening at the OSU Memorial Union. Benno Warkentin, retired OSU professor of soil science, gave an excellent presentation on the history of soil science.

We concluded with the OSSS Business Meeting. Tom Clark took over as President and led the meeting. New officers were announced: Mark Keller will serve as Vice President and Kathy Clark will be our new secretary. Scholarships in the amount of $500 were awarded to OSU students Candace Banners and Kristine Reid.

Lunching on the long table at Avery Park before field tour.

Stop 1 Looking at a Helmick soil - somewhat poorly drained, Very-fine, mixed, superactive, mesic Vertic Haploxerepts. Brateng geomorphic surface and associated landscape. Dave Johnson wearing hood.

Stop 1 - Matt Fillmore handing out maps showing stops, soils and geomorphic surfaces on Oregon Soil Science Society Winter Meeting field tour. Brateng geomophic surface. John Good is to the right.

OSSS Brains Brainstorm ...

By Jay S. Noller, OSSS Past-President

Attendees at OSSS's 2003 Annual Meeting were treated to two workshops: one designed for brainstorming on the future of soil science and soil resource management in Oregon, and the other for determining how we might go about conducting public outreach on the topic of soil resources. For each session, three to four groups of eight to 12 members considered seed questions for discussion.

Session One

Attendees were asked to identify the Issues for Oregon Soil Resources for each of three time scales: 2003-2013 (next decade), 2003-2100 (this century), and 2003-3000 (this millennium). Participants remarked that for each period of outlook there were some similar and some different issues appropriate to the scale of time used. Groups reached unanimity on the issue categories of environment, soil science as discipline and as profession, technology, and users of soil information. The issues of population growth and soil information/databases are deemed present no matter how far in the future we look. Groups offered that the information gathered from soil

SESSION ONE

Issues 2003-2013 (next decade)	Issues 2003-2103 (next century)	Issues 2003-3003 (next millennium)
Environment		
Land use and livability	Land use and livability	Distribution of resources
Water	Shortage of water	Food production?
Population growth	Population explosion	Population/ Ag migration
	Changing priorities	Non-earth-bound alternative futures
	Shortage of fossil fuels	Pollution and cumulative effects
	Global climate change	Climate change- a cooler, wetter world?
Discipline of Soil Science		
Soil quality – Soil resilience	Protection of soil resource	Soils in other planets
Soil erosion	Dealing with modified landscapes	New paradigms
Sensitive soils	Phosphorus source depletion	Keeping long term records
Soil restoration and soil banks	Soil carbon storage	Sustainable agriculture
	Soil management techniques	Soil carbon release
	Soil bioremediation	
Technology		
New technology	Incorporating new technology	Soil as energy source
GIS technology	Management of databases	Modeling, databases
Precision farming and conservation	New N fertilizer sources	
Archiving- existing information	Intensive soil survey	
Gray literature - capturing, storing		
Professional soil scientists		
Educating new soil scientists		
Licensing and certification		
Continuing education		
Tap retiring expertise		
Users of soil information		
Availability of outreach and education		
Understandable soil surveys / information		
Urban development and zoning		
Ameliorate poor farming practices		

... at Brainy Sessions

studies in the past and the future need to be archived for future use. Whereas global warming is seen as an environmental issue this century, global cooling may be the issue in centuries beyond. Agriculture is seen as the major client for soil science well into the future. Technology is seen as a partner for future improvements in the work of soil scientists, although the look beyond this decade actually shows no issues for soil science professionals or users of soil information. Apparently, the issues for producers and users are limited to the year or decade scale.

Session Two

Next, participants were asked to define the product, method and process for a new soil map of Oregon, if needed. Suggestions of many different types of media and ranges of audiences were offered. The variety of suggested compilation methods, including mud-pie quality, indicates that a book and/or multi-media presentation would be more likely to succeed than a single, two-sided fold-up map. Interest in producing such an outreach medium is strong and many OSSS members offered to join in forming a steering committee. Those who are interested in participating on the steering committee should contact Jay Noller (jay.noller@oregonstate.edu).

Overview

No groundswell of opinion emerged for a "great" or "noble" program for Oregon soil scientists. What did surface from the sessions was the issue of information as integral to Oregon soil science, today and tomorrow. Many of the assembly are involved in documenting soil resource attributes and conveying this information to the public. So, Oregon soil scientists see continuing their current efforts as key to meeting future needs.

SESSION TWO

Product specifications
- Digital w/ hard copy
- Book w/ Mylar layers
- Soil calendar
- Field guide/ book
- Travel map that points you to web site
- Map- soil/ highway
- CD- interactive
- Web- interactive

Method to compile soil map units
Compile by:
- Landform
- Land use
- Soil color
- Physiography
- Texture
- Ecoregions
- Soil forming processes
- Mud-pie quality
- Dirt clod properties
- Vegetation
- Soil-forming factors
- Watersheds
- Soil processes
- Update current map with new legend
- GIS compilation

Best process for project
- Involve teachers and kids
- Graduate/ undergraduate students
- Access current teaching curriculum
- Regional working committees
- Steering committee
- Use existing info
- Compile best soil map possible for
- scientists and teachers

The Sub *(from page 1.)*

words, the apple does not fall far from the tree.

The tension is further heightened when the teacher-wife feels she is succumbing to the flu or the cold and must plan for her replacement. This is always a difficult decision, because to write lesson plans for the "sub" is usually more work than it appears. The alternative is simply for her to struggle through the day with the illness and therefore not prepare any lesson plans at all. On the other hand, the surveyor-husband approaches his own absence from the office in a more relaxed manner. Yes, the Memorandum of Understanding (MOU) between the cooperating agencies states that the soil survey shall be completed in the year 2008 or before "hell freezes over," but this is more of a wish than an ultimatum. His survey is already behind schedule so warmer clothes have been ordered. In case a substitute soil surveyor must be called, the National Soils Handbook strongly suggests the following sequence of events for a smooth progress:

What is an RV? [ ] In NASIS it means "representative value," which could be actual data, a hunch, or an average of the two.

First, the surveyor-husband must locate another soil surveyor from an adjoining county or from across the State, if necessary, who would be willing to forego his own computer data entry work in favor of doing yours. This may be a difficult task.

Second, the sub should become familiar with the soils of your county. An excellent memory technique is to on paper place each soil into groups based upon temperature and moisture regimes. And then further refine these groupings according to soil depth, texture, and coarse fragments. Thus, each niche would be occupied by one soil. Realistically, though, a soil will be remembered for its extremes either because of its fine qualities or its total lack of these same fine qualities, just like good students and poor students. For example, a very deep soil with good drainage and medium texture throughout will be highly prized for its potential and can be classified as "prime farmland." (Other soils would be well-advised to emulate this soil.) Good soils are found on broad floodplains. In contrast, a soil with an abundance of loose rock, with a hardpan or bedrock close to the surface, or with too much clay or sand will never amount of anything. These soils hang around steep slopes, stable plateaus, and alluvial fans just looking for an excuse to go "colluvial" and cause trouble downslope.

Third, the sub should follow lesson plans. It is assumed the sub is very familiar with moving about in NASIS, navigating from one window to the other. The surveyor-husband will provide the password for gaining entrance into the soils computer and for unlocking the office coffee pot. The sub would then be ready to get to work. The instructions are simple - start with MU163E and do as many mapping units as possible by …

• Linking any new soil and its characteristics to its corresponding mapping units in NASIS. This is a must otherwise the inputted information will be "lost" within the computer or better known as "vaporware." Once linked, data can be entered into NASIS.

• Being aware that most fields in NASIS require a range of numbers with an RV between them. What is an RV? I always thought it was a lumbering, box-of-a-vehicle meant to transport all your worldly possession to every campsite. In NASIS it means "representative value," which could be actual data, a hunch, or an average of the two. When it comes to data entry, always keep in mind, "what is the least amount of information must be inputted into NASIS and still produce a printable report or table?" Or to put it another way, "how much useless information can I ignore and still graduate from high school?"

• Acknowledging the presence of miscellaneous land types within mapping units such as rock outcrops, badland, gravel bars, and bodies of water but not entering any data because they obviously have no soil profile.

Fourth, in case the internet connection is incredibly slow or there is a power outage and no more data can be inputted into NASIS that day, the substitute will bring along his set of fluorescent Highlighter pens to mark inconsistencies found in map compilation. This is done as follows

MEMBER SPOTLIGHT

Herb Huddleston

Herb Huddleston

by Steve Campbell

I'm a New York boy by birth – northern New York, way up in St. Lawrence County by the Canadian border. I grew up in the little village of Canton, where my Dad was a County Agricultural Extension Agent. He didn't know very much about soils, but his knowledge of agriculture in general and the College of Agricultural Sciences at Cornell in particular surely influenced the eventual direction of my own career.

I graduated from high school in 1959, the same year that Russia launched Sputnik into earth orbit. I had no particular career goal in mind, but science was in, so I decided to major in chemistry at the College of Wooster in Ohio. From almost the beginning I hated chemistry – it was so different from high school chemistry. By the end of the year I had decided to stay at Wooster one more year, take as much Geology as I could, then transfer to Cornell to study soils in the Agronomy Department. Subsequently I stayed on at Cornell for a Master's degree, then went to Iowa State for my Ph.D.

My first real job was a teaching position in the Environmental Sciences program at the University of Wisconsin – Green Bay. UWGB was a brand new institution, and the opportunity to work with colleagues across broad interdisciplinary lines was truly exciting and challenging. After a few years, however, I found myself drifting farther and farther from the field of pedology, and into academic areas I knew less and less about. So I started casting my net, and ultimately landed this job as Soils Extension Specialist at Oregon State. Back when I was looking at schools for doctoral work, I had seriously considered OSU, and my major prof had told me that the state of Oregon was a virtual museum of soils. Boy was he right! And to this day I remain humbled by my incredible good fortune at being selected to come join the OSU Department of Soil Science in 1976.

> *I've been fortunate enough to rub shoulders with some of the giants of pedology – Marlin Cline at Cornell, Frank Riecken and R. V. Ruhe at Iowa State, Francis Hole at Wisconsin, Larry Wilding at Texas A & M, to name a few.*

Over the years I've worked with SCS/NRCS on training programs on the use of soil surveys and introducing new surveys, with Oregon LCDC on land use planning programs, with DEQ on training for on-site waste disposal site evaluation, and with the FFA folks on the state high school soil judging contest. I've dabbled in research, most notably in wet soils, and I've taught a bunch of courses on campus. Throughout my career I've been fortunate enough to rub shoulders with some of the giants of pedology – Marlin Cline at Cornell, Frank Riecken and R. V. Ruhe at Iowa State, Francis Hole at Wisconsin, Larry Wilding at Texas A & M, to name a few.

What do I like to do? I love Oregon outdoors – hiking, camping, climbing in the Cascades, prowling around in the sagebrush in the Oregon desert, strolling on Oregon's great beaches. I like working on outdoor projects, I like classical music. I've got six grandchildren, including twins, and I'm looking forward to having more time to go visit

The Sub *(from page 8.)*

check for open-ended polygons using the light table. Also check for polygons in the shape of animals like birds, cats, giraffes, and my favorite, teddy bears, and color them in with the pens. These polygons with "jagged edges" will eventually be "smoothed" in the editing process which means the loss of ears, legs, and arms.

• Next, color in any polygon smaller than a predetermined size. It will be merged with a larger, adjoining polygon. Why? It is done because … because….well, just BECAUSE. DON'T ASK ANY MORE QUESTIONS!

• As a final review, pull an adjoining mylar sheet from the flat file and place it along side the first mylar. Look for soil lines that do not continue from one sheet to the next. If all the soil lines do match, then a "quality join" is declared, people will dance in the streets, and a "happy face" sticker is placed in the upper right corner of the mylar sheet. If they do not match, then each mismatch must be scrutinized and rectified. If the situation can not be resolved, then the "Law of Creative Correlation" is invoked and the problem is fixed without further delay.

Yes, the Memorandum of Understanding (MOU) between the cooperating agencies states that the soil survey shall be completed in the year 2008 or before "hell freezes over," but this is more of a wish...

Fifth, before the sub may exit NASIS, he must fill out the online survey. It will only take a few moments of his time. His responses will be kept confidential and will be used to improve NASIS after his retirement.

• How did you react to the on-screen box saying, "NASIS is busy!" and you must wait?

• Did you save your entries frequently in case you were bumped off NASIS?

• Once you were kicked off NASIS, did you remember to "kill yourself" as the temporary owner of the files before you attempted to reenter NASIS?

• Is computer entry better than submitting a paper copy?

• Would you recommend NASIS to a fellow surveyor?

• If not, would you recommend NASIS to someone you really disliked?

Sixth, at the end of the day the sub will leave a note stating how much he has accomplished and if he encountered any problems. Unfortunately, the sub is so eager to return home that a note is rarely written. However, a few, crumpled notes were retrieved from the waste can and are as follows:

• Note from computer security, "You have made frequent visits to the website called 'Naughty Ladies of Bend.com.' We must talk."

(Continued on next page.)

The Sub *(from previous page.)*

• Note from housekeeping, "I scraped the pizza from your monitor but the cola and pizza sauce had already disappeared between the keys on your keyboard."

• Note from the sub, "You should have told me to validate (computer data checker) before I pasted that soil to many of the mapping unit in your legend. Oh, well, it is getting late. Goodbye."

Well, it appears the surveyor-husband does have life easier than the teacher-wife as far as planning for a sick leave replacement. Other than supplying the password and the place to start, the husband did not do much. So the wife has decided to become a soil surveyor. "How difficult can it be?" she asks. She will immediately establish new rules for the office. For example, no talking unless you talk about soils and no wandering around the room unless you must go to the bathroom. Furthermore, sharpen your pencil before work and finish your OSD before you go home. Things will be different around the office from now on.

Soil Survey Characterization Database to be Online

from "NRCS Technology News," April 2003

A database of soil survey characterization data has been created at the National Soil Survey Center's Soil Survey Laboratory. It contains the"legacy" data from the mainframe database and the complete, verified data from the Soil Survey Laboratory Information Management System (SSL-LIMS) database. The database serves as a staging area for the soil data warehouse and is replicated at the NRCS Web farm in Fort Collins.

The public, using a Web browser, will be able to view and print standardized reports of characterization data from the Web farm. The public will also be able to search and download delimited text files of user selected data. Selection methods include criteria related to project, site, and pedon information (i.e., state, county, series name, taxonomic classification). A report of the soil profile descriptions associated with the characterization data will also be available at the Web site. The Web pages are 508 compliant and, therefore, are accessible to all, including those with disabilities. The database will be available from the link at URL:
http://soils.usda.gov/soil_survey/nscd/main.htm.

It is anticipated that the URL:
http://vmhost.cdp.state.ne.us:96/
will continue to be available until archiving the legacy database is completed.

The legacy mainframe database, including descriptions stored on the mainframe and Pedon Description Program databases, will be archived in several formats. The archived formats will be delimited ASCII files, Microsoft Access database, and report files. These formats will be stored on CD ROM. Future enhancements to the Web delivery system include the capability for lab project submitters to view their project's progress to completion, access to provisional data before project completion and verification, and the capability to suggest additional analyses and additions/corrections to the project's information.

The public, using a Web browser, will be able to view and print standardized reports of characterization data from the Web farm.

For more information, contact:

Thomas Reinsch, Soil Scientist
National Soil Survey Center
(402) 437-4179
thomas.reinsch@usda.gov

Sharpshooter

The *Sharpshooter* is the official newsletter distributed to the members of the Oregon Society of Soil Scientists. Published quarterly by J.B. Good, Inc. and the Oregon Society of Soil Scientists. Address changes or inquiries about membership to:

OSSS
Box 2382
Corvallis, OR 97339

Web site and email address:
http://osss.peak.org
email: osss@peak.org

Advertisements

Reach more than a hundred soil science professionals with an advertisement in the *Sharpshooter* And the price is right — whole page $45, 1/2 page $25, 1/4 page $15, or 1/6 page $10. All you need to do is provide a disk and hard copy to the *Sharpshooter* editor by the deadline (first of the month — January, March, June and November).
All articles and advertisements submitted are subject to room available basis.

News items

Remember all articles submitted to the *Sharpshooter* can be sent on 3-1/2" disk in most any DOS, MAC or ASCII format, along with a hard copy. In doing so, the *Sharpshooter* can get to you faster.

Membership rates

$25.00	Voting member
15.00	Associate member
30.00	Sustaining member
5.00	Student member
250.00	Lifetime member

SHARPSHOOTER
OREGON SOCIETY OF SOIL SCIENTISTS
P.O. Box 2382 • Corvallis, OR 97339