PAPSS
P.O. Box 61035
Harrisburg, PA
17106-1035

PENNSOIL

October 2004

The Newsletter of the
Pennsylvania Association of Professional Soil Scientists
P.O. Box 61035, Harrisburg, PA 17106-1035

PAPSS 2004
Annual Meeting
Wednesday, November 17, 2004
State College, PA
More Information and
Registration on the Last Pages
of this PENNSOIL

Contents

Computer Technology Transforms Soil Survey in the 21st Century

Lawrence E. Clark and Maurice J. Mausbach, NRCS, Washington DC

Most everyone agrees that computer technology is rapidly changing our world and the way we live. Field soil surveyors involved in soil mapping projects recognize the current and future effects of computer technology in improving their capability to display unique soil areas on traditional paper maps and electronically using Geographical Information Systems (GIS) technology. The Soil-Land Inference

Model (SoLIM) and other GIS-based soil landscape analysis projects are being developed to help soil scientists produce soil surveys more efficiently and to improve the availability of soil information.

The SoLIM procedure captures the relationships of soils to landforms in landscape models that soil scientists develop mentally while walking the woods and fields, examining soils with augers and sharpshooter shovels, and studying various information sources about soil environmental factors. Their knowledge of landscape models is then processed within a computer to prepare soil maps to be verified by soil scientists in the field. The careful recording of soil landscape models is a noteworthy outcome of the SoLIM method. It preserves the human knowledge acquired through traditional soil survey activities that may be lost as soil scientists retire or relocate to new survey areas.

The SoLIM procedure is a repetitive process requiring soil scientists to continually update and refine their landscape models as they discover new information about the soil environmental factors during a project survey. The soil environmental factors are Dr. Hans Jenny's classic five factors of soil formation: parent materials (geology), climate, relief or topography, organisms (plants, animals, humans), and time. After soil mapping is completed, conservation planners and others use the soil maps and landscape models to help them better understand soil interpretations for land use and management decisions.

The SoLIM project is collaborative research with the Department of Geography, University of Wisconsin-Madison supported by the NRCS Soil Survey Division and the Wisconsin NRCS. The research objective is to improve the accuracy, quality, detail, and long-term usefulness of soil surveys. The SoLIM technology has three primary, independent components: (1) computer-based GIS programs and remote sensing data, (2) knowledge documentation ("capture") of soil environmental factors and landscape models, and (3) an inference model that uses deductive reasoning to predict soil areas on a map.

To predict soil areas with a computer, soil scientists, and geographers identify the different types of data representing the soil environmental factors and convert the data into an electronic format that can be displayed and analyzed in the GIS program. In Dane County, Wisconsin,where SoLIM is undergoing development, aerial photography and maps of bedrock geology have been scanned or digitized to make them useable by GIS software. Topographic quadrangle maps were also converted into 3-D landscape views or digital elevation models. Within the GIS program, these soil environmental factors are then combined so that various soil landscape models can use the data to predict the different types of soils.

The SoLIM project's early results can be broadly grouped into map products and clear records of soil landscape models. Some examples of map products are the conventional soil area or polygon maps traditionally developed during soil surveys and soil property maps that display the continuous variation across a survey area for a specific soil characteristic, such as sand content in the topsoil layer. Soil landscape models are recorded as 2-D or 3-D diagrams and written descriptions of the environmental conditions where different soils occur.

Soil scientists working in the field may soon use "futuristic" tools, such as a field vest or wristwatch carrying a portable computer, "augmented reality" glasses, video cameras, and global positioning systems and wireless Internet connectivity for accessing satellite imagery and updating computer databases with real-time measurements of soil data. Rapid advances in remote sensing and geophysical tools, such as ground penetrating radar and electromagnetic induction meters, could be combined with computer-assisted soil landscape analysis methods, such as SoLIM. Using these technologies, field soil scientists will rapidly identify and draw different soils while accurately measuring their associated properties, such as the depth to bedrock or the distributions of soluble salts, without disturbing the soil.

News Feature Added to Soils Web site

The NRCS soils Web site has added a new feature topic area called "Soils in the News." This feature provides users an opportunity to scan current soil topics and view related news articles. Some articles concerning soil survey and soil education have been selected from the Google news search at: http://news.google.com. Other article topics include use of soil survey for tax assessment, location of building sites, wetland delineation and protection, preservation of prime farmland, release of new soil survey publications, failed septic systems, trench safety, zoning, soil education, and envirothons. Additionally, some of the articles feature various people from the

NRCS soil survey program.

Articles rotate on and off the Web as new articles are posted. The soil information varies and is significant to diverse groups of users. The range of news article topics speaks well for the value of soil survey. To access the "Soils in the News" feature, visit the NRCS soils Web site at http://soils.usda.gov.

For additional information, contact:Gary Muckel, National Soil Survey Center 402-437-4148 gary.muckel@nssc.nrcs.usda.gov

Understanding Soil Risks and Hazards

A new publication is available on the SOILS.USDA.GOV web site. "Using Soil Survey to Identify Areas With Risks and Hazards to Human Life and Property." This publication introduces several soil related risks and hazards that are important to city and county planners, developers, construction contractors, and others who use or build facilities on or in soils. A booklet and CD will be available soon. This publication is in PDF format, 93 pages in length and is available in high or low resolution.

In Memorium: Soil Scientist Klaus Flach

Soil scientist and Davis resident Klaus Werner Flach died July 8, 2004, at Sutter Davis Hospital. He was 77. A native of Germany, he was born March 24, 1927, in Kolbermoor, Bavaria,to Werner and Bianca Kolmgren Flach. He earned a bachelor's degree in agriculture at the Technical University of Munich. He moved to the United States in 1950 and earned a master's and doctorate in soil science at Cornell University.

During his 30-year career with the U.S. Department of Agriculture Soil Conservation Service, he was a research soil scientist and, in Washington, D.C., was director of the Soil Survey and associate deputy chief for Natural Resource Assessment. He represented the United States on a variety of international and United Nations environmental summits and was a leader in improving the technology for classification of soils.

After retiring in 1988, he became a senior research scholar at Colorado State University and taught at Johns Hopkins University in Baltimore. He is a fellow of the Soil Science Society of America and a member of the German Soil Science Society and Sigma Xi.

Survivors include his wife, Helen Flach of Davis, his son Andrew Flach of Tucson, Ariz., his daughter Martha Flach of New York City, his brother Andreas Flach of Tubingen, Germany, and stepdaughters Marsha Stephens and Marian Gilbert of Virginia and Marla Gilbert of West Virginia.

He was preceded in death by his first wife Elisabeth Goding Flach. Donations may be made in his memory to the Smithsonian Institution Soils Exhibit, care of the Soil Science Society of America Agronomic Science Foundation, 677 S. Segoe Road, Madison, WI 53711. He was a member of the Smithsonian Exhibit design committee and, according to his family, was intent on seeing that an educational exhibit on soils become part of the Smithsonian Institution in Washington, D.C.

Discussion Forum

ESRI is hosting an online discussion forum on natural resources and invites ASA-CSSA-SSSA members to participate to discuss and interact with others people regarding the earth's natural resources. To learn more, visit: http://forums.esri.com/Forums.asp?c=139

PAPSS Member Receives National Ag Award

Secretary Ann M. Veneman honored Department of Agriculture employees from across the Nation in Washington D.C., in July for their exemplary service and achievements at the 58th Annual USDA Honor Awards Ceremony. The Honor Awards, presented each year, are the most prestigious awards given by USDA. This year's award winners represent outstanding service in many fields, including stewardship of natural resources, scientific research, disease control, environmental innovations, educational outreach, emergency response to disasters, food safety, farm and food program delivery, trade and export

Jim Doolittle (left) setting up Geophysical Soil Equipment

development, and rural economic development. USDA also honored employees who had performed individual acts of heroism and courage.

Category: Protecting and Enhancing the Nation's Natural Resource Base and Environment

Individual Winner: James A. Doolittle, Newtown Square, Pennsylvania --For developing new, non-invasive subsurface observation technology, contributing to much higher levels of efficiency and effectiveness within the nation's soil survey program.

WHERE IS OUR STATE SOIL?

Legislative Session Ends November 30, 2004

Hazleton is the same place is was when we last reported on the State Soil Bill. NOW it is time to act as the Pennsylvania Legislative Session will be ending soon. If we can't get a STATE SOIL BILL passed soon, we start over from scratch with the next Legislature.

CONTACT your Senator. Have your friends contact them. We need to get the Senate and Full Legislature to act on HB 747. Bruce Willman can be contacted for any support information you may need or see the PAPSS web site ***www.papss.org***

In the Senate

Referred to STATE GOVERNMENT, May 12, 2004

AS YOU CAN SEE NO ACTION HAS BEEN TAKEN ON THE BILL SINCE MAY 12th.

The STATE SOIL Bill retains its House designation, HB 747. Send a letter to your Senator and include the Senate State Government Chairman, Senate Majority Leader and Senate *President Pro Tempore*. Their addresses are listed below.

Senate Leadership

Honorable Charles D. Lemmond, Chairman

Majority	*Minority*
Lemmond , Charles, Chair ***clemmond@pasen.gov***	**Williams, Anthony**, Minority Chair
Pippy, John, Vice	Ferlo, Jim
	Logan, Sean

Senate State Government Committee
178 Capitol Building
Senate Box 203020
Main Capitol

SENATE

State Government
Harrisburg, PA 17120
(717) 787-7428
clemmond@pasen.gov

Chair

Tartaglione, Christine

Conti, Joe
Punt, Terry
Thompson, Robert
Wenger, Noah

Honorable Robert C. Jubelirer
President Pro Tempore
292 Capitol Building
Senate Box 203030
Main Capitol
Harrisburg, PA 17120
(717) 787-5490
rjubelirer@pasen.gov

Honorable David J. Brightbill
Majority Leader
350 Capitol Building
Senate Box 203048
Main Capitol
Harrisburg, PA 17120
(717) 787-5708
dbrightbill@pasen.gov

If any of the Senate State Government Committee persons are your State Senator, you DEFINITELY need to contact them and request they move it out of committee,

Thanks for your efforts. We cannot sit back and wait now!

Bruce P. Willman, CPSSc
2004 PAPSS President

EARTH SCIENCE WEEK, Oct. 10-16

The American Geological Institute is offering 50 free Earth Science Week kits to SSSA members. The first 50 members to e-mail us their mailing address will receive this kit which includes activities and ideas on how to celebrate Earth Science Week, Oct. 10-16, in your community and/or classroom. E-mail: membership@soils.org (note: you will not receive a reply).

Smithsonian Soils Exhibit

Smithsonian Soils Exhibit Reaches Half-Million Dollar Milestone
The first goal of $500,000 has been reached. This ensures a Soils Exhibit will be part of the earth science program at the National Museum of Natural History in Washington DC. Four States have reached their $10,000 goal (Pennsylvania is NOT YET one of them).

List of Contributors to PAPSS Smithsonian Soil Exhibit

		DONATED	PLEDGED
10/04/03	Anonymous	$100	
12/27/03	Laurel Mueller	$100	
6/29/04	Soil Services Company	$300	
2/12/03	Curtiss J. Dell	$ 50	
5/20/04	Curtiss J. Dell	$ 50	
5/06/04	Lanchester Soil Consultants	$100	

$1,000+ Contributors for Monolith Plaque and SSSA Hall		Donated	Pledged
11/25/03	Pennsylvania Association of Professional Soil Scientists	$1,000	
11/25/03	Science Applications International Corporation	$1,000	
9/01/04	Alan F. Bilzai	$1,000	
9/7/04	Bruce P. Willman, CPSSc	$500	$500
	TOTAL	$4,700	

Donations are made to the Agronomic Science Foundation. A donation of $1,000 will get your company, group, or yourself listed on the State Soil Monolith.

Note to Federal Employees: You can support the Smithsonian Soils Exhibit through the Agronomic Science Foundation (ASF) in the Combined Federal Campaign. ASF's campaign number is 2907. Notify Valerie Breunig (vbreunig@a-s-f.org), to designate your CFC gift to your state Smithsonian Soils Exhibit monolith.

Field Trips in Northwestern PA

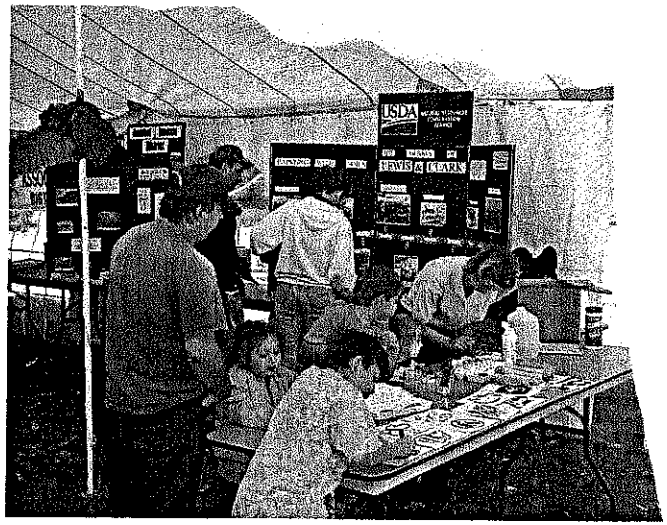
The Pittsburgh Geological Society and the Department of Geography, Geology, and the Environment of Slippery Rock University are sponsoring a field trip to the Slippery Rock Creek Basin near Portersville, Pennsylvania. They will be viewing features relating to remapping the Wisconsin-Illinoian glacial margins in the area. Sedimentological, mineralogical, petrological, and textural analyses were performed by the fieldtrip leader, Gary D'Urso, as part of his dissertation from West Virginia University. (This dissertation was somewhat critical of the USDA soil surveys for these counties.) In addition, HEC-RAS paleoflood models were developed to investigate the role of proglacial lake outburst flooding in the glacial history of the basin. The study suggests the proglacial lakes drained rather slowly than by catastrophic dam outbursts as is currently thought. The trip will coincide with Dr. D'Urso's talk for the PGS in October on the same topic. To reserve a spot contact Dan Martt at (412 225-2320) or e-mail dfmartt@verizon.net

Also of interest, the 2005 Field Conference of Pennsylvania Geologists is having its annual field trip in the Sharon/New Castle area. Features to be observed include a thrust fold in New Castle, geology of Pennsylvanian age Vanport limestone and Homewood sandstone, glacial stratigraphy in the region, and lake bluff erosion on Pymatuning reservoir. The conference is scheduled for October 13-15, 2005.

- by Alex Dado, NW PAPSS reporter

Soil Painting a hit at Waterfowl Expo

On September 18th and 19th, 2004, the 23rd annual Pymatuning Waterfowl Expo, sponsored by Ducks Unlimited, took place in Linesville, PA. Over 5000 people visited this event. Part of this event included a "Clean Water Festival" educational section in which NRCS participated. Our display theme was, "Painting with Soils" based on a series of soil paintings illustrating the Bicentennial of the Lewis & Clark Expedition that was featured in the NRCS 2004 Soils Planner. NRCS had a hands on activity set up where children could paint pictures using soils paints and crayons made from soils. Maria Anderson, an NRCS Soil Conservationist trainee, and Regina Schweinsberg, a Soil Scientist with DEP, set up the display, prepared the soils paints for use, and



guided the children through the painting process. Handouts were also available. The display was a huge success with all age groups.

Soil Science on Vacation 2

By Russell Losco

This August I was lucky enough to take my son and accompany six friends on a two-week trip to Alaska. We arrived in Anchorage on August 6 and spend two weeks traveling, sightseeing and fishing, but mostly fishing. One of our group described to our first outfitter our proposed daily itinerary as "Eat, fish, eat, fish, drink, eat, sleep, then repeat daily." Our first outfitter had planned for us some fossil hunting and mineral gathering trips but, unfortunately, democracy won out and the majority vote was to forego those trips in order to spend more time fishing. Still, as a soil scientist, I couldn't help but be struck by the geologic and pedologic processes going on all around us. I dutifully kept pointing out interesting features to my friends but often got responses ranging from polite nods to blank stares and the occasional "That's nice but I'm trying to land this salmon, right now."

Even while on the flight to Anchorage, features of the landscape that I had previously only read about were illustrated. Flying over North Dakota brought excellent views of the prairie potholes. Flying over the Chugach Mountains south of Anchorage brought my first glimpses of glaciers and glacial inter-braided streams.

Our first full day took us upstream along the Matanuska River, a glacial river with a broad flat channel, most of which is over ½ mile wide, filled with inter-braided meandering channels. It was breathtaking to look over this river, gray and opaque with its sediment load, with the Chugach Mountains as a backdrop and watch the wind picking up clouds of loess. After spending significant amounts of my time examining loess in the field that has been in place for millennia, it was interesting to watch it being created and re-deposited. One day had us fishing Weiner Lake for rainbow trout. Much of the lake bottom is stony, but broad sections in the lee of the cliffs to the north of the lake are covered in 2-3 feet of loess. My companions kept complaining about the thick "muck" that made wading and walking difficult. I repeatedly pointed out to them that it was, in fact, loess and not muck. This was complicated when we did encounter some muck while crossing a section of emergent wetland and one of our party tripped and fell into the shallow water.

One of the locals pointed out that each glacial river has a slightly different color depending upon the glacier that feeds it and the bedrock that is being ground up by that glacier. We noticed, for example a distinct difference between the Matanuska River with a color of around N7/, the Tonsina River at around 5PB8/1 and the Kenai River at about 5G7/2. Our guide mentioned as an interesting trivia fact that, if you fill a water bottle with the glacial water and take it home that the sediment would not settle out within your lifetime. I followed up with an explanation of Stokes's Law and colloidal suspension of clay particles, which none in the group appreciated.

Our first three nights were spent on the south slopes of the Talkeetna Mountains overlooking the Matanuska glacier. One evening (it stayed light until 10:00 pm so we had a tendency to overdo things) we took the opportunity to hike out about ½ mile onto the glacier. The term "moraine" means much more to me now that I've hiked across several fresh ones. The Matanuska glacier, like almost all, if not all of the glaciers in Alaska has receded significantly in recent years, losing over a mile of ice in the last 15-20 years. We also visited the Columbia glacier, or at least the iceberg field that calved from it, on a sightseeing cruise. This glacier has receded over 7 miles in less than 25 years. The controversy about global warming is no controversy in Alaska; they see it all the time in the receding glaciers, the shorter winters, the warmer summers (it was 15-20 degrees warmer in Alaska than it was here in Pennsylvania while we were there), the thinning winter ice packs and in the migration of warm climate species to Alaska.

The most striking feature that I noticed was when we flew in a floatplane across the Redoubt Bay Critical Habitat Area on the way to fish for silver salmon. This area of glacial outwash capped with loess, in many ways reminded me of what the Delmarva Peninsula probably looked like when we had glaciers in northern Pennsylvania. As we flew over I saw meandering streams lined by trees, and, in some

areas, meandering double rows of trees with no stream between them. This would appear to be meandering streams that have silted in to the point that they lose their gradient and stop to flow, then get filled in with loess and disappear, leaving only the trees to mark where they used to be. This would explain some of the variations that I have seen in the coastal plain of Delaware where loess overlays outwash and the Bt-C horizon boundary can sometimes vary unexpectedly.

Alaska is a very seismically active area, as evidenced by the 1964 earthquake, which registered over 9.0 on the Richter scale. Vast areas of the Matanuska Valley, which had been valuable farmland prior to the earthquake, dropped up to 20 feet in elevation during the earthquake, becoming tidal flats. Evidence of old houses and barns are still visible among the wetlands of the tidal flats. Last year, a rockslide at the site where we stayed near the Matanuska Glacier, turned approximately 20 acres of forest into a boulder field. One evening, while we sipped cocktails before dinner, we witnessed a smaller rockslide in the Talkeetna Mountains, which coincided with an earthquake registering 3.6 on the Richter scale occurring north of us near Fairbanks. We also experienced two small rockslides while fishing along Sheep Creek, south of Denali.

That same day, while fishing along the Little Susitna Creek, after videotaping my son landing a large Red Salmon, our fishing guide asked me if I wanted to videotape a small sand bar which he pointed out to me. When I said no, he pointed out that it contained gold. We were easily able to "pan" for small flakes of gold simply by scooping up sand in the palms of our hands. This experience kept us watchful at all of our fishing stops.

Whole careers could be, and probably will be spent discussing the soils and geology of Alaska, so I can barely do it justice here. I would urge anyone who has the opportunity to travel to Alaska and spend some time on the ground there. There is enough there that is of interest to any Earth scientist or interested layperson to fill as much time as you want to spend. The fishing is pretty impressive, too, but this is the wrong venue for that discussion. Anyone interested in viewing photographs of our trip can go to http://www.kevinmunrosmith.com/Alaska2004/Alaska.htm a website built by one of our party.

Hurricane Ivan

By Tim Ratvasky

Hurricane Ivan left western Pennsylvania in shambles. The Pittsburgh area received over 5.9 inches of rain, the greatest on record, in what I believe was a 24-hour period. Although the region did not experience strong winds, continuous, moderate to heavy rain was unrelenting. Small communities such as Houston and Cecil, PA were devastated when small streams overtopped their banks and reached levels not seen before. In Cecil, I observed one large, in-ground swimming pool jammed into several trees along one stream about 300 yards downstream of its origin. Nearly the entire city of Carnegie was totally under water. Debris is everywhere, with fences collecting so much debris that they simply bent over. Several small residential/commercial fuel oil storage tanks were recovered from trees. The attached photos give a small indication of the water's magnitude. With regards to soil, the contents of fuel oil and gasoline storage tanks were contaminated by water, or were released to the environment. Innumerable containers of chemicals and fuel have been recovered under the direction of the PADEP, but many remain to be collected. The degree of saturation of local soils may have prevented more extensive chemical and fuel contamination, by preventing the infiltration of chemicals into the subsurface. Dilution of the pollution was hardly the case, with at least one local individual believed to have died from exposure to sediments contaminated with sewage. As expected, the development of floodways and agricultural land into commercial and residential uses,

and the containment of stream channels contributed substantially to the damage. **EDITORS NOTE**: A remarkable collection of photographs of flooding in PA caused by Hurricane Ivan is available on WNEP Channel 16 web site. Most of the photos, from Northeast and central PA, were taken by viewers.
http://www.wnep.com/Global/category.asp?C=58025
Also note that some major stream valleys had digital aerial photography taken during the height of the flood crest. These are supposed to be available shortly on the PASDA web site.
www.pasda.psu.edu

NRCS Developing Pennsylvania Specific On-Site Waste Water Disposal Soil Ratings

The National Soil Information System (NASIS) allows Soil Interpretations to be tailored to State Regulations, as long as the criteria are known and the properties are either available in the Soil database or can be derived or estimated from available soil data. To make soil surveys more effective, Vicki Meyers, NRCS Soil Scientist, Leesport, PA has been writing the programs to generate Soil Interpretations for the various types of On Lot Waste Disposal systems based on Pennsylvania Criteria. Vicki has develop DRAFTS of the Soil Interpretations and NRCS needs some Soil Scientists knowledgeable in both the soils and On Lot Waste Disposal Systems in Pennsylvania to review and critique the Soil Interpretations. These reports will be a part of the Soil Survey Reports available in NRCS offices or through the Soil Data Mart. If you are interested in reviewing the Interpretations, contact Vicki.Meyers@pa.usda.gov

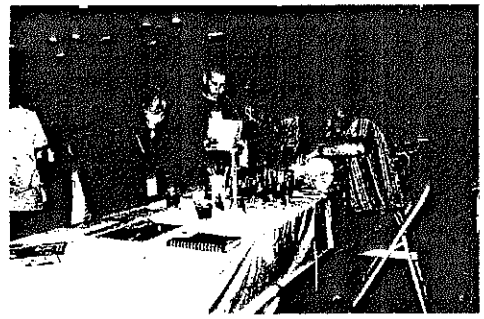
Want to Serve PAPSS?

Two PAPSS Board Positions will be up for Election at the December Annual Meeting. Board Members serve a three year term. If interested or you know a Member who would make a great PAPSS Board Member, contact Laurel Mueller at 570-924-3694 or by email at soilservices@epix.net

2006 World Congress of Soil Science Tours

Tours planned for the 2006 WCSS in Philadelphia, PA are described on the Official Web Site for the Congress. You can check both the Day Tours and the Pre and Post Conference Tours on the web site below
http://www.ext.colostate.edu/aes/tours/

Children's Groundwater Festival



The Washington County Watershed Alliance conducts a Children's Groundwater Festival at California University every May. The 2004 event was held on May 14, 2004. The festival exposes sixth grade children from Washington County schools to issues and career opportunities in watershed management, groundwater, land use, and environmental management. Tim Ratvasky represented the Soil Science community by presenting a hands-on display of the basic principles of soil permeability and soil porosity. Tim conducted the presentation during the past 3 out of 4 years, missing one year due to work demands.

Meet a PAPSS Member

Tim Ratvasky is a Soil Scientist living in Washington, Pennsylvania with his wife Cindy, and their two children; Stephen (10 years old)

and Rachel (5 years old). Tim is employed by The Weavertown Group, an environmental contracting and emergency response/industrial service company located in Houston, Pennsylvania. Tim is a Senior Project Manager, whose responsibilities include managing and performing a variety of projects from industrial and commercial soil and groundwater investigations, site remediation (including Act 2 site closures), and providing technical support to the emergency response division of Weavertown. Tim gained his interest in soil science during the repair of his parent's septic system (after one look at the rather dynamic soil profile in my parent's back yard, I was hooked!), and during his undergraduate curriculum in Environmental Resource Management at Penn State. He holds an MS in Agronomy (Soil Genesis and Morphology) from Penn State. Tim's leisure time (if any) activities include church choir, Cub/Boy Scouts, hunting, and fishing (Stephen is giving Tim a run for his money when it comes to fishing!). Recent work demands and the economy have regrettably made attending PAPSS meetings rather difficult for Tim lately.

PAPSS Summer Technical Session Draws Large Interest

The Technical Session "Soil Testing and Characterization for Stormwater Infiltration" on July 21 at the Grantville Holiday Inn drew about 140 Soil Scientists, Engineers and others interested in learning about the role soils play in Stormwater Infiltration. Randy Greer, Delaware DNREC discussed the Delaware experience with stormwater infiltration noting most of Delaware soils are quite sandy nad many failures are from inaccurate water table determination. He also said pretreatment for sediment removal is needed. The Soil Survey is their first siting indicator and they use test pits, not borings. Thomas Cahill, Cahill Associates, discussed the rainfall distribution in Pennsylvania, the Pennsylvania Stormwater BMP Manual, and how the soil mantle plays an important role in water management. Dr. Dan Fritton, PSU, reviewed methods for determining soil infiltration, variability in infiltration measurements, and made recommendations on testing soil infiltration. Ed White, NRCS, demonstrated how soils need to be understood to make good decisions, soil properties that need to be evaluated and the functions of soils.

In the afternoon field session, soil profiles of Berks, Weikert and Comly were observed and discussed and various methods to measure soil infiltration were demonstrated and discussed. The meeting was very well done. Thanks to all who planned, presented and attended this timely and informative Technical Session.

The following are notes from Nancy Sansoni from the Technical Presenters:

Randy Greer: A. Presented DNREC Testing Policy. The testing policy requires soil investigations/logs, single ring infiltrometer tests, minimum rate of 1.02 inches per hour, and 0-3 feet below design bottom.

B.. Stormwater design considerations include pre-treatment, minimum 3 ft above SHWT, dry within 48 hours, safe overflow, >20 ft to basement walls, >150 ft from water supply wells, not located in fill, facility bottom slope <5%.

C. The presentation stressed the importance of minimizing compaction during construction of the facilities.

Cahill: A. The original stormwater plan in PA focused on slowing down runoff, and rate control (detention basins). The new version focuses on sustainable site design and attention to the hydrologic cycle. The proposed new manual concepts are rate control, volume reduction, and water quality.

B. PA site criteria are soil permeability >.25 in/hr, minimum bedrock separation is 2 feet, and the infiltrative device at least 3 feet above SHWT. The best management practices tend to follow the land form and minimize excavation, keep level bed bottoms, and keep components clean during construction.

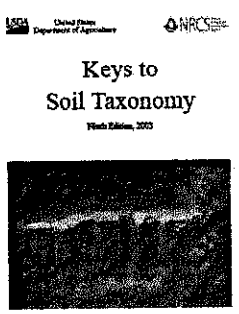
EDITORS NOTE: The PAPSS Board finalized and submitted technical comments to the Pennsylvania Stormwater BMP Manual. A copy can be obtained from Bruce Willman.

SOIL STUFF ON EBAY

Need a Japanese Soil Doll? How about a SOIL CD? If you are looking for these, or a variety of other Soil related things, you may want to check out the "Soil" Stuff on Ebay. On a recent day there were **393** items on Ebay found using "Soil" as a search word. Check it out, you may find something you always wanted or needed, or didn't even know existed! There were even some useful things. Below is a short list of some SOIL items on Ebay, price not included, but you may want to note the Munsell Book was only $10.00 when I looked.

Geology Soil Testing & Lab Calibration 2 BOOK CD
Soil - Scars CD
SOILOPPRESSOR - ELEMENTS SOIL BROKEN HOPE
1133 SOIL CONSERVATION FULL MINT SHEET LOOK (Stamps)
BOY SCOUT MERIT BADGE BOOK SOIL & WATER CONSERVATION'70
Japanese Soil Doll Yellow
Star Rutiles and Purple Soil Quartz.
GEOLOGY GEOLOGIC ANALYSIS SOIL LEARNING KIT
Bearing Capacity of Soils CD -soil manual geology
Crepis rubra - CHEERY PINK Blooms - Poor Soil - seeds
1902 OrigColor Map-Soil,Maryland, St Mary Co Sheet-USDA
BRIGHT EYES - Lifted Or The Story Is In The Soil CD NEW
Warp Graphics A Distant Soil Magazine #2
JOHNNY CASH - SONGS OF OUR SOIL - 6 EYE LABEL - LP
Growth of the Soil by Knut Hamsun (1972)
One of a Kind Rich-Organic Native Wetland Soil (this one even has a picture!)
At-Home Soil Testing Kit
Soil Aeration Shoes. Strap-on
2000 Stone and Soil Presentation Pack
Giddings Hydraulic Soil Coring-Drilling Rig
MUNSELL SOIL COLOR CHARTS FIELD BOOK WETLAND DELINATION
The Danbury Mint - Turning the Soil
40 INCH LONG SOIL TESTER AUGER
Fundamentals of Soil Science by Henry D. Foth (1991)
EXQUISITE AND ELEGANT PURPLE SANDY SOIL TEAPOT
NEW $139 Lot of 5 Electric Soil Diggers NR
USDA HISTORICAL COLOR SOIL MAP OF UTAH - 1903

Keys to Soil Taxonomy 9th Edition



It turns out that the Government Printing Office did not order a supply of the 9th edition keys to offer for sale. Because of this, I have arranged for LANDCARE to handle distribution to students, consultants, teachers and others requesting them. Anyone, including NRCS employees, may also order copies from LANDCARE. **There will be no charge for the book or for shipping.**

(This information is also posted on our website at:
http://soils.usda.gov/technical/classification/tax_keys/)

To order **Keys to Soil Taxonomy, 9th edition,** select from the following options:

1. Order on-line: Go to http://www.nrcs.usda.gov/ , select "Publications" on the left Quick Access list which will take you to the Publications ordering page.

2. Order by phone: 1-888-LANDCARE (follow recoded message instructions)

3. Order by FAX: 1-515-289-1227 (Ask for "Keys to Soil Taxonomy". Provide your name, institution, complete shipping address and a phone number)

4. Order by mail at: Landcare, 945 SW Ankeny RD., Ankeny, IA 50021 (Ask for "Keys to Soil Taxonomy". Provide your name, institution, complete shipping address and a phone number)

If you need assistance with your order, call 1-888-LANDCARE, extension 30. Craig Ditzler, National Leader - Soil Classification and Standards, National Soil Survey Center

USDA-Cooperative State Research Forum

The Soil Science Society of America (SSSA) requests your participation, (or a designated member scientist from your organization) at a USDA-Cooperative State Research, Education, and Extension Service (CSREES)-SSSA sponsored stakeholder forum during the 2004 ASA-CSSA-SSSA annual meetings in Seattle, WA. This forum will be held on Sunday, October 31 in Grand Ballroom C of the convention center from 1 to 5 p.m. The forum begins a process of engaging stakeholders from both the public and private sectors to help identify priority issue areas for funding soil science-related research, education, and extension.

Key to the success of this forum is obtaining input from scientific societies with an interest in soil science research, education and extension. We would gratefully appreciate your/your organization's participation in this important session. Some funding assistance for travel and room and board is available.

Please let our Director of Science Policy, Karl Glasener (karlglasener@cs.com, 202-408-5382) know if you will be able to join us. Thank you.

A key component of this effort is a brief online survey now posted on the Society's web site. Please take a moment to respond. See http://www.zoomerang.com/survey.zgi?p=WEB223TGFUTC6D; or visit www.soils.org; or www.asa-cssa-sssa.org/anmeet. CSREES will utilize the information gathered from the survey and forum participants to develop a comprehensive research, education, and extension agenda for agency-wide soil science programs. Initial feedback from the survey will be shared at the beginning of the forum and will become an integral part of the overall discussion, including break-out sessions from which a priority list of research, education, and extension issues will be generated. Contacts are: Mervalin Morant (mmorant@csrees.usda.gov); Nancy Cavallaro (ncavallaro@csrees.usda.gov) and Karl Glasener (Karlglasener@cs.com).

Soil Scientist Recruiting

Laurel Mueller, Soil Science Recruiting Committee, is working on a SOIL SCIENCE CAREERS display and web page. You can help in this effort by sending Laurel a short, exciting, informative description of what you do as a Soil Scientist along with photos of "Soil Scientists at Work."

You may also want to send a note on how/why you became interested in Soil Science as a Career.

SEND To: soilservices@epix.net

DECEMBER 1, 2004

Deadline for Submitting Your Information for the PAPSS 2005 REGISTRY OF CERTIFIED PROFESSIONAL MEMBERS "CONSULTANTS LIST"

Every Member received a form in the mail