Commission on the History, Philosophy and Sociology of Soil Science
International Union of Soil Sciences
and
Council on the History, Philosophy and Sociology of Soil Science
Soil Science Society of America

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Newsletter

Contents

Editor's Note

This issue of the newsletter contains exciting information from the first ever joint meeting of the Soil Science Society of America and the Geological Society of America! This was a particularly exciting meeting for those of us in the soil science community who straddle the line between geology and soil science. It also celebrates the life of Roy Simonson, a great soil scientist who passed away in 2008.

Additional information includes happenings at the German Society of Soil Science, information on new opportunities to publish, and lists of new books and journal articles that came out recently. I hope everyone finds something of interest in this issue!

Any and all submissions for future newsletters are welcomed! These may include short articles, book reviews, and news items. Please send such materials to Eric Brevik at Eric.Brevik@dsu.nodak.edu.

Soil History Website Editor Needed

Eric Brevik has been maintaining a history of soil science website for S205.1 – Council on the History, Philosophy, and Sociology of Soil Science of SSSA. At the present time Eric is too busy to keep the website updated, and someone willing to take over the upkeep of the website would be welcomed. If interested, please contact Eric at Eric.Brevik@dsu.nodak.edu. Eric can also provide all the current files for the website.

The website also has a new home, and is being hosted by SSSA. The new address is: https://www.soils.org/committee/S205.1/.

Photos Wanted for Soil Survey Horizons Profiles in History

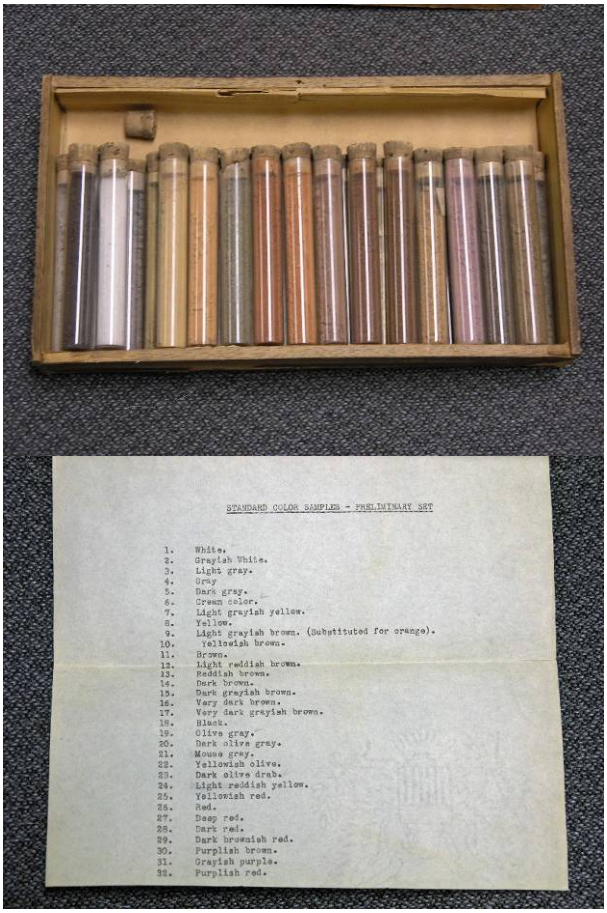
The Soil Science Society of America Journal Soil Survey Horizons is running a "Profiles in History" feature in each issue. The idea behind "Profiles in History" is to publish a photograph or figure that is significant in the history of soil science along with a short 2-4 sentence explanation of the picture or figure.

Submissions are welcomed from anyone with a relevant picture or figure. Soil Survey Horizons will publish color pictures or figures, and there is no cost for publication. Pictures do not have to be from the United States; international pictures are welcome. To submit a picture or figure, please send a high-quality jpeg or tiff file and a brief explanation of the figure to Eric Brevik at Eric.Brevik@dsu.nodak.edu or Sam Indorante at Sam.Indorante@il.usda.gov.

The following are three examples of items that have been published in the "Profiles in History" feature:

Many soils workshops were held around the world in an effort to improve soils knowledge and Soil Taxonomy. However, working in exotic locations came with a price! Here, Ernest Schlichting (Germany, left) and Ben Hajek (Auburn University, right) react after receiving inoculations before going into the Brazilian interior for the Eighth International Soil Classification Workshop on Oxisols (ICOMOX), 1986. (Photo courtesy of Stan Buol)

Dr. F. DeConinck, retired from the Geological Institute in Ghent, Belgium, examines a soil profile at the July 2001 International Working Meeting on Micropedology in Belgium. Dr. DeConinck is world-renowned for his work on Spodosols.



Soil Color
This set of standard soil color vials is one of two known sets. Soil color was important soil survey information from the beginning, but naming soil colors and standardizing them was a challenge for many years.

In the 1920s the Committee on Soil Color Standards for the American Association of Soil Survey Workers recommended a distribution of sets of soil samples in small vials. Such vials were carried out to the field for comparisons (see photo of vials).

The Bureau of Soils, USDA, published a list of 32 names for colors in 1914, but standards were not mentioned (see photo of list). Assignment of color was up to the soil surveyor until 1941 when Munsell color charts came into use.

Obituary

Roy W. Simonson

The soil science community suffered a significant loss in 2008 with the passing of Roy W. Simonson on November 2, 2008.

The following tribute was written by Roy's son Bruce Simonson, a Professor of Geology at Oberlin University in Ohio, USA, for publication in Soil Survey Horizons in honor of Roy's 100th birthday in 2008, and is reproduced with the permission of Soil Survey Horizons and the Soil Science Society of America.

Article

Roy W. Simonson: a Century as a Soil Scientist

by Bruce Simonson, Professor of Geology, Geology Department, Oberlin College, Oberlin, OH, 44074;
Bruce.Simonson@oberlin.edu

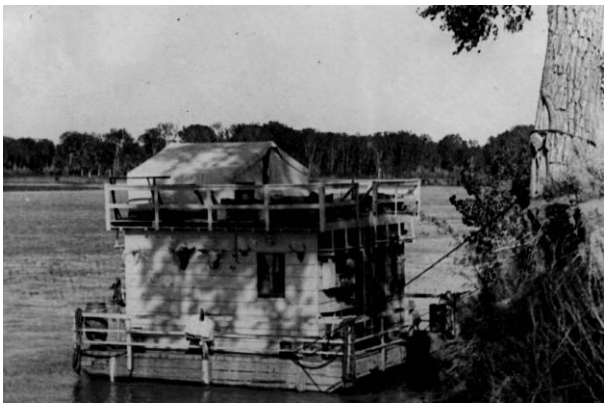
Roy Walter Simonson was born September 7, 1908 on a farm in North Dakota about 16 miles from the Canadian border. His Norwegian immigrant family homesteaded the land a scant decade earlier. Largely by luck, they settled in durum wheat country, which was their staple crop for most of the 20th century. Roy, then known as Walter, was the second of eight siblings, including his late brother Cliff, an emeritus geography professor at Northern Illinois University. Roy was fully occupied with the activities any boy growing up on a horse-powered farm would have experienced. Norwegian was his primary language until he started first grade in a one-room schoolhouse about 2 miles from the farm. He passed the state exams for 8th grade after 5 years and headed off to high school in the nearby town of Bisbee at the ripe old age of 11. Roy was often a reluctant student, but his parents Otto and Johanna (Jennie) Simonson made sure he did well in school. Once they put his shotgun away for the rest of duck hunting season when he got a failing grade on an exam in plane geometry; after that, his performance improved significantly. Roy graduated from high school at the age of 16 and kept working on the farm.

After the harvest in 1926, Roy went to Fargo to take a ten-week short course in farm mechanics at North Dakota Agricultural College. He returned to the farm when the course ended in March 1927, but once he had a taste of the "big city" there was no turning back. He returned to Fargo in January 1928 as a freshman in civil engineering. He was dreaming of building big bridges and seeing the world, but he left disillusioned after just one quarter. He returned in January 1929 and switched to agriculture, but he lacked direction until the winter quarter of 1932 when he took his first course from Charles E. Kellogg. Kellogg taught all the soils courses at Fargo at the time and was attracting a stellar group of

students to careers in pedology. Kellogg's emphasis on academic excellence and exhortations to learn about everything from the logic behind classification to James Joyce's new novels proved irresistible to Roy, among others. The ambience among the soils students must have been remarkable; for example, Kellogg expected them all to take advanced calculus and finish at the top of the class ahead of the engineering students, and they did as a rule. Roy got involved in his first professional activities shortly thereafter, helping to map the soils of McKenzie County, ND, in the summer of 1932. He completed his BS in soils and chemistry in 1934 with minors in mathematics and botany.

Shortly after graduating Roy took a job assessing irrigated lands for the Montana Experiment Station, but in just a few months he received a telegram from Professor Emil Truog offering him a full scholarship to work towards a PhD at Wisconsin. Roy was reluctant to give up a steady job in the middle of the Great Depression, but the $900 plus room and board they offered him was more than enough cover his expenses for a full year. Despite hardships on the family farm and tight budgets, Roy took the long view and went to Madison shortly thereafter. He and his adviser Truog were sometimes at loggerheads, but Roy finished his PhD in soils in 4 years with minors in geography and land economics. He shoehorned a variety of other activities into those 4 years, including 6 months he spent on a houseboat on the Missouri River appraising land slated to be flooded by the Fort Peck Dam and a summer in Washington, D.C., "fixing up" (in Kellogg's words) 40 manuscripts for the 1938 USDA yearbook *Soils and Men*. Along the way, Roy got to know many outstanding intellects and people with whom he maintained contact for the rest of his life, people like his roommate, microbiologist Wayne Umbreit, late of Rutgers University, and fellow soil scientist Bob Pearson (or Uncle Bob, as he was eventually known to Roy's sons).

Roy W. Simonson and Enoch B. Norum mapping soils of a quarter section as a class exercise, North Dakota State University, Fargo in the spring of 1932.



Houseboat used as living quarters and lab by the mapping crew during the Fort Peck Dam survey work in the early 1930s.

As soon as he finished at Wisconsin in 1938, Roy accepted a position at Iowa State College in Ames where he took charge of the soil survey program for the Experiment Station.

Roy Simonson as a faculty member at Iowa State University, photo taken during a short recess in field observations near Ames Iowa in 1941.

He also taught courses and was continually striving to keep them at the cutting edge. This is evident in a story he tells about the late Charles A. Black, who was to become a distinguished professor at Ames in his own right. Charlie took Roy's course in soil morphology, genesis, and classification the first time it was offered in 1939. By 1943 Charlie was on the faculty too, but he sat through it again in 1943 the fifth and final time Roy taught the course. Roy was puzzled why he would do this. Charlie responded that "it had the same number" but it was not the same course! Roy also met the love of his life in Ames, Susan Virginia Miller, who had arrived to work at State College about the same time as Roy. Susan was an Iowa native who graduated from Grinnell College in 1937 and married Roy in 1942. She was a very special woman with a deep love for classical music and a gift for graciously helping others, always putting their needs before her own.

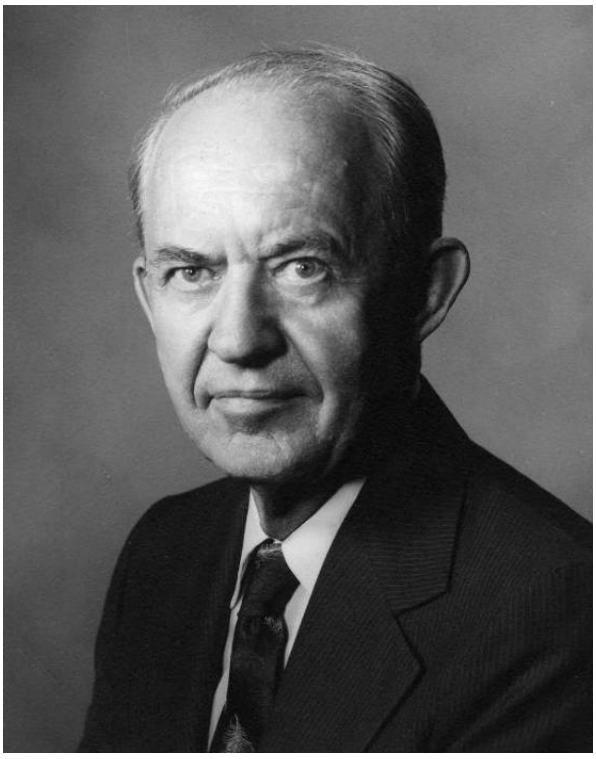
Shortly after they were married, Roy reached another crossroads when he was offered a position as a soil correlator for the U.S.D.A Division of Soil Survey in the southeast. This was a difficult choice because, in classic academic fashion, he was offered a raise and promotion at Ames once he had an outside offer in hand, but Roy decided to accept the new position. What sealed the deal was the chance to study new soils, trading the rich dark Mollisols of the Midwest for the red Ultisols of the southeast. Roy and Susan moved to Knoxville Tennessee in 1943 and lived there until 1949. While in Knoxville, Roy continued to broaden his pedologic horizons and took the first big step toward realizing his dream of seeing the world. He was loaned to the Military Geology Unit at the conclusion of WWII to spend a full year mapping soils on islands in the western Pacific. Getting there meant numerous short flights on C-47's (DC-3s), island-hopping for days. Nevertheless, Roy insisted on returning home for a family visit in the middle of the project. One key reason was the arrival of baby Walter Miller Simonson in 1946. Roy was also able to examine Japanese and Hawaiian soils during his stint in the Pacific. After another change of venue, he finally got to expand his acquaintance with soils literally worldwide. This meant relocating, and Walter's only memory of Knoxville is watching their house recede through the rear window as they drove away to their new home in Washington, D.C.

In 1949, Roy was transferred to Beltsville, MD, to become assistant chief of the Division of Soil Survey while the family took up residence in nearby College Park. In 1952, all survey activities were consolidated into the Soil Conservation Service where Roy supervised the classification, correlation, and nomenclature of soils throughout the USA until his retirement in

1973. During that time, he traveled from Point Barrow to Key West and every state in between to join field crews, consult with regional offices, and attend conferences. He also had the opportunity to compare and contrast soils on a global scale via a series of field and conference trips that included Sri Lanka (1950), India and England (1951), Brazil (1954), the Netherlands (1956), an FAO meeting in Rome (1959), Romania (1964), Australia and New Zealand (1968), and West Germany (1971). Ultimately Roy traveled to every continent except Antarctica. At the same time, he was in the thick of the group formulating a new classification of soils, the "7th approximation." Bruce Miller Simonson had arrived in 1950 and the family was regularly visited by people like "Uncle Bill" Johnson who would take a few minutes to shoot hoops in the driveway with Bruce.

Some of the big names in the creation of USDA Soil Taxonomy: left to right – Roy W. Simonson, Charles E. Kellogg, I.P. Gerasimov, and Guy D. Smith.

After Roy retired from the SCS, he found many ways to stay involved with soils. He took over as editor-in-chief of *Geoderma* in 1971 and he channeled considerable energy into improving its standing as an outlet for pedologic research until stepping down in 1988. He also continued traveling the world, going on excursions to Venezuela in 1974 (passing through Honduras to attend Bruce's marriage in Tegucigalpa to Sue Mareske, a Peace Corps nurse from Iowa), returning to Brazil in 1977, and giving lectures in South Africa in 1978. In 1984, he traveled to Norway to accept the degree of Doktor Agriculturae Honoris Causa from the Agricultural University of Norway. His first visit in 1982 was to give a lecture about expanding food production at a symposium on the natural resources of Norway. He wondered why they invited him since at best a few percent of the land in Norway is arable. Roy also returned to teaching in 1977 offering an upper-level course on theories of soil genesis as a visiting professor at the University of Maryland. His son Bruce, who was working on a PhD in Baltimore by then, was able to attend most of the lectures. Roy's engagement with soils faculty at the University and pedologists throughout the greater D.C. area was a source of stimulation and joy throughout the 70's, 80's and early 90's.



Portrait of Roy Simonson taken while at the University of Maryland, 1978.

In 1993, Roy and Susan left the house they had moved to in 1949 and relocated to Oberlin, Ohio. Bruce, true to his heritage, had evolved into an earth scientist with a desire to see the world. After receiving a BA in geology from Wesleyan University in 1972 and mapping in Central America for 2 years, he went to Johns Hopkins University and received a PhD in geology. Bruce joined the geology faculty at Oberlin College in 1979, has taught there ever since, and has also had the opportunity to do fieldwork on every continent except Antarctica. The Kendal organization opened a community in Oberlin in 1993 and Roy and Susan moved in shortly thereafter to be near Bruce, Sue, and their three children. Even after moving to Oberlin, Roy still found ways to share his extensive knowledge of soils. He maintained a lively correspondence and published a *Geoderma* article about Okinawan soils in 1994, 45 years after he did the fieldwork. He also published a summary paper in *Geoderma* in 1995 about one of his most persistent interests, the role of wind-blown dust in soil formation. Roy's first paper on loess was published in 1941. He also lectured on soils and food production to undergraduates in Bruce's Oberlin courses. One of the students didn't know what she was experiencing at the time, but later she thoroughly impressed her classmates in a soils course at UC Riverside when she told them her courses at Oberlin included lectures by Roy W. Simonson! Susan passed away in 1996, but not before she enjoyed some of the magnificent concerts and piano recitals at the Oberlin Conservatory and spent time with her three Oberlin grandchildren. She would be proud to know the first two followed in her footsteps and graduated from Grinnell. The youngest graduated from Alfred University this spring with an art degree, which also runs in the family.

Roy and Susan's older son Walter earned a BA in geology from Amherst College in 1968. Following his father's example, Walt spent a year debating his future, then went to Rhode Island School of Design and received a BFA in illustration in 1972. Walt then moved to New York City and made a name as a comic book artist. This is not as big a change as it might seem since Walt's main interest in geology was always the "monsters", i.e. dinosaurs. He is well known as a "dinosaur guy" in comics circles and even wrote the comic book version for the movie *Jurassic Park*. He has drawn and written many other comics including *Thor*, *Batman*, and *Wonder Woman*. In 1980, Walt married another comicbook writer, Louise (Weezie) Alexander Jones, and they're still at it. Walt's artistic talents are less surprising given that Roy had a keen eye and a life-long passion for photography. In addition to amassing an archive of over 3,000 Kodachrome slides of soil profiles and related subjects, Roy would spend hours in his darkroom carefully crafting enlargements of landscapes, landmarks, and flowers from around the world for home display. Despite some initial misgivings about comics as a suitable career choice, before long Roy was also amassing a complete collection of all the comics Walt ever did.

Roy continues to reside at Kendal in Oberlin. In recent years, the focus of his papers gradually shifted to the history of soil science as he tried to capture some of the events he had witnessed for posterity, often in the pages of *Soil Survey Horizons*. Most recently, he published two books of memoirs. The first, *Six Months Along the Missouri*, recounts experiences he had living on the houseboat in 1935. The second was published a year later in 2005 and consists of excerpts from letters he received almost weekly from his father Otto over several


Roy Simonson at his 100th birthday party.

decades. Roy did need a bit of help from his Oberlin grandchildren to get these publications in shape for the digital age. As he approaches 100, Roy is alert and as curious about soils as ever, not to mention baseball, tennis, and lots more. He can still give you the stories presented here and many more, like his 1933 visit to the Chicago World's Fair. At one point he and Kellogg were overlooking the lake and could hear the city throbbing behind them. Kellogg commented to Roy that men as conceited as they both were could not stand Chicago because they were simply too unimportant. Given all that Roy has accomplished in his century, it is unlikely many people would agree with that assessment.

2008 SSSA Symposia

We had a unique and exciting opportunity in 2008. For the first time ever, the Soil Science Society of America (SSSA) and the Geological Society of America (GSA) met jointly. The meeting took place in Houston, Texas, USA from October 5-9. The meeting was a great success, and many from both societies have already called for more such joint meetings in the future.

The Council on the History, Philosophy, and Sociology of Soil Science of the SSSA had the opportunity to work with the Archeological Geology and History of Geology committees of GSA and IUSS Commission 4.5 in developing a session on the historical links between soil science and geology. The session had several very good presentations and was well attended.

In addition to the history session, there was a session on the integration of soils and geomorphology in desert research dedicated to the work of Dan Yaalon, a scientist who has been very active in the soil history community.

Additional information on the sessions can be obtained at http://a-c-s.confex.com/crops/2008am/techprogram/S4460.HTM

Historical Links Between Soil Science and Geology
Sponsor: S205.1 Council on the History, Philosophy, and Sociology of Soils
Cosponsors: GSA Archaeological Geology; GSA History of Geology; IUSS Commission 4.5
Organizers: Edward Landa, USGS, Benjamin Cohen, University of Virginia

History Matters: Links between Environmental History and Environmental Science.

Martin Melosi, Department of History, University of Houston, 556 Agnes Arnold Hall, Houston, TX 77204-3003

Environmental History offers many themes and approaches that scientists and environmental practitioners may find useful. While the expertise of the historian often is best located in mastery of documentary evidence, historians employ many types of evidence—oral histories and artifacts, for

example—as well as a wide range of theory found in and outside of the field of history. Of particular value to natural scientists and social scientists, is attention to systems theory, ecological theory, and path dependence theory.
The presentation will focus on theoretical approaches that cross disciplinary lines, relating such theory to the historian's role as context setter, analogy maker, and trend analyst. Examples will be drawn from my work, especially The Sanitary City: Environmental Services in America from Colonial Times to the Present (Pittsburgh, 2008).

Soil Geomorphology in the United States.

Vance T. Holliday, Anthropology & Geosciences, University of Arizona, 1009 E. South Campus Drive, Tucson, AZ 85721

Soil geomorphology (the study of soils on the landscape and soils as indicators of the past) has its origins in both the "state factor approach" to soils (pedology) and in soil stratigraphy (Quaternary geology). The state factor approach had geologic origins in Russia in the 1870s to 1890s with the work of V.V. Dokuchaev, N.M. Sibertsev, and K.D. Glinka. This paradigm took root in the U.S. in the 20th century through the efforts of E.W. Hilgard, G.N. Coffey, and, especially, C.F. Marbut, who also distanced pedology from geology. From the late 1800s into the 1900s, Midwestern glacial geologists, most prominently T.C. Chamberlin, F. Leverett, and M.M. Leighton, recognized buried soils in stratigraphic sequences and used them for correlation and for inferring interglacial stages. By the 1930s and 1940s, H. Jenny formalized the state factor approach to understanding soil genesis, the USDA began soil erosion studies, and J. Thorp and K. Bryan were integrating Quaternary geology and the factors into pedologic research on buried soils and landscape evolution. The WWII years saw unprecedented integration of pedologists, geomorphologists, and Quaternary geologists in the Military Geology Unit of the USGS. In the post-war years, many of these geologists went on to use soils in their stratigraphic and geomorphic research for the USGS (e.g., C.B. Hunt, G.M. Richmond, R. Morrison). Beginning in the 1950s and continuing into the 1970s, the USDA, under the direction of R.V. Ruhe, sponsored a series of landmark studies that expressly teamed pedologists and geomorphologists in a series of soil-geomorphic projects. The USGS and USDA work inspired formalized teaching and research in soil-geomorphology such as P.W. Birkeland's modification of the state factor approach to investigate soils in the past, and USGS research on chronosequences.

A Fruitful Synthesis: Soil Science and Geology in Russia, 1880-1930.

Lloyd Ackert, History and Politics, Drexel University, 42 Dwight St. #3, New Haven, CT 06511

In the late-19th century Russian soil scientists and geologists developed a common language and approach to a series of scientific problems. Directed by the government to investigate and hopefully improve the country's agriculture and mining interests, scientists such as V. V. Dokuchaev organized new interdisciplinary expeditions, institutions, and university curricula. These shared adventures led to a prolonged and fruitful relationship between the disciplines of geology and soil science. From 1880-1930--an era that spanned not only radical changes in the

Russian political environment, but also in the internal developments of both sciences--the synthesis of geology and soil science provided the intellectual foundation for Soviet ecology.

Geologic Mentoring of Early Soil Surveyors.

Eric C. Brevik, Depts of Natural Sciences and Agriculture and Technical Studies, Dickinson State University, 291 Campus Dr., Dickinson, ND 58601

Many influential individuals involved in the early US soil survey program were actually trained as geologists rather than agronomists or soil scientists. Several geology departments served as pipelines for students interested in a career in soil survey This paper looks at the professional history of two early mentors of these geologists turned soil surveyors and some of the students they sent on to the US soil survey. Collier Cobb sent over 10 students to the soil survey starting in 1900 when US soil survey was in its infancy, including individuals of note such as Hugh H. Bennett, George N. Coffey, Williamson E. Hearn, and Thomas D. Rice. Allen D. Hole worked on soil surveys for the state of Indiana and sent over a dozen students on to soil survey careers between 1911 and 1937, including Mark Baldwin and James Thorp. Francis Hole and Ralph McCracken, other students of Allen Hole, also went on to have distinguished soil science careers. These mentors and students clearly show the close ties that existed between soil science and geology in the United States during the early 1900s.

Historical Descriptions of Soils and Landscapes of the Texas Gulf Coast.

Darrell G. Schulze, Agronomy Department, Purdue University, 915 W. State Street, West Lafayette, IN 47907-2054

For more than 480 years, the Texas Gulf Coast has been crisscrossed by explorers, immigrants, and travelers. Their stories, recorded in their journals, reports, diaries, and letters, provide a fascinating glimpse into what the area was like before European settlement changed it forever. I will draw on the writings of Álvar Núñez Cabeza de Vaca (1528) and Henri Joutel (La Salle Expedition, 1685), as well as those who came in the 19th century, such as early botanists and naturalists like Thomas Drummond, Ferdinand Lindheimer, and Gideon Lincecum; the geologist Ferdinand Römer; and travelers and settlers such as Friedrich Schlecht, Gustav Dresel, Carl von Solms-Braunfels, Alwin Sörgel, Frederick Law Olmsted, Noah Smithwick, William Dewees, and others, who traveled or settled the area prior to the Civil War. My focus will be on their descriptions of the soils and landscapes they encountered, as well as the challenges they faced traveling and living under often difficult circumstances.

Interrelationship of Pedologic and Geological Mapping.

Ahmet Ruhi Mermut, Soil Science, University of Saskatchewan, Science Drive, Saskatoon, SK S7N 5A8, Canada and Dan Yaalon, the Institute of Earth Sciences,, The Hebrew University of Jerusalem,, Givat Ram Campus,, Jerusalem, Israel.

Geology as a modern science was evolved much earlier than soil science. Soil survey and mapping have been historically one of the major and early activities in soil science. In the mid to late 1880s, Hilgard wanted the agricultural survey carried out within the

U.S. Geological Survey (USGS), under the direction of Major John Wesley Powell a soldier, geologist, ethnologist, and administrator. Supported by Powell and Hilgard, a bill to conduct agricultural surveys was defeated by congress in 1888. Perhaps a historical golden opportunity was missed at that early stage. A soil survey program in the United States was finally started in 1899 within the United States Department of Agriculture (USDA). Currently, there are new attempts in Europe to use pedological and geological information to develop new agro-geological maps. Geology still plays a very significant role in soil mapping. Many modern methods are now in the development process to evaluate natural resources, including soils using not only geology but other associated information.

The Pre-History of Soil Science: Jethro Tull, the Invention of the Seed Drill and the Foundations of Modern Agriculture.

Laura B. Sayre, Independent Scholar, P.O. Box 219, Ferndale, PA 18921

Eighteenth-century British gentleman farmer Jethro Tull (1674-1741) is popularly regarded as the inventor of the seed drill, widely cited by agricultural historians, soil scientists and school history textbooks alike. Whether Tull was in fact the first to experiment with a mechanical seed drill and the horse-drawn cultivators drilling made possible is doubtful, but he did do much to make their acceptance in the long run more widespread. What is less well known is that Tull's mechanical innovations were accompanied by a theory of plant nutrition--and a social agenda--which were equally important to the adoption of the new machines. Although he came to celebrated by later generations, Tull's work attracted fierce critics in his own day and immediately after, not least because he categorically rejected the value of manures in maintaining soil fertility. Instead, he proposed a mechanistic theory of plant nutrition in which the stirring of the soil with the cultivator could substitute for the processes of decomposition thought to be contributed by manures, with less labor and expense. For Tull, the drill was part of an explicit strategy to minimize reliance on an unruly labor force. He also directly challenged the idea that Virgil and other classical authorities could be of any practical use in farm management. In other words, Tull was an anti-georgic improver, and could only be reinserted into the canon of agricultural history by glossing over the objectionable parts of his work. This paper will explore how, a century before Liebig, Tull's New Horse-Houghing Husbandry (1731 and later editions) sparked heated debates over a constellation of issues which are still with us today: no-till vs. tillage, net profits vs. gross yields, soil biology vs. soil chemistry, yield per acre vs. yield per unit of labor, rotation costs vs. input costs.

The Ties That Bind: A Glimpse at the Life and Career of William Edgar Tharp.

Edward Landa, USGS, U.S. Geological Survey MS 430, 12201 Sunrise Valley Dr., Reston, VA 20192

On August 23, 2006, Marie Tharp died at age 86. Together with Bruce Heezen at Columbia University, she had created the map of the ocean floor that is one of the most widely recognized images in modern Earth science. But the world of mapping of geological features and landscapes was by no means foreign to Marie. She had an early role model in her father, soil surveyor

William Edgar Tharp (1870-1959). The presentation will explore the life and career of W.E. Tharp, including his soil survey experience in the era of Curtis Marbut and Hugh Hammond Bennett, and his role in the formation of the Soil Science Society of America. A recently uncovered, rich archive of material on his later life will be introduced.

William Edgar Tharp and Hugh Hammond Bennett: Early Soil Survey Interpretations for Agricultural Progress.

J. Douglas Helms, USDA-NRCS, PO Box 2890, Washington, DC 20013

William Edgar Tharp was a soil scientist for the Bureau of Soils when he encountered Hugh Hammond Bennett on a field inspection. Bennett, the inspector of soil surveys for the Southern states, was favorably impressible with Tharp's work. They shared an interest in using the soil surveys to improve agriculture. Bennett supported Tharp's plans for reaching the farming public through publications. Tharp was particularly interested in converting part of the old cotton kingdom in the loess belt along the Mississippi and Yazoo rivers into pastures for cattle production.

Marie Tharp: The Lady Who Showed Us the Ocean Floors.

Gary North, North Arrow, Ltd.; US Geological Survey (retired), 43685 Augusta National Terrace, Leesburg, VA 20176

Marie Tharp and Bruce Heezen of the Lamont Doherty Earth Observatory of Columbia University are best known for creating the first maps of the ocean floors. Bruce sailed the oceans collecting the data and oversaw the projects, but the person who turned the Precision Depth Recordings and other geoscience data into the two-dimensional views of the bottoms was Marie. Meticulously she sketched the features that comprise the ocean floors, aligned the data according to the orientation of the fracture zones, and identified the volcanoes, earthquake zones, and sea mounts.

Marie's discovery of the trench in the middle of the Mid-Atlantic Ridge and her linkage of the major crustal plates for 40,000 miles around the Earth, showed us, and thus confirmed, the concept of plate tectonics and crustal movement. For the "non-drifters" of the time, which included their boss Dr. Maurice Ewing, this was a somewhat revolutionary concept which eventually erupted in conflicts, suspensions, and academic rivalry within Columbia. How Marie came to her place in history, what she was like and how she lived are the subjects of this paper.

Working with Marie for over nine years, as curator of her collection of cartographic materials housed at the Geography and Map Division of the Library of Congress and serving as co-executor of her estate, has provided me with an insight into her life that few biographers get to have. She was fascinating to talk to, fun to joke with, and could go on for hours talking about her work.

In later life, following Heezen's untimely death in 1977, she moved into the spotlight as a speaker, writer, and award receiver. Columbia honored her with their first Heritage Award, the National Geographic Society with the Hubbard Medal, the Woods Hole Oceanographic Institute with their Women Pioneer in Oceanography award.

What the Antebellum Farmer Knew and Why Anyone Cared: A Story for Today about the Moral Basis from Which Soil Science and Geology Were Born.

Benjamin Cohen, Science, Technology, and Society, University of Virginia, Charlottesville, VA 22904

Soil science and geology had common historical origins in an "improvement" era of the early American Republic that sought both cultural and material progress. This talk will draw from county soil surveys and the first wave of state geological surveys to discuss the cultural and moral foundations of early soil science and geology within that era. The historical relevance of the paper is to highlight the role agrarian actors played in the production of cultural credibility for nascent earth sciences. Those new sciences, put briefly, had to be understood as aiding the broader cause of moral and material improvement if they were to be understood as positive contributions to society. The paper also suggests that this historical view of farmers provides a means to understand how lived experience shapes acceptance and resistance to new technical practices. Although cultural authority for defining and working the land now rests within the scientific domain, we might still recognize the place lived experience holds when advocating new ways to work the land for those outside that scientific domain.

The International Humic Substances Society (IHSS) as a Link Between Geology, Hydrology and Soil Science through Organic Matter Studies: A Historical Perspective.

Christian Feller[1], Yona Chen[2], Michel Brossard[1], Edward Landa[3], and Jean Trichet[4]. (1) 2, Place Viala, IRD - Institut pour la Recherche et le Developpement, Institut de Recherche pour le Developpement (IRD), ENSAM, Batiment 12, Montpellier Cedex 1, 34060, France, (2) PO Box 12, Hebrew University of Jerusalem, Hebrew University of Jerusalem, Dept. of Soil & Water, Faculty of Agriculture, Rehovot, 76100, Israel, (3) USGS, U.S. Geological Survey MS 430, 12201 Sunrise Valley Dr., Reston, VA 20192, (4) Laboratoire de Géologie de la Matière organique, Université d'Orléans, B.P. 6759, 45067 Orléans Cedex 2, France

Organic matter in general and humic substances (HS) in particular, are involved in many processes in soils, sediments, rocks and natural waters: *e.g.*, rock weathering, plant nutrition, pH buffering, trace metal mobility and toxicity, bioavailability, degradation and transport of hydrophobic organic chemicals, formation of disinfection by-products during water treatment, heterotrophic production in blackwater ecosystems and, more generally, the global carbon cycle.
Before the 1970s' natural organic matter (NOM) of different ecosystem pools (*i.e.*, soils, sediments, and natural waters) was often studied in isolation, although many similarities exist between them. This is particularly so for HS. In this historical context, a need appeared to bring together environmental chemists, soil scientists, hydrologists, and geologists who are interested in HS, aiming to provide opportunities for them to exchange ideas.

The IHSS (http://www.ihss.gatech.edu) was founded in Denver, Colorado (USA) in 1981 with the motto: "To Advance the Knowledge and Research of Natural Organic Matter in Soil and Water".

This presentation will be comprised of three sections: (i) a brief historical retrospective on studies of NOM over the last two centuries; (ii) the state of NOM chemical studies in the 1960-70s' and the developing interest in the employment of physical approaches to OM fractionation; (iii) the emergence of IHSS, and the realization of its objectives, including forming connections between geology, hydrology and soil science through OM studies. On this last point, a rapid inventory of the publications done at the IHSS International Congresses from 1995 to 2006 demonstrates the integration of these disciplines, when considering publications with titles referring strictly to water soluble OM (31 % of the total), to soil or soil-plant system OM (47 %) and to sediment, rock or mineral-associated OM (22 %).

The Common Histories of SSSA and The Clay Minerals Society.

Joseph W. Stucki, University of Illinois-Urbana-Champaign, W-321 Turner Hall, 1102 S Goodwin Ave., Urbana, IL 61801

The common history of The Clay Minerals Society (CMS) and the Soil Science Society of America (SSSA) dates back to the inception of the CMS and includes important overlaps in subject matter, membership, and conferences and symposia. The CMS was incorporated as a non-profit organization on July 18, 1962, and became an independently operating Society in October, 1963. The formal incorporation of the CMS was, however, not the beginning for this fledgling organization, but merely a transition from its former existence as a specially appointed Clay Minerals Committee of the National Academy of Sciences – National Research Council (NAS-NRC). After World War II interest in national organizations of clay science began in Europe with clay Societies springing up in France, Belgium, and England. By 1947 regular conferences were being organized. Interest in clay science also developed in the United States among diverse groups of scientists. In early 1951, a symposium held in St. Louis was devoted to clay science and the idea of a regular gathering of clay scientists was conceived. In late 1951the idea and prospect of organizing a formal committee of the NAS-NRC was set in motion. The first annual Clay Conference was held in Berkeley, California, in July, 1952, and has been held annually since that time. A significant percentage of participants are also members of the Soil Science Society of America.

Soil scientists have been well represented among recipients of the various awards of the CMS. Similar cross representation exists among the recipients of awards from the SSSA and those who have served as presidents and officers of these Societies. The common interest in minerals shared by people who are members of both the CMS and SSSA has fostered many advances in soil and clay mineral research and forged a multitude of fruitful friendships and collaborations.

The Role of Lysimeters in the Development of Our Understanding of Water Dynamics in Ecosystems.

Michael J. Goss, Kemptville Campus, University of Guelph, University of Guelph, Kemptville Campus, Kemptville, ON KOG 1J0, Canada and Wilfried Ehlers, Georg-August University, Garten Weg, 5, Waake, Gottingen, Germany.

A key step in our ability to manage land has been the quantification of the water balance. As a result, we are able to predict indices, such as crop water use efficiency, drainage and irrigation requirements, contributions to stream flow, groundwater recharge and nutrient leaching loss.

This paper charts the development of lysimeters and their role in the evolution of our understanding of the dynamics of water in ecosystems.

Agriculture and the Erosion of Civilizations.

David R. Montgomery, Department of Earth and Space Sciences and Quaternary Research Center, University of Washington, Seattle, WA 98195-1310

Can an agricultural system capable of feeding a growing population safeguard over the long run both soil fertility and the soil itself? Addressing this fundamental challenge faces modern agriculture — and therefore global society —over the upcoming centuries. Data drawn from a global compilation of studies quantitatively confirm the long articulated contention that erosion rates from conventionally plowed agricultural fields greatly exceed rates of soil production, erosion under native vegetation, and long-term geological erosion. In particular, data compiled from around the world show that soil erosion under conventional agriculture exceeds both rates of soil production and geological erosion rates by up to several orders of magnitude. However, the general equivalence of the latter support the idea that hillslope soil production and erosion evolve to balance geologic and climate forcing, whereas conventional, plow-based agriculture increases erosion rates enough to prove unsustainable. Net soil erosion rates in conventionally plowed fields (ca. 1 mm/yr) can erode through a typical hillslope soil profile over time-scales comparable to the longevity of major civilizations. Although the experiences of past societies provide ample historical basis for concern about the long-term prospects for soil conservation, data compiled in recent studies indicate that no-till farming could reduce erosion to levels close to soil production rates. Consequently, agricultural production need not necessarily come at the expense of either soil fertility or the soil, even if recent proposals to rely on conventionally grown corn for biofuels exemplify how short-term social and economic trade-offs can de-prioritize soil conservation. Like the issues of climate change and loss of biodiversity, the ongoing global degradation and loss of soil presents a fundamental social challenge in which the slow pace of environmental change counter-intuitively makes solutions all the more difficult to adopt.

Integration of Soils and Geomorphology in Deserts: A Tribute to the 50 Years of Soil Research of Dan Yaalon

A session was held at the joint SSSA-GSA meeting in Houston in honor of Dan Yaalon. In addition to his outstanding scientific contributions to soils and geomorphology, Dan Yaalon has been heavily involved in soil science history, philosophy, and sociology over the years. The titles and presenters of the papers in this session are given on the following pages.

Sponsor: Topical Sessions
JTPC Reps: Lisa L. Ely, Central Washington Univ; Marith Reheis, U.S. Geological Survey

Conveners/Advocates: Rivka Amit, Geol Survey of Israel; Eric McDonald, Desert Research Institute; Yehouda Enzel, Hebrew University

The Desert Project: An Analysis of Aridland Soil-Geomorphic Processes - ***H. Curtis Monger, New Mexico State University***, Leland H. Gile, John Hawley, Robert B. Grossman, Natural Resources Conservation Service

Relating Mass and Energy Fluxes to Arid Soil Development - ***Michael H. Young, Desert Research Institute***, Eric McDonald, Desert Research Institute, Todd G. Caldwell, Desert Research Institute

Pedogenesis In Response to Quaternary-Scale Aridification of the Negev Desert, Israel - ***Rivka Amit, Geol Survey of Israel***, Yehouda Enzel, The Hebrew University of Jerusalem, Ori Simhai, The Hebrew University of Jerusalem, Ari Matmon, The Hebrew University of Jerusalem, Itai Haviv, The Hebrew University of Jerusalem, Eric McDonald, Desert Research Institute, Naomi Porat, Geol Survey of Israel, Lucilla Benedetti, Robert Finkel, Lawrence Livermore National Laboratory

Sand Dunes Are a Major Proximal Coarse Dust Source for Late Pleistocene Desert Margin Loess, the Negev Desert, Israel - Onn Crouvi, Geol Survey of Israel, ***Yehouda Enzel, Hebrew University***, Rivka Amit, Geol Survey of Israel

Constraining Ages of Desert Alluvial Surfaces According to Their Geomorphic Roughness as Measured from Space - ***Amit Mushkin, Geological Survey of Israel***, Alan Gillespie, Univ of Washington, Rivka Amit, Geological Survey of Israel, Yehouda Enzel, The Hebrew University of Jerusalem

Accretionary Pavement Development and Landscape Stability on the Eastern Libyan Plateau, Egypt - ***Katherine A. Adelsberger, Knox College***, Jennifer R. Smith, Washington University

Ecohydrologic Effects of Soil Mosaics in Patterned Australian Drylands - ***David L. Dunkerley, Monash University***

New Field Data Supporting the Role of Insolation in Physical Weathering - ***Martha Cary Eppes, University of North Carolina at Charlotte***, D. Griffing, Hartwick College, Leslie McFadden, University of New Mexico, John A. Diemer, University of North Carolina at Charlotte, Matthew Daigneault, Hartwick College, Bradley Gordon Johnson, University of North Carolina - Charlotte, Melissa Karlin, University of North Carolina at Charlotte, Vijaya Gagrani, University of North Carolina at Charlotte, Yong Hong Tong, University of North Carolina at Charlotte, L. Scuderi, Univ of New Mexico

Numerical Simulations of Salt Accumulation In a Hyper-Arid Soil Chronosequence In the Sonoran Desert - ***Todd G. Caldwell, Desert Research Institute***, Eric McDonald, Desert Research Institute, Michael Young, Desert Research Institute, Steven N. Bacon, Desert Research Institute, Giles M. Marion, Desert Research Institute

Soil Evolution during the Past 30,000 Years In the Black Rock Desert, Utah, SW USA - ***Jan-Uwe Schmidt, Dresden University of Technology***, Arno Kleber, Dresden University of Technology, Michael Dietze, Dresden University of Technology

Soil Formation in the Mojave Desert: New TCN Information Suggests Rates of Soil Formation May Exceed Previously

Established Rates - ***Eric V. McDonald, Desert Research Institute***, John Gosse, Dalhousie Univ

Boundary Conditions and Climate: Dual Controls on Hillslope Evolution in the Atacama Desert - ***Justine Owen, University of California, Berkeley***, Ronald Amundson, U.C. Berkeley, William Dietrich, Univ of California, Berkeley, Kuni Nishiizumi, UC Berkeley

Pedogenic Processes and Paleoclimatic Significance of Sulfate Soils in the Atacama Desert, Chile - ***Jason A. Rech, Miami University***, Brenda J. Buck, Univ of Nevada, Las Vegas

German Society of Soil Science

The following new publications have come out of the Working Group *History of Soil Science* of the German Society of Soil Science and the Romanian Society of Soil Science, as reported by Dr. H.-P. Blume:

1. **Blume, H.-P., Felix-Henningsen, P., Fischer, W., Frede, H.-G., Horn, R., Stahr, K. (eds.) (since 1996): Handbuch der Bodenkunde**; Wiley-VCH, Weinheim
   Chapter 1.2 *Veränderungen von Böden durch menschliche Eingriffe*
   1.2.1 Winiwater, V. (2006): *Einführung*. 1 page
   1.2.2 Winiwartrer, V. (2006): *Prähistorischer Umgang mit den Böden*. 4 pages
   1.2.3 Woods, W.I. (2005): *Die dunklen Erden Amazoniens*. 4 pages
   1.2.5 Kolb, R. (2006): *Der Umgang mit Böden im vormodernen China.* 7 pages
   1.2.9 N. Patzel, T. Lindenthal (2009): *Der Umgang mit Böden im ökologischen Landbau*. 23 pages
   Chapter 1.3 *Die Geschichte der Bodenkunde*
   1.3.1 Blume, H.-P. (2003): *Die Wurzeln der Bodenkunde*. 30 pages
   1.3.2 *Die Etablierung der Bodenkunde als Wissenschaft im 18./19. Jahrhundert*
   1.3.2.3 Sticher, H. (2005): *Die chemische Tradition*. 24 pages
   1.3.2.4 Frede, H.-G. (2004): *Die kulturtechnische Tradition*. 19 pages
   Chapter 3.2 *Klassifikation von Böden*
   3.2.1 Beinroth, F.H., Stahr, K. (2005): *Geschichte und Prinzipien der Bodenklassifikation*. 21 pages

2. **Further Publications**

   Blume, H.-P., Stahr, K. (editors; 2007): Zur Geschichte der Bodenkunde. Hohenheimer Bodenkundliche Hefte, Heft 83. Selbstverlag Univ. Hohenheim
   Blume, H.-P., Stahr, K. (p. 5-40): *Die Geschichte der Bodenkunde an der Universität Hohenheim*
   Blume, H.-P., Stahr, K. (p. 41-58): *Willy Laatsch und die Schlichting Schule*
   Blume, H.-P., Hartge, K.-H. Schwertmann, U. (p. 59-94) *Die Bedeutung des Ferdinand Enke Verlags für die Verbreitung bodenkundlichen Wissens*
   Blume, H.-P., Reintam, L.(p. 95-124): *Die Bedeutung Margarethe von Wrangells für die Agrikulturchemie,*
   Koepf, H. (p. 125-128): *Erinnerungen an das Institut für Geologie und Bodenlehre 1940 – 1960 der Universität Hohenheim*.

   Blume, H.-P., Horn, R. (editors, 2008): Persönlichkeiten der Bodenkunde I. Schriftenreihe Institut für Pflanzenernähr. & Bodenkunde der Univ. Kiel, Eigenverlag

Blume, H.-P. (p. 1-16): *Gustav Heyer (1826-1883) als Boden- und Standortkundler der*

Forstwissenschaften

Sticher, H. (p. 17-36): *Georg Wiegner (1883-1936) ein Pionier der grundlagenorientierten Bodenkunde*

Rehfuess, K.E. (p. 37-48): *Gustav Adolf Krauß (1898-1968) Altmeister der modernen forst-lichen Standortskunde*

Roeschmann, G. (p. 49-60): *Wilhelm Hollstein (1898-1973) und die Bodenkartierung*

Fiedler, H.-J. (p. 61-72): *Abriss zur Geschichte der Tharandter Bodenkunde und ihrer Direktoren.*

Romanian Society of Soil Science. Publication No. 36. Bucarest 2008

Blume, H.-P. (p. 25-38): G. Murgoci and H. Sremme, and the first soil maps of Europe

AJ Centennial Supplement

The *Agronomy Journal* has developed a Centennial Supplement, a collection of 16 centennial papers to celebrate AJ's 100th anniversary. According to Editor Calvin Pearson, these articles will provide reflections on the profession of agronomy and "inspiration and motivation that may stir you." View the table of contents.

History of Pedometrics

The IUSS Commission 1.5 on Pedometrics (chaired by Murray Lark of the Environmetrics Group at Rothamsted) publishes a newsletter, *The Pedometron*, available at http://www.pedometrics.org/pedometron.asp . A series of personal reflections of older members of the Commission dealing with the establishment of this branch of soil science has recently begun. Articles to date include: "Chance and vision on the road to pedometrics" by Richard Webster (in issue 21, March 2007), and "Another journey on the road to pedometrics" by Margaret Oliver (in issue 24, May 2008). *The Pedometron* also has occasional historical vignettes, such as one on Georges-Louis Leclerc, Comte de Buffon (1707–1788), also in issue 21. Another series focuses on classical articles in soil science that resonate with modern interests. To learn more about the other activities of Commission 1.5, please visit http://www.pedometrics.org.

World History of Science Online (WHSO) project

WHSO, which is sponsored by the Division of the History of Science and Technology within the International Union for the History and Philosophy of Science (DHST/IUHPS), will create a free sustainable online resource for the worldwide community interested in the history of science and technology in all its richness and diversity. The website address is http://www.dhst-whso.org/whso.htm.

Gavan McCarthy, Senior Research Fellow and Director of the University of Melbourne eScholarship Research Centre, and his team at Melbourne have completed the revisions to the website so that it is now searchable and easily expandable. This means that we are now able to accept new submission from contributors around the world. Our first goal is to populate this website with as many links and as much descriptive material as possible regarding ongoing activities in history of science bibliography and archiving. We, of course, want to focus on and link to digital, online, and free bibliographical and archival indexing efforts, but we would also like to know about any relevant bibliographies and

archival indexes that are available, regardless of whether they are in print or online, and whether they are freely accessible or not.

To that end, I would like to request that each of you send us notices about any efforts that you know of that are relevant to our mission. We are interested in both primary source bibliographies of scientists and their work as well as secondary source bibliographies about the history of science and technology. National and regional bibliographical and archival resources are especially important to us. The language of the source material does not matter, but we would like the access information in English if at all possible.

Eventually, we expect to be able to implement a meta-search capability to the site so that we can link directly to the data of online resources, thereby creating a major centralized finding aid for historians of science and technology. The accumulation of knowledge about existing resources is thus our first immediate step in that direction.

If you know of relevant resources, please send suggestions to both me, at Stephen Weldon s.weldon@dhstweb.org, and Ailie Smith, at ailie.smith@unimelb.edu.au. We would like as much of the following information as possible, specifically: (1) name of resource; (2) its scope, purpose, and nature; (3) most relevant URL address; (4) contact information for any individuals associated with the project. If you are not able to provide all of that information, please give us what you know. Also please forward this message to other interested parties.

I look forward to your help and participation. Thank you,

Stephen Weldon
Chair, Governing Board, World History of Science Online
Bibliographer, Isis Current Bibliography, History of Science Society
Assistant Professor, History of Science, University of Oklahoma

Essay Contest

Soil Survey Horizons
Student Article/Essay contest

Soil Survey Horizons is announcing an essay contest for students at the graduate and undergraduate levels. The winner of each category will receive a one year membership to the Soil Science Society of America and their paper will be published in Soil Survey Horizons.

Topic: Any topic related to soils, agriculture, field ecology, soil survey, or history of soils. Topic should be related to the scope of Soil Survey Horizons readers and may be research results or non-research topics. Topics can include:

- Soil survey problems
- Innovative methods and equipment
- Evaluation of the performance of field equipment
- Landscape and soil research studies
- Case studies from consulting work
- Classification issues in soil taxonomy systems
- Profiles in history
- Travelogues from soil expeditions
- Personal essays
- Summer soil survey experiences

A suggested limit is 800 to 2000 words for the main body of the manuscript (excluding title, captions, references, etc). Also, photos/illustrations/ tables are encouraged.

Scope: Either research results or original information. The article should be the original efforts of the submitter. While faculty members can provide some review and be junior author, the submission must represent the work of the student. The students are requested to have a faculty sponsor to help coordinate the submission if multiple entries per institution. Only one entry per person.

Who: There will be two categories, both undergraduate and graduate.

The article should be written while the student is an undergraduate or graduate student at an accredited institution within the current academic year.

In cases where there are multiple entries from a single institution, sponsoring faculty advisors are requested to help judge local entries. But more than one entry per institution is permitted.

Submitted articles will be evaluated by the editorial board, and winners of each category (as well as runner ups) will be published in Soil Survey Horizons at no cost to the author. Criteria for competition will be originality, creativity, interest, and quality of writing (grammar, punctuation, style, logic, organization).

Deadline: Aug 8, 2009. Manuscripts are to be submitted electronically to Eric Brevik and can be submitted at any time prior to the deadline.

Questions should be directed to Eric Brevik, student contest coordinator, (Eric.Brevik@dsu.nodak.edu), or Lisa Al-Amoodi, Managing Editor (lalamoodi@agronomy.org)

Websites

Toils on Weak Soils: A Photo-Essay on the Construction of the Stockwood Fill (1906-1909)

"Toils on Weak Soils" is a website put together by Donald Schwert of the North Dakota State University Geology Department. It tells the story of the construction of an important stretch of the Northern Pacific Railway across the Lake Agassiz Basin of western Minnesota and eastern North Dakota, and the major challenges faced during this construction due to soil properties. The website makes liberal use of historical documents and photographs as well as modern soils knowledge. It is an interesting read, and would serve as an excellent case study in many soils, geology, and engineering classes. "Toils on Weak Soils" can be found at http://www.ndsu.nodak.edu/instruct/schwert/stockwd/stockwd.htm.

History of Organic Agriculture

Joseph Heckman has published a history of organic agriculture with Wise Traditions, found on line at: http://www.westonaprice.org/farming/history-organic-farming.html.

Civilian Conservation Corps History

To commemorate the 75th anniversary of the Civilian Conservation Corps, the Natural Resources Conservation Service, successor to the Soil Conservation Service (SCS), has posted a web feature at: http://www.nrcs.usda.gov/feature/anniversaryccc/cccopy.html. Follow the link to a map and list of SCS-supervised camps, a summary of work accomplishments and history articles.

Hugh Hammond Bennett and the Creation of the Soil Erosion Service
Information on Bennett and the history behind the Soil Erosion Service, assembled by Doug Helms of the USDA-NRCS, can be accessed on the NRCS website: http://www.nrcs.usda.gov/

Charles Darwin - The Formation of Vegetable Mould
Darwin's classic book is now available free online:
www.darwin`literature.com/The_Formation_Of_Vegetable_Mould/

New Journal

"Geoheritage", A New Journal

Geoheritage, published by Springer Verlag, will be the official journal of a partnership consortium consisting of:

o ProGEO (the European Association for the Conservation of the Geological Heritage)
o IUGS Commission on Geoscience for Environmental Management (GEM) with
o IUGS Commission on Stratigraphy (ICS) and subcommissions
o International Association of Geomorphologists (IAG)
o International Association of Palaeontologists (IPA)
o INHIGEO (IUGS International Commission on History of Geological Sciences)
o AEGS, European Association of Geological Societies
o Geological Society of Africa (GSA)

DESCRIPTION
Geoheritage will be the first ever peer-reviewed journal dedicated to all aspects of inanimate natural heritage - geo(morpho)logical heritage - following rising awareness of these subjects in society, amongst conservationists, geoscientists and a growing public.

Geological heritage is here understood in a broad sense, integrating all subdisciplines such as geomorphological, stratigraphic, palaeontological, mineralogical and landscape heritage, amongst others, as well as the places and materials connected with geoscience and its progress. The journal will publish papers on scientifically important geosites, their characterisation and assessment. Key topics for papers also include geosites (at all scales), their science and conservation, interpretation and use, geodiversity, educational links, geotourism and geoparks

AIMS AND SCOPE
The *Geoheritage* journal is an international journal dedicated to promoting heritage conservation, and to discussing all aspects of our global geoheritage, both *in situ* and portable. The journal will invite all contributions on the conservation of sites and materials - use, protection and practical heritage management- as well as its interpretation through education, training and tourism.

The journal wishes to cover all aspects of geoheritage and its protection. Key topics are:

o Identification, characterisation and quantification of geoheritage;
o Definition, assessment and management of geosites - geological and geomorphological;
o On-site science, geological and geomorphological research:
o Global scientific heritage - key scientific geosites, GSSPs, stratotype conservation and management;
o Scientific research and education, and the promotion of the geosciences thereby;

o Conventions, statute and legal instruments, national and international;
o Integration of biodiversity and geodiversity in Nature Conservation policies;
o Geological heritage and Environmental Impact Assessment studies;
o Sustainable development, community action, practical initiatives, geoparks;
o Environmental issues, mineral resources and conservation, the built heritage, use of natural materials;
o Conservation in the natural world, Man-made and natural impacts, climate change;
o Geotourism definitions, methodologies, and case studies;
o International mechanisms for conservation and popularisation - World Heritage Sites, National Parks etc;
o Materials, data and people important in the history of science, museums, collections and all portable geoheritage;
o Interpretation, education, training and tourism;
o Pedagogical use of geological heritage - publications, teaching media, trails, centres, on-site museums;
o Linking the United Nations Decade of Education for Sustainable Development (2005-2014) with geoconservation;

The journal will publish research papers, review articles and short notes, as well as comments on papers already published in this journal or elsewhere. Occasionally, concise meeting reports and news of interest to the scientific, geoconservation, environmental and educational community will be published. As the official journal of the European Association for the Conservation of the Geological Heritage (ProGEO) (and its national groups) and GEM and other partner organisations, *Geoheritage* will regularly publish the proceedings of the partner's international symposia.

TARGET GROUPS
The journal addresses geologists, biologists, geographers and landscape architects, environmental geologists, planners and officials dealing with nature conservation, museum workers, archivists and curators, science historians, specialists in town & country (spatial) planning, environmental impacts, geotourism, and secondary teaching, as well as faculty staff, graduate and post-graduate students.

EDITORS: Jose Brilha (University of Minho, Portugal), William A.P. Wimbledon (Countryside Council for Wales/University of Bristol, United Kingdom)

EDITORIAL BOARD: To be completed, with specialists from all key organisations, specialisms and all continents.

For more information please contact:
Dr. Bill Wimbledon, Cyngor Cefn Gwlad Cymru, Countryside Council for Wales,
4 Castleton Court, Fortran Road, St Mellons, CARDIFF CF3 0LT, United Kingdom
telephone 44 2920 772431 (direct); 44 2920 772400 (reception);
telefacsimile 44 2920 772412

Book Reviews

DIRT –The Erosion of Civilizations
David R. Montgomery, Univ. of California Press, 2007. Hardcover 294 pp., $ 24.95, ISBN 0520248708

How did societies treat the earth's 'critical zone' in the past ? Not so well, is the short answer. The main thesis of this book is that when human societies adopted agricultural cropping of the land and abused some of the soils needed to feed its growing population, causing the topsoil to erode at a rate several times greater than new soil formation, the specific society or civilization

was weakened, followed by instability, and became exposed to other external causes which eventually resulted in its destruction. The author estimates that it takes 800 to 2000 years (30 to 70 generations) for the lifespan of a civilization but exceptions, as always, are present. Why does the author use the title *"dirt"* (in big letters on the cover and in several chapter headings) instead of soil? "It would not have much chance to reach a popular audience" according to the author. Dirt is soil and stuff found in places where it is unwanted, like in your living room or on somebody's face. We should never use 'dirt' for soil in nature, not even as metaphor, especially now when becoming in short supply. Why not '*terra mater'* (mother Earth) or the '*the earth's critical zone*' using a currently popular term?

Disregarding the unfortunate title, the book contains a compelling environmental history on the use of the earth's skin (soil) in many past civilizations. While it is not the first book treating the topic of Soil and Civilization, following in the footprints of Whitney (1925), Hyams (1952), Dale and Carter (1955), Hillel (1991) [all duly cited in the bibliography], it argues the topic somewhat differently. It is essentially addressed to non-professionals whom soil scientists have missed to reach. It is well researched with some 300 references, maps, illustrations and index. Dirt is not listed in the index but soil features are detailed.

Montgomery treats the subject in 10 chapters, but not in any chronological way and includes many personal observations from his geomorphological studies. The first two short chapters describe briefly the nature of soils and their properties, beginning with Darwin's worms and their importance in making the soil profile. Dokuchaev is not mentioned and Hilgard's contributions only much later (pp. 188-192). In the next seven chapters of about 20 to 30 pages each he presents several examples from the past and also recent history of selected societies, starting with the origin of cultivation in the Near East.

The major general thesis is that when topsoil was being lost due to tillage, at a greater rate than new soil formed, excessive soil degradation did not necessarily result in the destruction of the respective civilization but weakened it and prepared the ground for other causes to advance their collapse. Both well and lesser known examples of soil abuse from early Mesopotamia, ancient Greece and Rome, Mesoamerican civilizations, Eastern Islands domains are well described, including more recent accounts of erosion from North America and East Asia which are documented to illustrate this. The author is not constrained by chronology but moves smoothly from one topical society to another within the same chapter. Good soil management is given attention, but climate change is not listed as the main cause of soil erosion or society demise.

The two chapters (6 & 7) dealing with the North American continent are most detailed and describe well the settlement and colonization, followed by soil degradation and partial abandonment in the south-eastern states and the later westward expansion resulting in the severe Dust Bowl erosion of the 1930's. These are graphically recounted. The soil care efforts of Ed Ruffin, George Washington and Thomas Jefferson, John Wesley Powell, Charles Lyell, Nathan Shaler, Walter Lowdermilk, Hugh Bennett and others are duly listed, culminating in the establishment of the USDA Soil Conservation Service. The author highly values the work and achievements of the Soil Conservation Service (now NRCS) and considers it strongly under-appreciated.

In the next chapter (8th) there is a detailed description of the work and ideas of the soil science co-founder Eugene Hilgard

in Mississippi and California and his feud with Milton Whitney, the originator of the US soil survey establishment and it shows that the disregard of a systematic or chronological treatment does not disturb smooth writing. This and other nuggets I find valuable. The American chapters also mention deforestation in the Amazon and its amazing *terra preta* and the devastating erosion in the Soviet Unions Kazakhstan virgin steppe lands when cropping was promoted by Krushchev in the 1950s and 1960s.

There are no references within the text although the bibliography lists many articles, reports and books, both historic and up-to-date, over a wide range of topics. This indicates that it is well researched and supported additionally by the author's observations - a geomorphologist at Washington State University in Seattle - during travels in many places of the world. Inevitably this kind of story telling leads to sentences and data like "By the mid-1980s roughly half of Australia's agricultural soils were degraded by erosion." (p. 165) and "Half of Turkey is affected by serious topsoil erosion" (p. 165); where do we find the source of such statements? There are not many specific data like this, but such unsupported statements are obviously out of place. The use of both km^2 and acres on the same page (p. 182) [..in China cultivated area of 130 million hectares ….and 25 million acres crops land lost to erosion from 1950s to 1970s] indicates poor editing.

In the final brief chapter Montgomery turns to the future and suggests that perhaps some kind of organic farming and less tillage and even hydroponics might be the best solution to avoid more soil erosion and future disasters. "We need another agricultural revolution", in his words. While this may sound in accord with some opinions in Europe and America, I strongly doubt this is the right direction when increased productivity is needed to feed the still growing population. Continuous good research of soil resources and improved productivity management applications are still relevant to assist African and Asian developing countries in giving advice how to improve, preserve and sustain the soil resources.

The story of past soil abuse or erosion is perhaps not so glamorous as the recent books of Vaclav Smil or Jared Diamond on partly related topics, but it deserves to be read. Educators and soil science students should read and study this book. There are many interesting pages and sections with historical details which deserve to be better known and passed on.

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Thin on the ground - Land resource survey in British overseas territories

Anthony Young, The Memoir Club, 2007. Paperback, $30.00 (£14.50), ISBN 1841041750.

In "*Thin on the Ground*" Anthony Young begins to provide something that the soil science history community in general has been lacking – a recount of the history of soil science in developing parts of the world. Young not only succeeds in adding to the historical record, he also does so with a writing style that is easy to read and entertaining.

The book focuses primarily on the period from 1950-1975, what might be called golden years of land resource survey, although there is some background from before 1950 and a bit of material beyond 1975. It provides excellent information on many individuals involved in land resource survey, particularly well-known individuals

such as Charter, Milne, Hardy, and Joachim, as well as information on the techniques and reasons behind the surveys. The book also discusses the differences between strict soil survey and what Young refers to as land resource survey. The book ends with a recounting of lessons for the use of land resource survey information in modern planning.

On the whole, "*Thin on the Ground*" provides an excellent read and a welcome addition to the soil science history literature. I highly recommend the book to anyone with an interest in the history of resource survey.

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New Publications

New Books

Thin on the ground - Land resource survey in British overseas territories
by Anthony Young
The Memoir Club
2007

Imperial Gullies: Soil Erosion and Conservation in Lesotho
by Kate B. Showers
Ohio University Press
2005
356 pp.
http://www.ohioswallow.com/book/Imperial+Gullies

The Earth's Blanket: Traditional Teachings for Sustainable Living
by Nancy J. Turner
University of Washington Press
2005
298 pp.
http://www.washington.edu/uwpress/search/books/TUREAR.html

reviews of both can be found in Agricultural History (2007) v. 81, no. 2.

Dirt: The Erosion of Civilizations
by David R. Montgomery
University of California Press
2007
295 pp.
http://www.ucpress.edu/books/pages/10599.html

New Journal Articles

Beard, JB (2006) Early history leading to the formation of the Crop Science Society of America. Crop Science, v. 46, p. 2202-2203.

Beard, JB and Cookingham, PO (2007) William J. Beal-Pioneer applied botanical scientist and research society builder. Agronomy Journal, v. 99, p. 1180-1187.

Bouma, J and Droogers, P (2007) Translating soil science into environmental policy: A case study on implementing the EU soil protection strategy in The Netherlands. Environmental Science & Policy, v. 10, p. 454-463.

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Yaalon, Dan H.(2008) Classification: Historical Developments',Encyclopedia of Soil Science,1:1,1-3.

Bibliographic Project

World History of Science Online: Databases of Bibliographical and Archival Sources
http://www.dhs-whso.org/Home.htm

Upcoming Symposium Plans

2009 SSSA Meeting

The ASA Committee on Organic and Sustainable Agriculture (COSA) along with the Soil Science Society America division on History Philosophy & Sociology of Soil Science is planning a symposium in 2009 to focus on Sociological Perspectives of Organic Agriculture. Any thoughts or ideas on speakers are welcomed. For more information contact Joseph Heckman at heckman@AESOP.Rutgers.edu or Tom Sauer at sauer@nstl.gov.

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