



SPRING/SUMMER 2026

The Newsletter of the Pennsylvania Association of Professional Soil Scientists
PO Box 871, Mechanicsburg, PA 17055

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PAPSS 50TH ANNIVERSARY CELEBRATION AND PA SOILS CONFERENCE

PAPSS hosted the Pennsylvania Soils Conference and celebrated its 50th anniversary, all at the same time last June 2025 in Bellefonte, PA. The two-day event, June 17-18, included speakers from NRCS, Penn State University, Franklin and Marshall College, University of Pittsburgh at Johnstown, West Chester University, the Pennsylvania Department of Environmental Protection (DEP), and VW Consultants. More than sixty soil scientists attended, representing the public, academic, and private sectors.

Patrick Drohan of Penn State University opened the conference with his take on the direction of academic research and soil science, the impact of external pressures which have created opportunities, and the need to refocus. NRCS staff, current and retired, followed with presentations on survey activities taking place in Pennsylvania over the past five years. This included an urban soil survey update in Delaware County in southeastern PA, presented by Ben Marshall of the Frederick Soil Survey Office (SSO) in Maryland; areas mined since publication in western PA, the Conemaugh Ridgetop project looking at Gilpin, Culleoka, and Rayne soils, and the Pittsburgh Soil Survey update, presented by James Leonard of the Morgantown SSO in West Virginia; and the Potter County floodplain remapping project in north central Pennsylvania, presented by Matt Havens of the Belmont SSO in New York.



Dr. Drohan discussing forest soils and research sites during the field tour.

Yuri Plowden, retired State Soil Scientist, gave an update about NRCS technical soil services, focusing particularly on use of a pXRF (portable X-ray fluorescence) device that can make direct measurements of elemental lead in soils and screen urban areas for lead contamination.

Participants learned about current legacy sediment studies on floodplains in Lancaster County from Dorothy Merritts and Robert Walter of Franklin and Marshall College, together with Justin Spangler of LandStudies. Their focus was on former mill ponds from the hundreds of mill dams built by our pioneering ancestors throughout eastern Pennsylvania. These mill ponds are filled with sediments eroded from surrounding farm fields and are at risk of becoming major pollutants in our waterways as dams are breached and unconsolidated sediments are washed away. Justin Spangler displayed a series of high-definition digital soil monoliths that can capture detailed, true-color soil profiles, even as deep as 12 feet. Merritts and Walter discussed the stratigraphy they found below the mill pond sediments.



Biochar production and processing were featured during the field tour.

Ekaterina Bazileyskaya of Penn State University discussed her research comparing the accuracy of a handheld pXRF device and a benchtop version compared to laboratory EPA Method 3050B for measuring lead in urban soils. Both the portable and benchtop devices performed comparably, with no statistically significant difference.

From West Chester University, Russ Losco, along with undergraduates Naomi Groves, Sadie Levi-Price, and Patricia Cichon, presented a study working to develop a reliable protocol for separating microplastics from soil particles, as well as research on the effect of microplastics on basic soil properties.

Mitzy Schaney of the University of Pittsburgh at Johnstown discussed how the soils program has been developing since 2017 when she arrived at the university. The school is now offering a B.S. in Environmental Science, including a choice of Soil Science as a field of concentration, which is unique among colleges in southwestern PA. The school also has a soil judging team and hosted the Northeast Regional Soil Judging Contest in October 2025.

PA DEP's Andrew McDonald discussed DEP's Chapter 105 program and its focus on creating online learning resources, including extensive training on wetland identification and hydric soils. The wetlands training was a collaborative effort with NRCS, the U.S. Army Corps of Engineers, and PA DEP. The training is for DEP, the general public, consultants, and other agencies.

Private professional soil scientist Joe Valentine provided a thought-provoking demonstration of the ways that NRCS Soil Survey data can be misused, mostly by local or state ordinances that require the use of soil survey data but do not take into account its scale of mapping or allow detailed remapping on a site basis.

The day finished with a panel of current and retired soil scientists who discussed their experiences mapping in the field and how soil survey has changed over the decades. Panelists included Laurel Mueller of Soil Services Company, Tim Craul of Craul Land Scientists, John Chibirka of NRCS, Alex Dado of NRCS, and Yuri Plowden (NRCS retired). They discussed some of their most memorable days in the field.

A field tour took place on the second day and focused on Pennsylvania's history of charcoal production, the effects of production on soils and ecosystems, and current ways of producing biochar as a soil amendment. The group visited Metzler's Biochar in Mifflin County and Greenwood Furnace State Park. Other Penn State projects were highlighted, including a deer forest project that has been studying the impact of deer and deer

exclusion on forest regeneration, and a riparian buffer project. Soil profiles were extracted from all sites and made available for hands-on inspection.

In addition to ample food and libation, the evening festivities included recognizing many PAPSS members, past and present, for their outstanding contributions to the organization and the field of soil science. The PAPSS awards presented will be shared in a separate article.

This in-person conference and field trip was the first since well before the COVID pandemic. We hope that we will continue this collaboration between NRCS, universities, other local, state, and federal agencies, and PAPSS.

For an electronic copy of the conference-field guide book, please contact Yuri Plowden at yplowden@hotmail.com.



PAPSS members and guests gathered during the 50th anniversary conference and field tour.



PAPSS Members who attended the 25th anniversary celebration in 2000. From left to right in front row: Charlie Hanner, Daryl Fritz, Alex Dado, Joe Valentine; Back row: John Chibirka, Michael Brown, Laurel Mueller, Charlie Klinger, Paul Golrick



Extracted soil cores from Greenwood Furnace State Park

2025 Northeast Regional Soil Judging Contest

By Stephen Dadio

The 2025 Northeast Regional (Region 1) Soil Judging Contest was hosted by the University of Pittsburgh at Johnstown on October 8-10. The first two days consisted of 10 practice pits at two separate locations in Cambria County: the University campus, with siltstone soils and silt loam and silty clay loam textures, and Gallitzin State Forest, with sandstone soils, spodic horizons, and minespoil soils. Contest day was held at Laurel Hill State Park in Somerset County, Pennsylvania. This contest highlighted the variety of Ultisols in the Allegheny Mountain section of the Appalachian Plateau Physiographic Province (MLRA 127).

With 13 schools participating and 101 student contestants, this was the largest Region 1 Soil Judging Contest in recent memory. The contest was hosted by PAPSS Professional Member and UPJ faculty member Mitzi Schaney. Five Pennsylvania schools participated: Delval, Indiana University of Pennsylvania, Penn State, UPJ, and West Chester. This is a record number of Pennsylvania schools.

The top Pennsylvania finishers were Grace Lettero from Delval (4th), Cara Hannum from Penn State (8th), Chad Weist from UPJ (14th), and Reese Lopez from West Chester (25th). IUP participated in the practice days but observed for the contest, as this was the first year of their program.

For Group Judging, Delval finished 3rd, UPJ 5th, Penn State 7th, and West Chester 9th. Combining individual and group judging, the overall placement of the schools was Delval 3rd, Penn State 4th, UPJ 6th, and West Chester 9th.

The top six schools qualified for the National Contest, hosted by NC State in late March 2026. Along with Delval, Penn State, and UPJ, they were joined by the University of Maryland (1st), University of Rhode Island (2nd), and SUNY-Fredonia (5th). Thanks to Mitzi for hosting. The 2026 Northeast Regional Soil Judging Contest will be hosted by the University of Maryland.

There are five Pennsylvania schools currently with soil judging teams. These students are the future PAPSS members. Please consider supporting them with your time and/or resources.



Fragiudult on the UPJ Campus



Strip mine soil profile

2026 National Soil Judging Competition

The 2026 National Collegiate Soils Contest took place March 22-27, 2026 near Raleigh, NC. Sponsored by the Soil Science Society of America and the American Society of Agronomy, the contest was hosted by Dr. Matthew Ricker of North Carolina State University, formerly of Bloomsburg University here in Pennsylvania. It was the largest national soil judging contest ever conducted, with 338 participants and more than 30 volunteers from USDA-NRCS and the Soil Science Society of North Carolina on site to teach students about soils of the southeastern region of the United States.

Congratulations to the two Pennsylvania teams who competed. The Penn State Soil Judging Team finished second in the Group Judging category and tied for 10th place overall out of 28 teams. The Delaware Valley Aggies placed 21st overall and finished 11th in Group Judging. The Virginia Tech Hokies Soil Judging Team finished first in overall score.

For more information, refer to the links below:

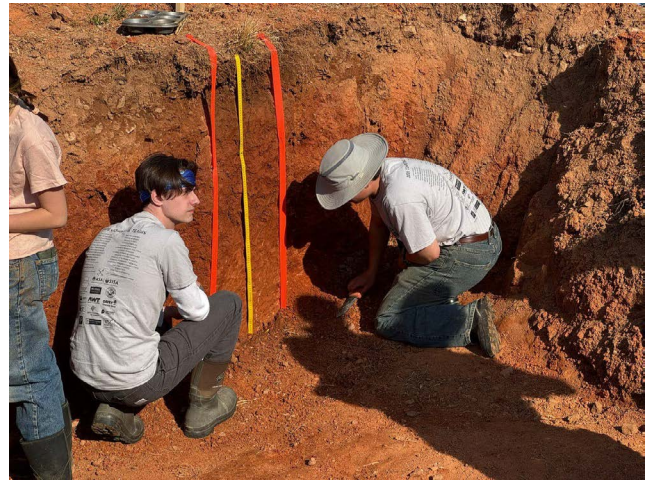
PSU story: <https://www.psu.edu/news/academics/story/penn-state-soil-judging-team-finishes-10th-national-competition>

From CSA News: Volume 71, Issue 5:

[Results from the 2026 National Soil Judging Contest | Science Societies](#)



Penn State Soil Judging Team members at the national contest. From left: John Bicksler (kneeling), Allison Weaver, Brenna Fitzpatrick, Cara Hannum, Joey Picciotti, Karis Blagden, Rayner Raynor, Megan Heineman, and Jed Dreher (kneeling right).



Students examine a soil pit during the 2026 National Collegiate Soils Contest near Raleigh, NC

Recent Discussions about Requirements for CPSS and Implications for PAPSS Professional Membership

The qualifications for professional membership in PAPSS and the qualifications for the Certified Professional Soil Scientist (CPSS) credential seem straightforward. Both include a bachelor's degree in soils or a closely related agricultural, earth, or environmental science major with at least 15 semester hours in core soil science courses, along with 45 hours of supporting coursework and five years of professional soils work after the bachelor's degree. PAPSS professional membership was written to be similar enough to CPSS that a PAPSS professional member should also qualify to apply for CPSS. Someone with a CPSS credential would also qualify for PAPSS professional membership. For the CPSS, the applicant must also pass a written exam.

Difficulties in determining qualifications arise when it is not clear from an applicant's transcript whether a course that is supposed to count as a core soils requirement actually is a soils course. Soil Mechanics and Soil Materials classes that are part of an engineering degree and emphasize soils as a material rather than their in-situ characteristics currently do not count toward the 15 core soil requirements. Additional questions arise when considering whether distance or online courses should count toward core soils credits, particularly regarding lab and field assignments. A few accredited colleges offer a soils curriculum by distance learning, with hands-on lab or field work done by the student on their own. Should these count toward the core soils credits? Do self-study courses have the same learning value as in-person labs?

Other difficulties arise in determining when professional experience should start. PAPSS has consistently decided that the professional experience clock starts once the educational requirements are met. The national CPSS certifying board says that any soils work experience counts toward the five years so long as it is done after the bachelor's degree. This applies even if the 15 core soil credits requirement has not yet been met.

Pennsylvania has a PA Soils Certifying Board (SCB) that was created as a result of a Memorandum of Understanding between PAPSS and SSSA in 2021. The PA SCB was formed as a step toward licensing, with the goal of having soil scientists included on the Pennsylvania State Registration of Engineers, Land Surveyors, and Geologists, which is recognized by regulatory agencies and in regulations and policies. Inclusion on this registry would help define "professional soil scientist" in Pennsylvania.

The PA SCB reviews CPSS applications forwarded to it from SSSA. Most members of the PA SCB are PAPSS professional members, although that is not a requirement. Recently, the PA SCB differed with the national SCB on when professional experience starts. The SSSA guidance seemed clear to the PA SCB that all educational requirements should be met before professional experience would count, but the PA SCB was overruled in a recent case by the national SCB.

Members of the PA SCB think that if this is the way the national SCB wants to interpret professional experience, then the guidelines from SSSA should be clarified to state clearly that the educational requirements do not have to be met prior to beginning quantifiable professional soils experience. This could have implications for PAPSS professional membership, since currently having a CPSS credential automatically qualifies one for PAPSS professional membership.

What do we as PAPSS members think about this? To review qualification requirements for CPSS and for PAPSS professional membership, please see the links below.

[CPSS Policies Procedures and Standards 2026](#)

[PAPSS bylaws approved 2017](#)

If you have comments, questions, or concerns, please send them to yplowden@hotmail.com. Put "Comments about PAPSS professional membership qualifications" in the subject line.

PAPSS Annual Meeting 2025 – SAC, Honorary Memberships, Technical Session, and 2026 Board

PAPSS held its 2025 Annual Meeting at the Giant Shopping Center in Camp Hill, PA this past November. Thirty members attended both in-person and via Zoom. In addition to the annual meeting, an afternoon technical session was offered about on-lot Sewage dispersal system requirements between different states.

One highlight of the meeting was a report from Joe Valentine, Bob Bressler and Laurel Mueller about the Sewage Advisory Committee and their review of Department of Environmental Protection's (Department) draft proposed revisions to 25 Pa. Code Chapters 71—73 (relating to administration of sewage facilities planning program; administration of sewage facilities permitting program; and standards for onlot sewage treatment facilities). Topics that have been discussed by SAC include definition of malfunction of sewage management systems, the definition of a qualified soil scientist with CPSS replacing the out-dated ARCPACs designation; definition of redox as it pertains to seasonal high-water tables; upcoming dates of meetings and an April 2026 internal deadline before the revisions go to public comment. For more information, please consult with Joe, Bob, or Laurel.

Another highlight of the annual meeting was the unanimous approval to award **Honorary Memberships** to Dr. Gary Peterson and Lawrence Hepner, Jr. Gary has supported PAPSS over the years and was a member of PAPSS in the inaugural year 1975. Any PAPSS member who went to PSU from 1968 to 1998 had Gary for a soil mapping course. Gary has been an advisory to numerous MS and PhD students, some are PAPSS members. Gary was one of the first soil scientist to use remote sensing in the field of soil science. Larry has supported PAPSS and hosted numerous PAPSS events at DVC over the years. As a graduate student at PSU from 1974 to 1976, he was an apprentice member of PAPSS in its inaugural year 1975. Larry was known to bring DVC students to PAPSS meeting to encourage student connections with the soil science field. Any PAPSS member who went to DVC from 1979 to 2011 had Larry for numerous soil courses ranging from Introductory Soils, Soil Classification, Soil Conservation, Soil Fertility, Soil and Watershed Management, Field Soil Morphology. Larry was known to encourage students to seek advanced degrees and employment in the soil science field. Besides being an instructor, Larry over his career at DVC was the Department Chair and a Dean. Larry conducted research at DVC which was an institution not known for research. His research included a DEP funded 10 year research project for on-lot sewage; DEP funded research on land application of septage; Conservation District funded research on the effect of stormwater on watershed management.

The afternoon technical session titled, Comparison of Other Mid Atlantic and Southern State Soil Requirements for Siting on-lot Sewage Dispersal Systems featured presentations from Russ Losco of Lanchester Soil Consultants, Jenwei Tsai of Verdantas (Lewes, Delaware), and Tom Ashton an On-Site Sewage Disposal Consultant based on Chincoteague Island, VA. Russ discussed the Delaware Soil requirements and procedures for on-lot systems less than 2500 gpd. Jenwei presented on Delaware soil requirements and procedures for on-lot systems greater than 2500 gpd. And Tom discussed the Virginia-N. Carolina-Ohio soil requirements and procedures for on-lot sewage and shallow limiting zones.

The 2026 PAPSS board was also approved as the following:

Yuri Plowden, President	Alex Dado, Vice President
Dr. Rebecca Bourgault, Secretary	Rob Bowie, Treasurer
Charlie Klinger, Board member	Robert Bressler, Board member
Max Coniglio, Board member	

Thank you to Michael Brown who has served as our President for several years!

Upcoming Legacy Sediment Workshop

Event Date: Thursday, July 16, 2026

A Legacy Sediment Training Workshop will be held in partnership with LandStudies and the Chesapeake Watershed Initiative at Franklin & Marshall College. This workshop is offered as part of an NRCS Conservation Innovation Grant (CIG) that evaluated soil profiles at four locations in the Chiques and Little Conestoga Watersheds.

Morning Workshop - In Person

Check-in: 8:30 am-9:00 am

Workshop: 9:00 am-12:00 pm

Lunch: 12:00 pm-1:00 pm, bring your own or bring \$10 cash for sandwich buffet

Location: TBD Building, Franklin & Marshall Campus, Lancaster, PA 17601

Morning Workshop - Virtual

Workshop: 9:00 am-12:00 pm

Location: Virtual (Zoom or Teams)

Afternoon Field Workshop - In Person Only

1:00 pm-3:00 pm

Location: Meet at TBD Building on Franklin & Marshall Campus

Field-appropriate attire recommended.



The morning workshop is a hybrid event, offering simultaneous in-person and virtual attendance options. This session will present fundamental concepts and discussion opportunities regarding the formation of legacy sediment, how legacy sediments degrade aquatic resources, and how to identify legacy sediment deposits in the field. Full-scale digital soil monoliths will be presented, along with observations, research, and discussion incorporating other sites in the Mid-Atlantic.

The afternoon field workshop is an in-person event consisting of two site visits. The first stop will visit a legacy sediment exposure in the field, and the second site will visit a restored site. Field-appropriate attire is required for the afternoon.

This training will be co-led by Dr. Robert Walter, Chesapeake Watershed Initiative, Franklin & Marshall College; Dr. Dorothy Merritts, Chesapeake Watershed Initiative, Franklin & Marshall College; and Justin Spangler, PE, LandStudies.

The deadline to register is **July 8, 2026**. Registration is free for all sessions. Lunch is \$10 for simple sandwich buffet to be paid onsite, **Register here**. Questions? Yuri Plowden at yuri.plowden@usda.gov.

PA Clean Water Academy Wetland Identification Course

The Pennsylvania Clean Water Academy, offered by the Pennsylvania Department of Environmental Protection, includes an online Introduction to Wetland Determination course with sections on hydrology, hydrophytic vegetation, hydric soils, and hydric soil indicators.

This digital training library contains training for DEP, Conservation District staff, Sewage Enforcement Officers, and the public. The website address is <https://pacleanwateracademy.remote-learner.net>.

At the home page, click Contact Us to request a user login. As you peruse the course catalog, each course will tell you if you are able to enroll. Find the Introduction to Wetland Determination course, which includes sections on hydrology, hydrophytic vegetation, and hydric soils. You may even recognize some of the instructors. A completion certificate is available to those who create a user login. (continued.....)

PA Cleanwater Academy continued.....

This course was designed specifically to meet DEP's regulatory programs related to wetland identification and the 1987 Army Corps of Engineers Wetland Delineation Manual and associated Regional Supplements. This course by itself does not substitute for field experience, but it provides foundational information.

Employment Announcement: PAPSS Administrator

The Pennsylvania Association of Professional Soil Scientists (PAPSS) is currently looking to fill the position of Administrator. The position involves performing various part-time duties for the association and can be divided into an initial start-up period and ongoing annual/monthly duties.

Initial duties - one-time start up (allocated \$400, 16 hours at \$25/hr.): establish an Excel member and email list; send annual membership cards for 2026; become familiar with IRS and Pennsylvania Department of Revenue nonprofit standards; and establish a new PAPSS mailing address.

Ongoing duties - not to exceed 12 hours per month at \$25/hr.: attend virtual monthly board meetings (minimum four per year); assist with approximately two yearly meetings or events, including procuring event space, food and beverages, flyer development, announcement emails, program document processing, registration, and attendance lists; assist with yearly filings to IRS and the Pennsylvania Department of Revenue, including serving as the official organization address; maintain the membership and consultants list; maintain electronic files of board meeting minutes, decisions, annual meeting minutes, Pennsoil newsletters, and special event flyers; receive and deposit checks into the PAPSS bank account; maintain and organize physical files; provide general correspondence to membership as needed; and assist with website maintenance and Stripe management.

Requirements: The successful applicant needs to own a computer and have access to and proficiency with Excel, Word, Adobe Acrobat, and email, or comparable Apple products. PAPSS is looking for people who pay attention to detail, are comfortable with or willing to learn how to assist with planning events, and possess good communication skills.

Interested applicants should send a cover letter and brief resume showing how they are qualified, along with names and contact information for up to three people who can recommend them. Please contact Rob Bowie for more information and/or to send application materials: bmseptic@comcast.net.

Application deadline: June 30, 2026.

USDA-NRCS Technical Service Provider (TSP) Opportunities for Certified Professionals

The American Society of Agronomy (ASA) and the Soil Sciences Society of America (SSSA) recently signed new Memorandums of Understanding (MOUs) with USDA-NRCS to greatly streamline the process for a CCA or CPSS to become a Technical Service Provider (TSP). The demand for these services is high and USDA is trying to expand the number of TSPs to meet the increasing requests for technical assistance by farmers and landowners.

In order to become a TSP, one has to complete a webinar found on the SSSA website:

<https://www.soils.org/certifications/already-certified/tsp/info>

PAPSS Scholarship

By Matt Hostrander

Each year PAPSS awards a \$500.00 scholarship to a student studying soil science, or a soil-science related field, who embodies what PAPSS is all about – furthering the soil science profession, promoting ethical behavior, increasing public awareness of the importance of healthy soil and how soil science contributes to the protection of the environment and human welfare. We award one scholarship each year. This award will be for the 2025-2026 academic school year.

If you are a student, or know of a student that would be eligible and interested in this scholarship, please encourage them to apply. The application form can be found at the bottom of our Home Page at www.papss.org

Conservation Evaluation Monitoring and Assessment (CEMA) 216 Soil Health Testing – what is it?

NRCS has launched a Regenerative Pilot Program (RPP) that requires producers to perform soil health testing in the first and last year of the contract. NRCS defines [Regenerative Agriculture](#) as “a conservation management approach that emphasizes natural resources through improved soil health, water management...” The RPP features whole-farm holistic conservation planning and producers must agree to implement at least one primary regenerative management practice and do soil health testing (CEMA 216) at the beginning of the contract to establish baseline measurements and then again at the end of the contract. Primary practices include crop rotation, contour farming, cover cropping, residue and tillage management, stripcropping, no-till, drainage water management, forest stand improvement, and grazing management.

What implication might this have for PAPSS members? The CEMA 216 must be done by a ‘Qualified Individual’. A QI is a trained reputable, competent professional who helps farmers and ranchers carry out soil health testing. They ensure proper soil sampling, packaging, timely submission to the labs, and provide data interpretation. A QI can be one of the following: Certified Crop Advisor (CCA) or Certified Professional Agronomist (CPAg) through the American Society of Agronomy or a **Certified Professional Soil Scientist (CPSS) or Associate Professional Soil Scientist (APSS) through the Soil Science Society of America**; a Technical Service Provider; an individual with an associate degree or higher in an agricultural or soil science field with at least 2 years of experience collecting soil for laboratory analysis; or someone working under the guidance or management of a QI.

For more information see the following:

Practice standard with detailed information about CEMA 216 can be downloaded [here](#).

General guidance document about the CEMA 216, click [here](#).

For information about the Regenerative Pilot Program click [here](#).

To view a 90 minute to familiarize yourself with the CEMA 216 click [here](#). It contains information about the role of the Qualified Individual.

In Pennsylvania, the local NRCS offices will provide producers interested in the RPP and CEMA216 links to [SSSA CPSS](#) site and to a link for a list of certified crop advisors and Technical Service Providers.

2026 Consultants List and PAPSS Membership list now online

www.papss.org click on FIND A SOIL SCIENTIST

The current membership list can be found under RESOURCES, Members Only. The password is Licensing.

West Virginia Association of Professional Soil Scientists (WVAPSS) Field Day

August 22, 2026 at the Fernow Experimental Forest near Parsons, WV. For more information contact Alex Dado, soilguy827@yahoo.com

PAPSS Board Members 2026

Yuri Plowden, President
Dr. Rebecca Bourgault, Secretary
Charlie Klinger, Board member
Max Coniglio, Board member

Alex Dado, Vice President
Rob Bowie, Treasurer
Robert Bressler, Board member

PAPSS Welcomes New Members!

Max Russick
Dan Fenstermacher
Keith Shadle
Heather Stellabott
Shannon Giampa

PAPSS Online
www.papss.org

Web Soil Survey
websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

NRCS Digital Soil Survey App
<https://casoilresource.lawr.ucdavis.edu/>

Comments or contributions?
yplowden@hotmail.com