

**Office of the Chief
Weekly Report**

**Soil Science and Resource Assessment
Soil Science Division**

May 29, 2013

Deadline Reminders

Agency Fleet Policy Certification for all drivers by June 7, 2013.

Upcoming Meetings/Conferences

The National Cooperative Soil Survey National Conference received meeting approval for 21 NRCS participants. It will be held June 16-20, 2013, in Annapolis, MD, and hosted by the University of Maryland. This year's conference theme is, "Soil Survey – Planning for Soil Health in the Critical Zone." Go to

http://soils.usda.gov/partnerships/ncss/conferences/2013_national/index.html for more information.

Basic Soil Survey – Lincoln, Nebraska – June 4-14, 2013

Soil Geomorphic Institute – Lincoln, Nebraska- July 8-26, 2013

Soil Science Division Update

Evaluation of Ground-Penetrating Radar to Detect Drainage Pipes in Wetlands

During the week of 13 to 17 May, Jim Doolittle, NSSC research soil scientist, with soil scientists with the Ohio State Office and the Findlay MLRA Soil Survey Office explored the potential of using ground-penetrating radar (GPR) to detect drainage pipes in several very poorly drained to well drained soils formed in moderately-fine and fine textured tills of western Ohio (Champaign, Darke, and Logan Counties). In the Midwest, an extensive system of subsurface drainage pipes and drainage ditches has been installed to drain wetlands for farming. Many of these drained wetlands are being restored through initiatives such as the Wetlands Reserve Program. The restoration of the wetlands, however, requires locating and removing or plugging of subsurface drainage pipes, and use of conventional methods such as tile-probe rods to locate the pipes is a slow, costly and labor intensive task. This research evaluated use of GPR to locate the drainage pipes, specifically to evaluate the effect of soil texture, hydrology, and surface conditions on the detection of drainage pipes constructed of different materials, having different diameters and orientations, and buried at different depths. More efficient methods, such as GPR, for locating buried agricultural drainage pipes are needed to effectively and efficiently implement wetland restoration projects to increase biodiversity, improve water quality, and provide temporary storage of flood waters in these ecosystems.

Fieldwork for the Rapid Carbon Assessment Project underway in Hawaii, Alaska, and Puerto Rico

Fieldwork is underway in Hawaii, Alaska, and Puerto Rico to document sites and collect samples for soil organic carbon stocks under the RaCA Project. Soil survey regional RaCA Coordinators who lead RaCA fieldwork and sample processing in 2011 and 2012 are providing training and

other assistance in Hawaii and Puerto Rico. Additionally, CESU agreements have been developed with appropriate universities to provide field and laboratory assistance including employment of students in part time positions. Data collected from these tropical and arctic regions will augment findings from the mainland US and enhance our understanding of current US carbon stocks.

Soil Science and Art

Janice Lang, Physical Science Technician and resident artist at the NSSC, has had three of her paintings selected as first round winners in the 2013 USDA Art in Agriculture competition. Jan has developed and often uses a technique to make pigments for her paintings from soils that have been analyzed by the KSSL. Photographic images of Jan's three winning paintings, Rainforest (forests category), Minnesota Beauty (conservation category), and American Indian Beauty (civil rights category), will be displayed on the USDA Office of Cultural Transformation website, <http://culturaltransformation.usda.gov/oc/ctdiscuss.nsf/dx/arts>, for the remainder of 2013. Jan's paintings and the other 100 first round winners will be judged by a panel of art professionals for subsequent awards during the week of June 3 and will be on display in the Whitten or South Buildings for the remainder of the year. If you have the opportunity, please take the time to view Jan's paintings and congratulate her for this accomplishment.

Long Term Ecological Site Science Committee Meeting

Dr. Joel Brown, NSSC staff, presented information to the National Science Foundation's Annual Long Term Ecological Site (LTER) Science Committee meeting on 22 May. The NSF LTER Science Committee meets annually to discuss science direction and opportunities at the 17 LTER sites. The annual meeting rotates among the sites and was hosted this year by the Jornada Basin LTER site, which has been active since 1981. The Jornada Basin LTER emphasis has adopted ecological site/state and transition concepts as a way to organize information, communicate with collaborators and aid in designing new research projects. <http://jornada.nmsu.edu/lter>

The National Soil Survey Center Provides Training and Technical Assistance to the Georgia NRCS Soil Survey Staff

Wes Tuttle, Geophysical Soil Scientist, NSSC, provided ground-penetrating radar (GPR) training and technical assistance to NRCS soil scientists located in Griffin, Tifton and Richmond Hill, Georgia during the week of May 13, 2013. The Georgia NRCS soils staff currently has two SIR-3000 Ground-Penetrating Radar (GPR) systems for evaluation of map unit properties including depth to bedrock, solum thickness, thickness of underlying strata and detection of underground utilities. Exploring new methods, including GPR, that are more efficient and cost effective are at the forefront of USDA/NRCS's mission. Geophysical tools provide a more intensive, noninvasive approach to soils investigations, and large and comprehensive data sets on selected properties can be collected in a short period of time. Presence of two GPR systems makes Georgia a valuable strategic location in the southeast US to take advantage of the use of geophysical techniques with close proximity and access to the Appalachian Mountains, Piedmont, and Coastal Plains regions. The National Soil Survey Center staff will continue to support the use of GPR by NRCS staffs by providing training in suitability, use, and data processing to improve the soil survey.

NSSH Webinar

Changes proposed to the National Soil Survey Handbook to reflect reorganization of the Soil Science Division was the topic of a May 17th webinar by Cameron Loerch (NSSC) and Roy Vick (NHQ). Sections 601, 608, & 610 covering NCSS Organization, Program Management, and Soil Survey Updates were described to over 160 participants. The proposed changes will take effect once the SSD reorganization is approved and completed. The webinar was recorded and will be available on the NSSC YouTube Channel <http://www.youtube.com/user/nrcsnssc>.

Soil Health Assessment Training in Grand Rapids Michigan

- On May 21st, at the request of Michigan State University (MSU) Extension and Michigan NRCS, the agronomist from the Soil Quality and Ecosystems (NSSC) staff provided training on the use and application of simple soil health assessments and interpretations.
- Training was provided for twelve MSU extension and Michigan NRCS staff.
- MSU Extension and Michigan NRCS are considering collaborative soil quality training and the possibility of putting together a simple soil quality assessment kit for Michigan.

Personnel Highlights

Larry West, National Leader for Research and Laboratory, will retire from the National Soil Survey Center on June 3, 2013.