



United States Department of Agriculture

SUBJECT: SOI – FY 2016 – Priorities for Soil Science Division

TO: Regional Conservationists
State Conservationists
Directors, Caribbean and Pacific Islands Areas

File Code: 430

FROM: David L. Lindbo, Director, Soil Science Division

The Soil Science Division (SSD) supports the NRCS mission by delivering vital information and expertise to agency staff, partners, and the public in innovative ways. The division's priorities for FY 2016, listed below, will enable it to continue that service. All of the priorities are of equal importance.

- Assist States in providing science-based technical soil services to enhance and support soil health activities, conservation planning, and program delivery and to maintain and expand our partnerships with university cooperators and other external customers.
- Accelerate the foundational (initial) soil inventory on all lands, including private, Tribal, and Federal lands.
- Provide ecological site products to broaden applications and training in collaboration with national and State technical staff and Federal partners.
- Enhance the integration of soil science with USDA and NRCS climate change initiatives.
- Strengthen the National Cooperative Soil Survey (NCSS) through increased transparency and collaboration with internal and external partners.
- Finalize the Soil Survey Data Join Recorrelation (SDJR) initiative to evaluate and harmonize soils information across landscapes and incorporate the evaluation and harmonization process into standard operating procedures.

The significance of each priority is described below.

Technical Soil Services – The Soil Science Division is committed to assisting the State Conservationists and State soil scientists in providing technical soil services assistance to support agency priorities. The SSD and the Soil Health Division will continue to work in partnership with States to provide science-based soil health information and applications. The SSD will continue to collaborate with State soil scientists to promote increased technical assistance field training in resource assessment for conservation planning, assessments of soil health and dynamic soil properties, hydric soil identification for wetland determinations, and other conservation technical assistance needs. The SSD is also committed to assist States to provide technical soil services to customers with understanding and properly using the soil survey, to provide customers with predictions and interpretations about the behavior of each kind of soil mapped or identified under defined situations, and to offer onsite investigations, soil workshops,



training sessions, and volunteer opportunities to traditional, nontraditional, and underserved customers. These services will be beneficial to NRCS's Regional Conservation Partnership Program and critical conservation areas and to broaden the conservation partnership.

Soils Inventory – Priority will be given to initial soil inventory on Tribal and private lands on which conservation technical assistance and farm bill program delivery are NRCS priorities. An initial soil inventory is the foundation upon which all subsequent soils products and information are developed, maintained, and interpreted. Customers continue to ask new questions, request existing and new data, and need current and new soil interpretations to develop conservation programs and address issues on climate change, soil health, and other emerging land use concerns. More than 90 percent of the United States has a detailed soil survey (97 percent of non-Federal and Tribal lands) and maps and data are accessible through Web Soil Survey. However, there are over 180 million acres of soils in the United States that have no soil inventory. Most of this acreage is on Federal lands (109 million acres); however, high-conservation-priority areas have no foundational soils inventory, particularly on Tribal lands in Alaska. In 2015, and in collaboration with Tribal, Federal, and NCSS partners, including State Conservationists and State soil scientists, the SSD will develop and implement a plan to accelerate the inventory of the remaining private, Tribal, and Federal lands with a proposed accomplishment of the foundational soil inventory by 2026.

Ecological Sites – Ecological site inventory and descriptions are critical to selecting, implementing, and assessing conservation practices; recognizing thresholds for irreversible change in managed ecosystems; estimating potentials for soil carbon sequestration; and developing options for climate change adaptation. Using ecological site information for conservation planning is an application of NRCS existing guidelines. The first step is inventory (selecting ecological site and ecological state); the next step is defining conservation goals and objectives; then selecting appropriate conservation practices and monitoring their impacts to adjust future management decisions. Soil survey long-range and project plans will include protocols for the definition, inventory, and description of ecological sites. Provisional ecological sites are planned to be completed and available within five years.

Climate Change – NRCS programs and conservation planning activities were historically designed to provide conservation of natural resources under climatic conditions that varied regionally. Currently, climate change and extreme weather events, as evidenced by recent high rainfall events along the east coast and severe drought in the west, now require these programs and activities to be updated with respect to these new benchmarks of variable climate. The Soil Science Division helps make conservation programs more effective by using localized expert knowledge of soil science in order to increase soil resilience against future impacts of climate change. The SSD has a leading role in supplying soils expertise, soil survey data, and ecological site information to these agency programs. With the increasing need to raise awareness of and prepare for the impacts of climate change, the SSD will provide an increasing level of assistance



to maximize the use and value of soils data in support of these agency activities and in support of the mission and goals of the USDA Climate Hubs.

National Cooperative Soil Survey – The strength of the NCSS relies on the collaboration between NCSS partners – Federal, State, and local government agencies, universities, private sector – to achieve common goals in advancing soil science. Through State Conservationists and State soil scientists, the SSD will strengthen communication lines to further agency priorities in soil health, conservation initiatives, and providing science-based conservation planning to landowners. The SSD will build on the success of the 2015 International Year of Soils by working in partnership with all NCSS participants to develop a NCSS strategic plan. Also, the SSD will encourage the NCSS partners to actively participate in regional and national conferences and serve in training cadres.

Soil Survey Data Join Recorrelation (SDJR) – In the final year of this multiyear, accelerated initiative, the SSD will continue to create continuous and joined coverage within the database through a process of data harmonization. The evaluation was designed to capture corporate knowledge from State soil scientists, experienced employees, and historical documentation (such as manuscripts, correlation documents, point data, research, and laboratory data) and then use that knowledge to harmonize the individual map unit concepts across multiple counties into a similar MLRA map unit concept and improve the soil properties and interpretations. The resulting uniform map unit database paves the way for calculations, such as those for K and T factors, needed to produce accurate information across soil survey area boundaries and provides the framework for future enhancement and improvements within each MLRA. The evaluations are an integral part of the update process and will continue to provide a complete understanding on what soils information needs to be collected to support agency conservation planning needs from the local level up through the national level.

If you have any questions or concerns about any of these priorities please contact Pamela Thomas, Associate Director, Soils Program, Soil Science Division, by email at pam.thomas@wdc.usda.gov or by phone at (202) 205-4211.

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