USDA United States Department of Agriculture

Natural Resources Conservation Service

Soil and Plant Science Division

Soil Survey Regions 2, 4, and 11

"Algorithms for Quantitative Pedology" Workshop Draws Soil Science Professionals

Purpose

The workshop, which was presented at the 2019 Soil Science Society of America (SSSA) International Conference, supported the priorities of the Soil and Plant Science Division. It helped to maintain and expand conservation partnerships with local, county, State, and national governmental entities and with educational institutions, private companies, and landowners.

Background Information

The SSSA International Conference annually brings together soil scientists from around the world. Participants share and learn about the most current soil research on issues ranging from food security to environmental degradation. At this year's conference, NRCS soils scientists delivered a workshop titled "Working with the Algorithms for Quantitative Pedology Package in R" to approximately 30 scientists. The presenters were Dylan Beaudette, Soil Survey Region 2; Stephen Roecker, Soil Survey Region 11; and Jay Skovlin, Soil Survey Region 4.

R is a programing language and free software environment for statistics. In R, a "package" is a directory of files that extend the capabilities of the software. NRCS soil scientists have created several R packages for working with soil data. The "Algorithms for Quantitative Pedology" package, or **aqp** for short, is one of the most popular of these packages.

Dylan Beaudette, soil data quality specialist in Soil Survey Region 2, presents "Working with the Algorithms for Quantitative Pedology Package in R" at the workshop.

Key Outcomes

Workshop participants were introduced to the many useful applications provided by the **aqp** and related USDA–NRCS R statistics packages. Examples included directions for accessing the USDA-NRCS soil databases, creating graphics, and analyzing data. In addition, several participants had questions that were addressed individually after the workshop.

Conclusions

The attendance at the workshop and other anecdotal evidence (e.g., downloads, publications, and presentations) confirm that there is significant interest in the R packages developed by USDA–NRCS.