Soils Laboratory Manual


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5. SoilWeb Field Trip

Soil information is critical to managing our landscape. There were soil mapping efforts in the US prior to the Dust Bowl. However, the need to implement conservation practices on farmland following the Dust Bowl ultimately led to the creation of what’s now known as the US Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) as well as that agency’s primary missions – mapping the soils of the US to support conservation efforts. The importance of the nation-wide soils map data has expanded beyond implementing conservation practices on farmland, and is now used by many different disciplines. Examples include real estate development, habitat restoration, land valuation, and more. The USDA-NRCS leads soil mapping efforts in cooperation with many other federal, state, and local government agencies and Land-Grant institutions from around the country as part of the National Cooperative Soil Survey (NCSS). The resulting soils data is contained in five soil databases. Most of the time we access soil data from the SSURGO database, which is the same database used for the Web Soil Survey. Other services and applications also use this database, including the SoilWeb web application that we will use in this self-led laboratory.

Learning Objectives

• Explore soils in your local area.
• Demonstrate proficiency in using the SoilWeb web application.
• Become familiar with data available in the SSURGO database.

Materials

• Using the SoilWeb Web Application Problem Set
• A smartphone or tablet with access to the internet
• SoilWeb web application

Recommended Reading & Viewing

• SoilWeb Apps (O’Geen, 2021)
• Description of SSURGO Database (USDA-NRCS Soil Survey Staff, 2021)
• From the Surface Down: An Introduction to Soil Surveys for Agronomic Use (USDA NRCS, 2010)
Prelab Assignment

Using the recommended reading resources, consider the questions listed below.

1. What is the difference between a “web application” (or “web app” for short) and a native application (app) installed on a phone or tablet?
2. List and briefly describe each of the other applications available that are associated with SoilWeb.
3. Based on the “Status Map of Soil Surveys Available from the Web Soil Survey” on the “Description of SSURGO Database” web page, what state has the most area remaining that needs to be mapped?
4. What is the range of scale at which soils are mapped for the SSURGO database, and what is the most common scale?

Appropriate Clothing

We recommend wearing long pants, sturdy shoes or boots, and socks that extend past your ankles on this field trip. Sunscreen and bug spray may also be needed.

Physical Ability

This is a self-led field trip, and you will decide what area you will explore. We recommend you choose a safe area that you can walk or hike within your abilities, or that you find an alternative means of transportation as needed.

Assignment: Problem Set

A problem set will be provided to you. The questions in the problem set will guide you through the laboratory activity.