Urban Soil Survey

The USDA Natural Resources Conservation Service (NRCS) and National Cooperative Soil Survey (NCSS) partners actively produce and maintain urban soil surveys. Urban soil surveys gather valuable information to assist in predicting and explaining soil distributions and functions. This vital work can help identify healthy ecosystems, develop urban agriculture, determine where to focus restoration efforts, manage stormwater, mitigate urban heat island impacts, and assist all of us in making wise decisions concerning our natural resources. Urban soils can provide valuable services —and we rely on urban areas as places to live, work, recreate, grow food, and garden.

What is an urban soil survey?

An NRCS urban soil survey is a seamless dataset of soil information encompassing areas of high population density or built environments. The 3-dimensional data set gives properties and characteristics of soils from the soil surface to a depth of approximately 2 meters (6 feet). Traditional soil survey work often prioritized inventories within agricultural areas and often did not provide detailed urban soil data. NRCS soil survey information is available online to the public at no cost.

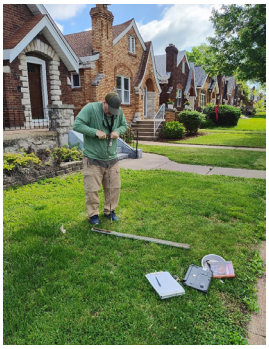
How are soils mapped in urban areas?

NRCS soil scientists and ecologists document soil and vegetation properties and characteristics throughout urban areas. They use available resources, such as historical maps, to understand the distribution and spatial extent of the soils as well as the impact on soil behavior and soil uses. Soil scientists know that the distribution of soils and important soil properties in urban areas are more variable than what is observed in undeveloped and native landscapes.

Why are urban soil surveys important?

According to the 2020 U.S. Census, about 80 percent of the nation's population lives in urban areas where natural resources, like soils, are used intensively. If appropriately managed, soils can provide valuable ecosystem services benefiting the diverse social, economic, and environmental needs of urban populations.

Urban soil survey data is needed to apply effective urban conservation and management strategies that enhance the delivery of soil ecosystem services. Soil surveys in urban areas provide critical conservation planning data for city centers (urban core), satellite cities or towns, impervious areas, vegetated or landscaped areas, pockets or fragments of soil areas, and undeveloped lands.





Urban soil survey data:

- Cultivates food sovereignty by giving people the information necessary to grow healthy food and increase food production.
- Helps people make informed decisions when developing and expanding urban agriculture small-scale farming and community gardens or private lots.
- Supports science-based conservation planning, land use planning, and ecological management in urban areas.
- Improves the development and success of habitat conservation, management, and restoration activities.
- Assesses the state of urban soils and dynamic soil properties responding to human impacts.
- Provides information and interpretation ratings representing current soil patterns.
- Supports NRCS conservation program delivery to urban farmers and communities.
- Provides technical soil services to support urban conservation delivery and outreach for various uses such as urban agriculture, urban soils education, water quality, stormwater management, and ecological services.

How can urban soil survey data be used?

Urban soil survey data can help guide land managers and land users. Many professions use urban soil survey data, such as:

- Conservation planners and urban farmers
- Engineers and architects
- Urban planners, land use planners, and land managers
- Park, forest, habitat, and ecological managers
- Stormwater and water quality managers

Scan the QR code to learn more about NRCS soil surveys!

Where can I find urban soil survey data?

Web Soil Survey is the official online portal for soil survey data. Soil surveys provide soil properties and characteristics, spatial mapping, and soil interpretations. Web Soil Survey and additional soil survey information for urban areas can be accessed on the NRCS Soil Science web page.

Visit www.soils.usda.gov or scan the QR code for more information!