**Protect Your Investments in the Soil: USDA’s Modernized Lab Data Mart Provides More User-Friendly Data**

*New Interactive Map Includes Data Based on State-of-the-Art Laser Technology*

It’s hard to place a true value on understanding your soil and its dynamic properties that can change over time, due to human impacts, land management and climate change. The U.S. Department of Agriculture’s Natural Resources Conservation Service (NRCS), through the [National Cooperative Soil Survey (NCSS)](https://www.nrcs.usda.gov/about/partner-with-us/national-cooperative-soil-survey), has a team of soil and data scientists who bring customers the best soil information using the newest technology. Farmers, engineers, architects, scientists, educators, and anyone looking to learn more about their soil can access the latest data to make important decisions and reduce potential [soil risks and hazards](https://www.nrcs.usda.gov/resources/education-and-teaching-materials/understanding-soil-risks-and-hazards).

The [Lab Data Mart](https://ncsslabdatamart.sc.egov.usda.gov/), also known as the National Cooperative Lab Characterization Database, is a website that offers a variety of soil information sampled by soil scientists nationwide, including Puerto Rico, and analyzed at the NRCS’s [Kellogg Soil Survey Laboratory](https://www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/soil/kellogg-soil-survey-laboratory-kssl) (KSSL).

“The new, modernized website is more user-friendly, with a helpful interactive map that’s easy to navigate,” said XXX. “Whether you’re a hydrogeologist, municipal water-utility operator, or water-quality regulator looking to understand the subsurface, or an architect looking at a site’s soil to build a baseball field, you can search by location and have soil data available at your fingertips.”

The new map includes mid-infrared (MIR) soil spectroscopy data gathered during soil analysis at the KSSL, one of the largest libraries of MIR spectral data in the world. MIR soil spectroscopy uses lasers and radiation frequencies to reveal the soil’s properties, such as organic carbon, clay content, calcium carbonate equivalent, and pH, which is beneficial in soil health assessments.

The interactive map links to a national database of soil characterization data and allows users to locate soil samples and “pedons” that have been analyzed in the lab. A pedon is the smallest unit of soil containing all the soil horizons of a particular soil type. Laboratory data is available for over 60,000 pedons and is the result of nearly 60 years of fieldwork and laboratory analysis by the NCSS. Historically, such laboratory information was aggregated into a soil survey report.

Today, the customizable, personalized data in the Lab Data Mart is downloadable to a number of applications and web services that customers use. The data is continuously updated as more sampled soil sites are added or sites are re-visited and more information is gathered.

**What Can You Learn From Lab Data Mart to Help You?**

* Looking into carbon credits or improving carbon sequestration? This information, including the MIR data, can determine how much carbon is in the top 12 inches of soil currently to help a customer determine whether they want to sequester more and consider methods and management practices to do so.
* This is the most precise information available about your property, not a grouping of a large data set that may include areas with soil types different than yours. It provides pedon data specific to a county. It’s the closest thing to having a soil scientist standing on your property.
* Looking to lease or buy land? This data may help you determine if your planned management practices will work, and if not, what is going to be the added cost to do things differently? By understanding the mineralogy of your soil, you may need soil amendments, or a new tool or piece of equipment to accomplish your goals. Or it may mean you need to change what you farm or change your tillage operation.
* It can provide the foundational information for a more wholistic view of your land. Whether working with an NRCS conservation planner or on your own, knowing the most about your soil ties into how you look at the whole [ecological site](https://www.nrcs.usda.gov/getting-assistance/technical-assistance/ecological-sciences/ecological-site-descriptions), as well as ecosystem state and transition models. For instance, if you want to try increasing Animal Unit Months (AUMs) by increasing forage production, could you increase grass production by adding gypsum?

“The Lab Data Mart is a valuable resource that can support conservation planning, soil health, climate-change research, climate adaptation, climate-smart agriculture and more,” said XXX, XX State Conservationist. “Our soil and data scientists continue to add more sampled sites with more data, and with the new map and MIR information, we hope more people will use the data to better understand and protect their soil.”

**Who Can Help You Use Lab Data Mart and Help You Understand Your Data?**

NRCS State Soil Scientists and their staff, as well as technical service provides, can assist with obtaining the data in Lab Data Mart and understanding it.

To learn more, visit: XXX