

**NRCS Soil Science Division:
The Future
Phase 1 - Soil Data Join Recorrelation
Initiative (SDJR)**



The National Cooperative Soil Survey (NCSS) program under the leadership of the Natural Resources Conservation Service (NRCS) is charged by Congress to inventory the soils of the United States, interpret the soils for various uses, publish information to the public, and *maintain the inventory* to meet user needs.

Background

In the first 100 years of the National Cooperative Soil Survey (NCSS) Program, soil surveys were conducted county by county on the basis of State priorities and applied statewide and regional guidance documents in survey development. The application of soil survey data and maps was primarily at a local level for planning management. Material that was originally developed as information pertinent to a specific county is now being used on a broader scale, and data differences related to the product’s vintage, design and completeness present challenges.

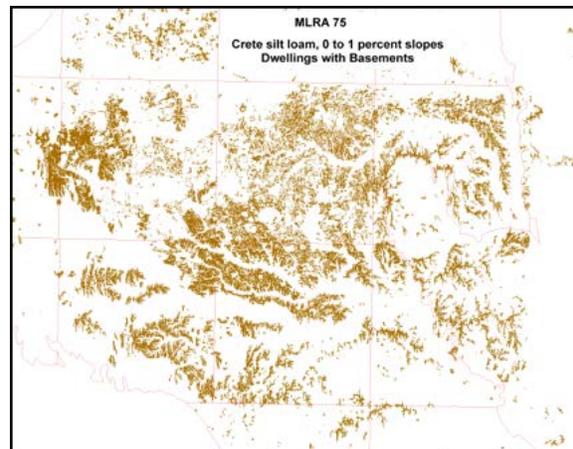
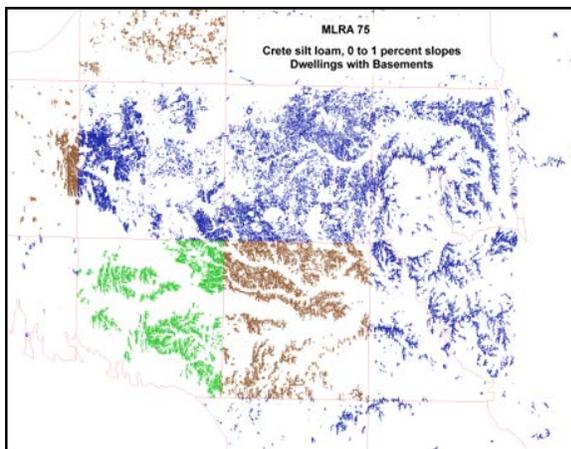
The Soil Science Division has positioned its future program by establishing MLRA soil survey regional offices and MLRA soil survey offices. The organization of these offices fosters the update of soils information in a manner that minimizes historical political or regional bias. Update of soils information will be based on typical conditions within the MLRA.

The Soil Data Join Recorrelation (SDJR) initiative accelerates the soil database improvement phase of the MLRA approach to soil survey within the National Cooperative Soil Survey (NCSS) program. This initiative will focus on creating a continuous and joined coverage within the attribute database through a process of data harmonization.

The Soil Data Join Recorrelation Initiative

Advances in computer technologies allow for sophisticated analysis and modeling of natural resource data across very large areas. The coverage of attribute and spatial data of the nation’s soil resources available to the public is considered the ‘first generation’ of soil mapping. The next major effort is the Soil Data Join Recorrelation (SDJR) initiative. The SDJR Initiative begins the process of bringing attribute data to a common standard through “harmonization” and identifies future projects that require additional fieldwork.

Below on the left is a depiction of soil suitability for “Dwellings with Basements” as the SSURGO product currently would display. Abrupt straight boundaries from one color (suitability rating) to another represents a county line and vintage of survey and data values selected. The map on the right shows the rating after the SDJI “harmonization” is completed:

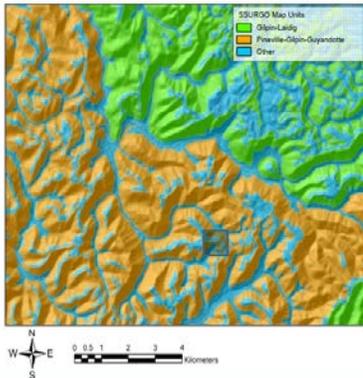


Basic Objectives of the Soil Data Join Recorrelation initiative include the following:

- Support the development of seamless soils data for use with Conservation Delivery Streamlining Initiative, USDA Farm Bill Programs, and value added Soil Survey products
- A process resulting in correlation of similar map units taking into account existing field and laboratory data, and expert knowledge
- Improve and complete the population of the soil properties database
- Reduce the number of map units for same and similarly named soil map units
- Identify priority additional update needs based on SDJR activities (Phases 2→X)
- Rectify the perceived interpretation discrepancies visible in geospatial presentation of soil survey information, and
- Build the foundation for next generation of soil survey – disaggregation and new farm and environmental interpretations (Phases 2→X)

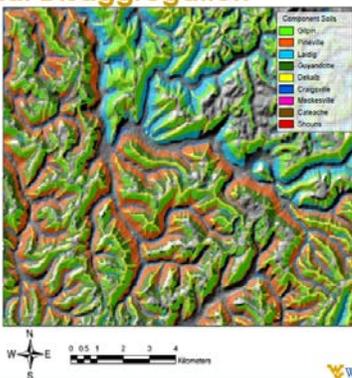
Preview of Phase 2: What would the “disaggregated” soil map look like?

Map Units—SSURGO



The **current** soils information and data (SSURGO) is a very useful product; however, additional products will be necessary to continue to serve the public needs. In regards to soil maps, a transition from the current vector depiction (polygons) of soil distribution to raster (pixel based) databases of soil and soil property distribution is desired because of its usability with other GIS data layers.

Spatial Disaggregation



To achieve this **future** desired product, a process of disaggregating the existing spatial product to represent the probable location of individual soil components based on soil-landscape characteristics is needed.

The foundation for the disaggregation step is a harmonized soils data base representing uniform map unit composition and component data through the SDJR activities.

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