USDA

United States Department of Agriculture

Natural Resources Conservation Service

Fact Sheet

Gridded Soil Survey Geographic (gSSURGO) Database

New detailed soil survey mapping in raster format with "ready to map" attributes organized in statewide tiles for desktop GIS

The Product and Its Use

The Gridded SSURGO dataset was created for use in national, regional, and statewide resource planning and analysis of soils data (see Figure 1). The raster map layer data can be readily combined with other national, regional, and local raster layers, including the National Land Cover Database (NLCD), the National Agricultural Statistics Service (NASS) Crop Data Layer (CDL), and the National Elevation Dataset (NED).

The gSSURGO Database is derived from the official Soil Survey Geographic (SSURGO) Database. SSURGO generally has the most detailed level of soil geographic data developed by the National Cooperative Soil Survey (NCSS) in accordance with NCSS mapping standards. The tabular data represent the soil attributes and are derived from properties and characteristics stored in the National Soil Information System (NASIS). The gSSURGO data were prepared by merging the traditional vector-based SSURGO digital map data and tabular data into statewide extents, adding a statewide gridded map layer derived from the vector layer, and adding a new value-added look up table (valu) containing "ready to map" attributes. The gridded map layer is in an ArcGIS file geodatabase in raster format. The raster and vector map data have a statewide extent. The raster map data have a 10-meter cell size that approximates the vector polygons in an Albers Equal Area projection. Each cell (and polygon) is linked to a map unit identifier called the map unit key. A unique map unit key is used to link the raster cells and polygons to attribute tables.

For details on how to obtain datasets, go to http://go.usa.gov/ksU9.

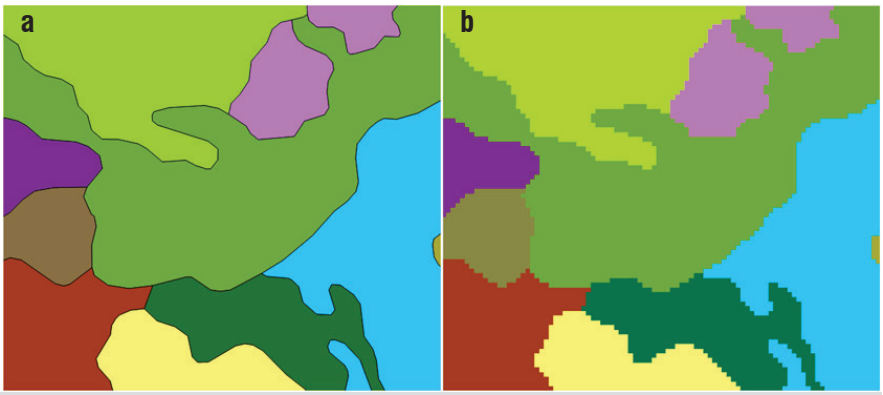

Figure 1.—(a) An example of the traditional vector-based SSURGO map unit polygon format at 1:6,000 map scale; (b) the corresponding new raster-based Gridded SSURGO (gSSURGO) 10-meter map unit format.

http://go.usa.gov/ksU9

New "Ready to Map" Themes in the Valu Table Database

This dataset is called the National Value Added Look Up (valu) Table database. The valu1 table resides in the valu database and is comprised of 57 pre-summarized or "ready to map" attributes derived from the official SSURGO database. These attribute data are pre-summarized to the map unit level using best-practice generalization methods intended to meet the needs of most users. The generalization methods include map unit component weighted averages and percent of the map unit meeting a given criteria. These themes were prepared to better meet the mapping needs of users of soil survey information and can be used with both SSURGO and Gridded SSURGO (gSSURGO) datasets. Below is a partial list of the data found in the valu1 table.

- Soil organic carbon: weighted average (g C/m^2)
- Available water storage: weighted average (mm)
- National Commodity Crop Productivity Index (NCCPI) Version 2: weighted average index for major components
- Root-zone depth of commodity crops: weighted average (cm) major components
- Available water storage within the root-zone depth: weighted average (mm) major components
- Drought-vulnerable soil landscapes: The map unit is identified as either drought vulnerable or not drought vulnerable. Drought-vulnerable soil landscape map units have 152 mm (6 inches) or less root zone available water storage for major components.
- Potential wetland soil landscapes (PWSL) Version 1: percentage of the map unit that meets the criteria for a potential wetland soil landscape (see table metadata for detailed criteria)

Figure 2 shows examples of gSSURGO valu table maps.

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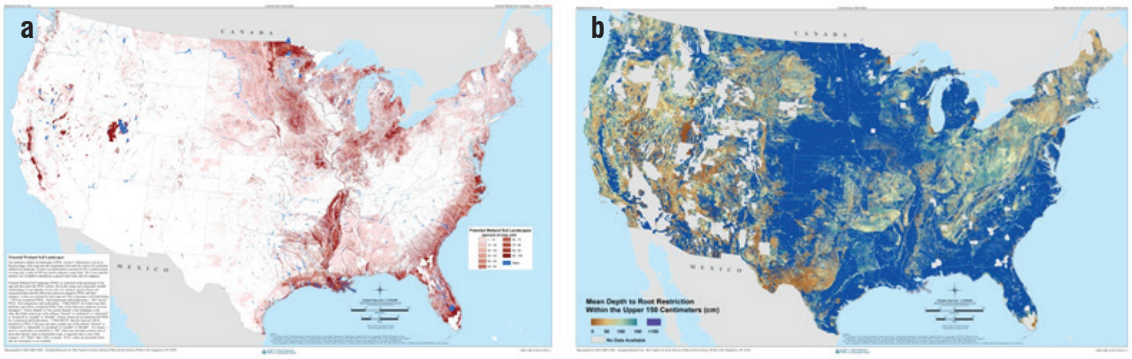

Figure 2.—(a) A map showing potential wetlands soil landscapes. Dark brown colors indicate a greater concentration of potential wetland landscape components within the map unit. (b) A map showing mean depth to crop root restriction within the upper 150 cm of the soil. Warmer colors indicate shallow depths, and cooler colors indicate greater depths.

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