Gridded Soil Survey Geographic Database (gSSURGO) – a new raster soil map layer from USDA

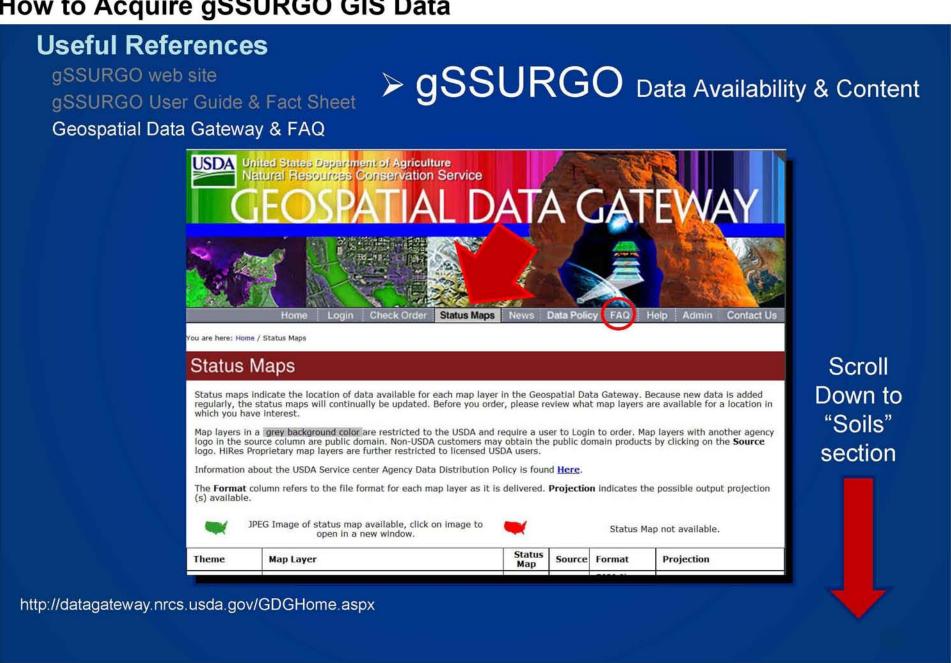
Waltman, S. W.¹, Peaslee, S.¹, Bliss, N.², Sweet, J.¹, Burkholder, A.³, Dobos, R.¹, D'Avello, T.¹, McLeroy, K.¹, Robotham, M.¹, and Hoover, D.¹

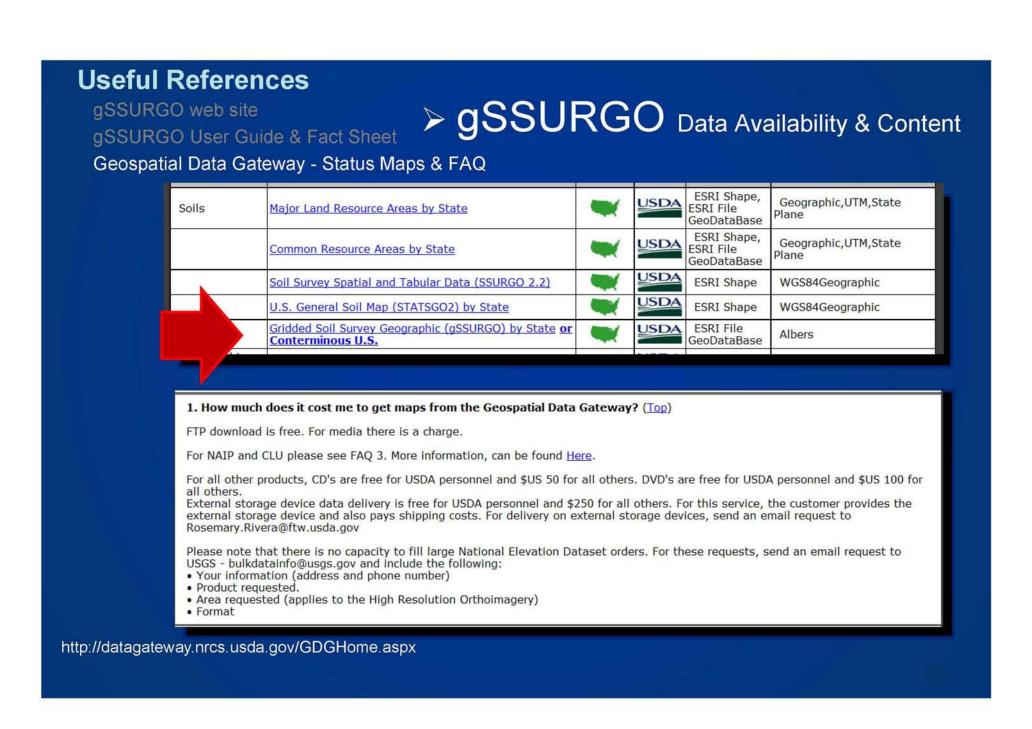
(1) USDA Natural Resource Conservation Service, (2) ASRC InuTeq at USGS/EROS, (3) Division of Plant and Soil Sciences, West Virginia University

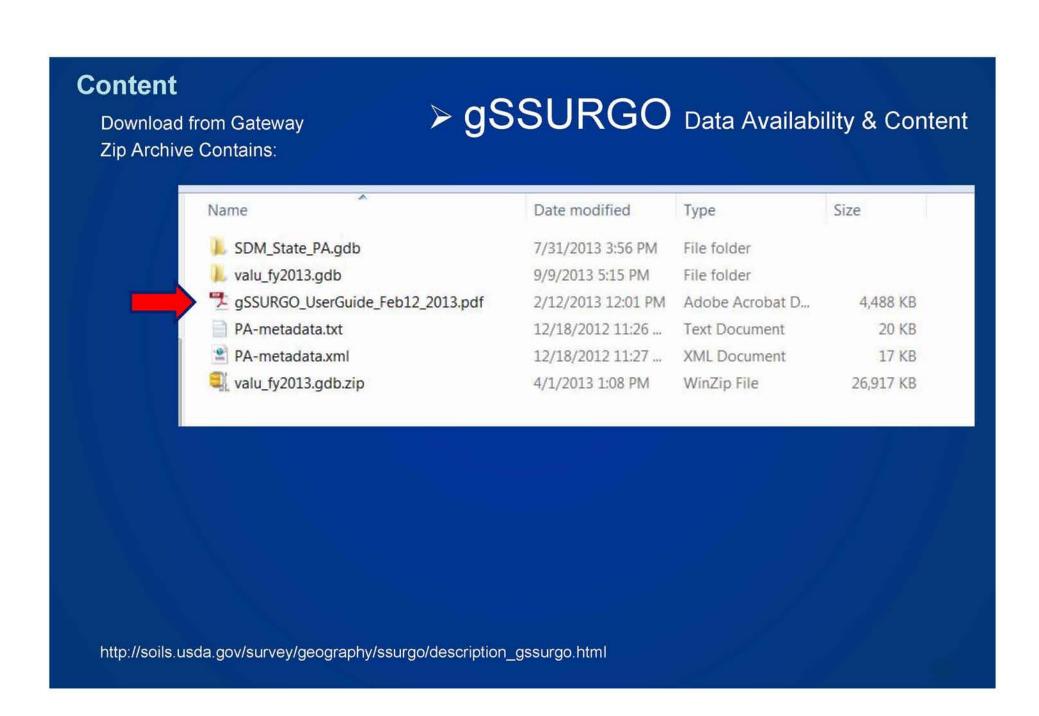
Abstract

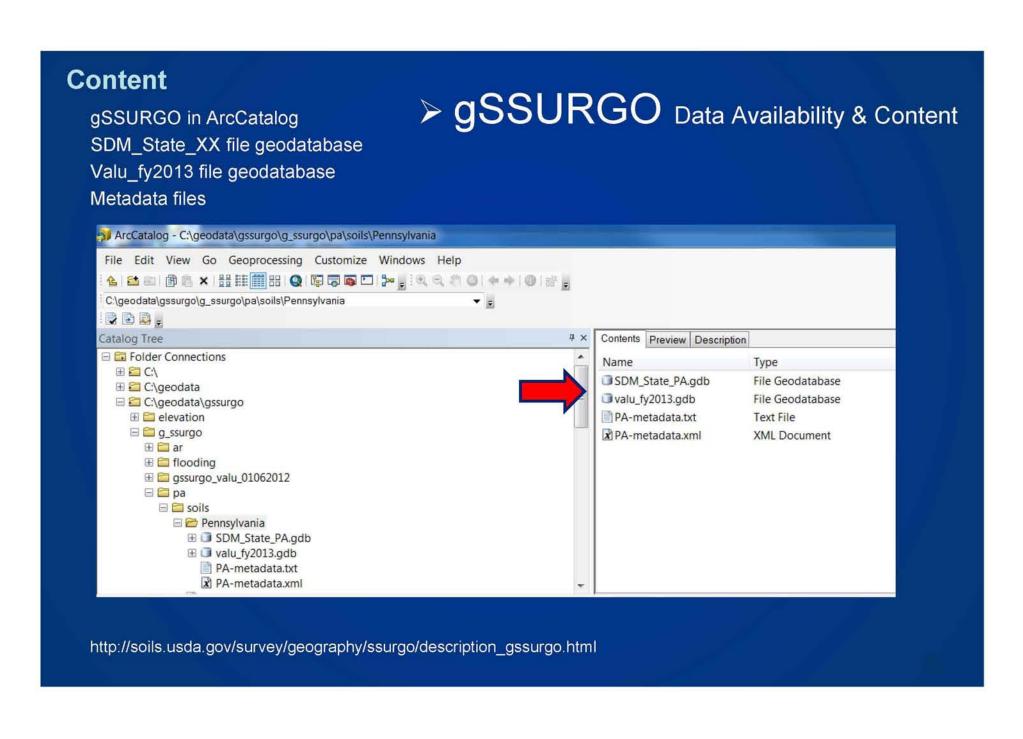
The popular Soil Survey Geographic (SSURGO) Database is available in the Web Soil Survey, but not easily used in national, regional and statewide resource planning and analysis of soils data. USDA-NRCS has added a new product designed to provide more ready access to soils information for large land areas by the simulation modeling community. The new product, called gSSURGO (g for gridded), provides detailed soil survey mapping in raster format including all traditional attributes plus "ready to map" attributes organized in statewide tiles for desktop GIS. In addition, the raster format allows GIS visualization of highly detailed soils themes for an entire state in a matter of seconds. The gSSURGO Database is derived from the official Soil Survey Geographic Database for fiscal year 2013 and was 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 (valu) table database. The gSSURGO database is provided in an Environmental Systems Research Institute, Inc. (ESRI®) file geodatabase format that relates all attribute tables together to make local soil queries of prime farmland, land capability class, surface pH, or depth to root restriction, etc. more direct and straight forward for the user. The new "Ready to Map" Themes in the valu1 table contain data such as (but not limited to) soil organic carbon; available water storage; National Commodity Crop Productivity Index; root-zone depth of commodity crops; available water storage within the root-zone depth; drought-vulnerable soil landscapes; and potential wetland soil landscapes just to name a few. For details on description and how to obtain datasets, go to the gSSURGO website at: http://soils.usda.gov/survey/geography/ssurgo/description_gssurgo.html.



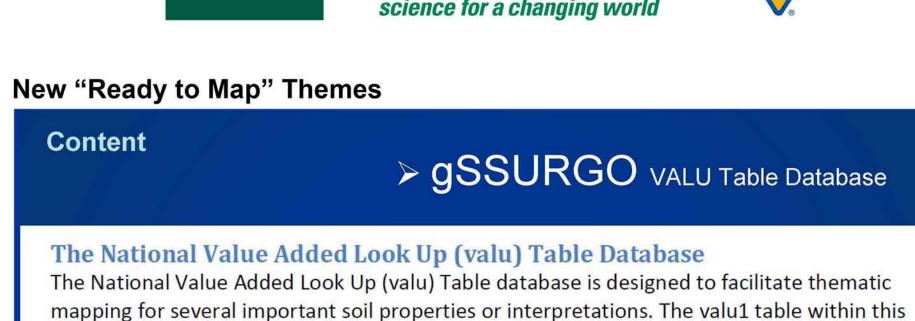








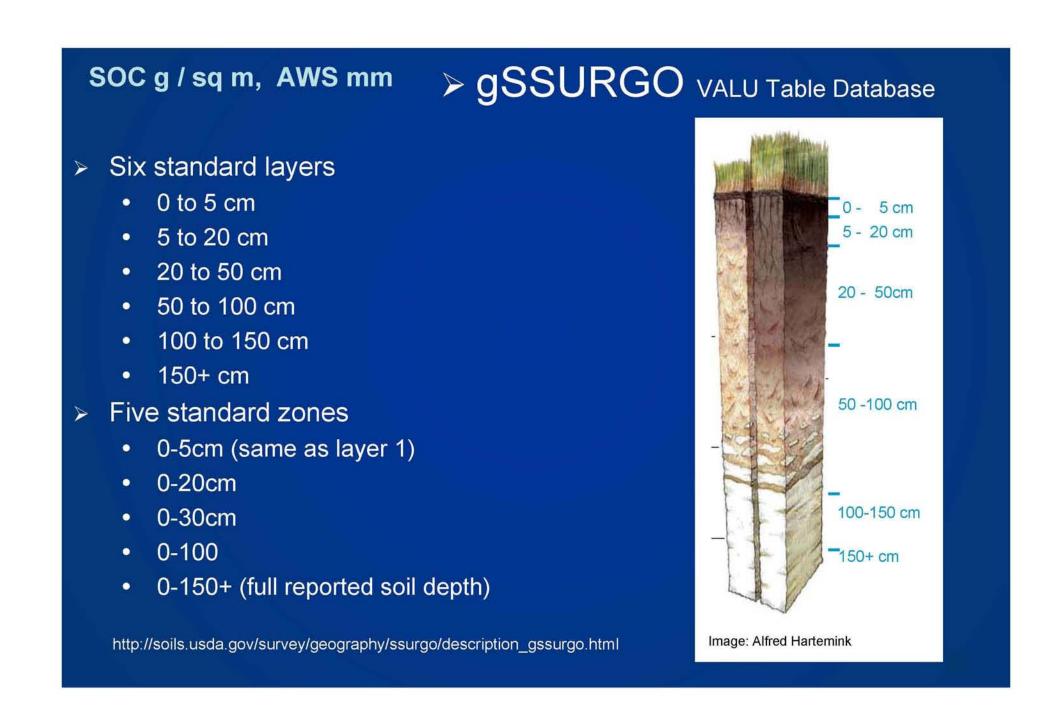




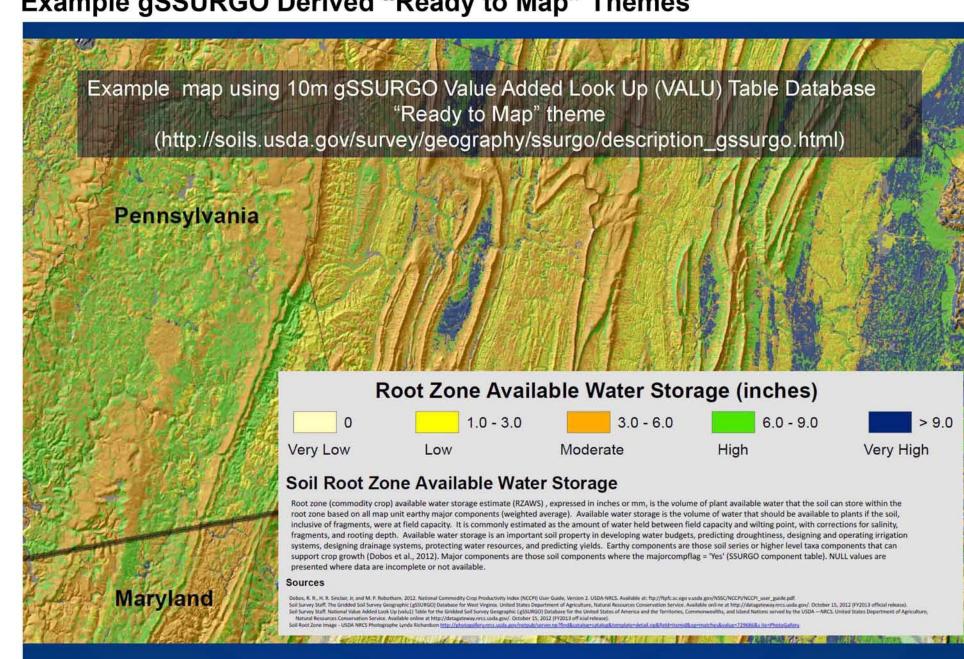
database is a compilation of 57 pre-summarized or "ready to map" attributes derived from the soil survey geographic database, including: Soil organic carbon

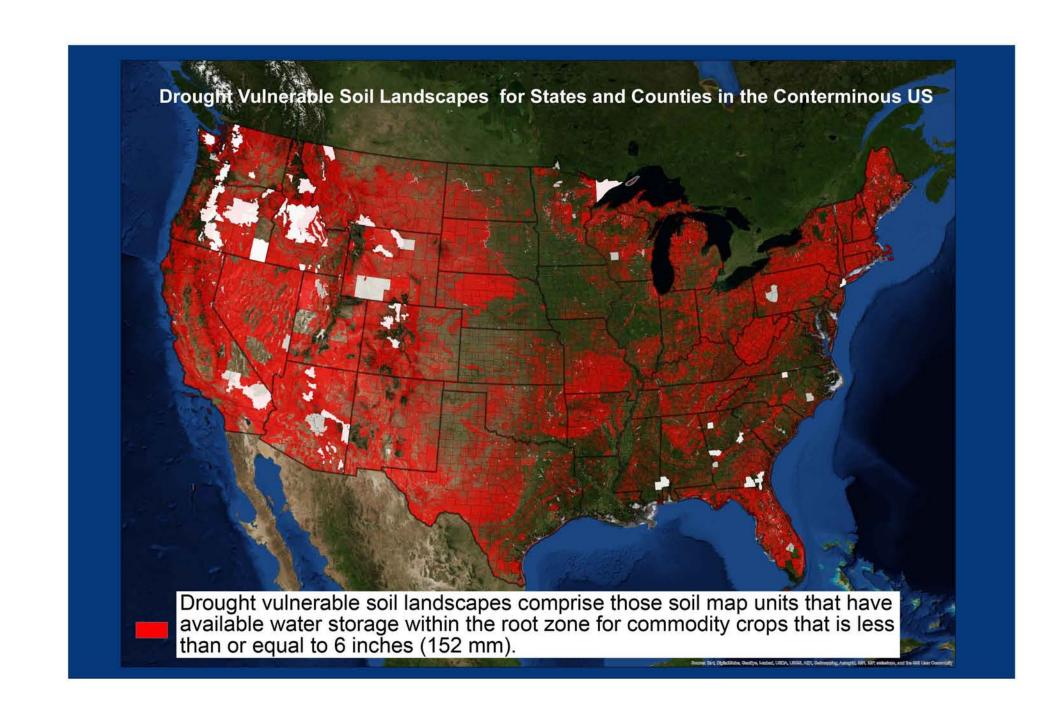
- Available water storage
- Crop productivity indices Crop root zone depths
- Available water storage within crop root zone depths
- Drought-vulnerable soil landscapes
- Potential wetland soil landscapes Because this table is national in extent, it can be used in conjunction with any gSSURGO product of the same vintage. Related metadata values for themes are included (see Figure 2).

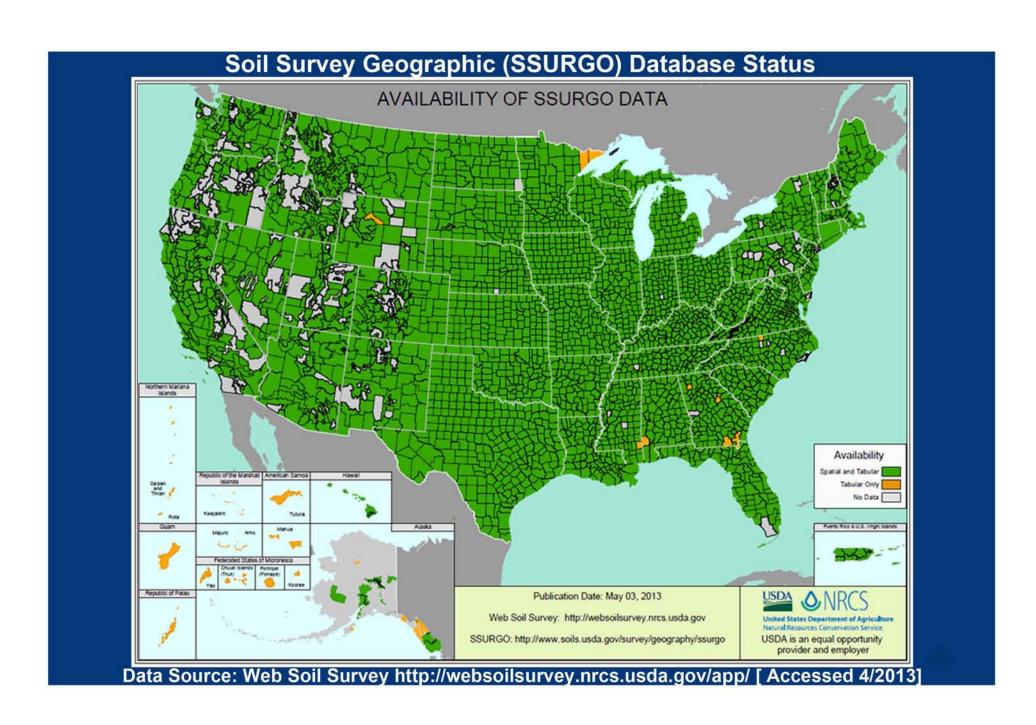
http://soils.usda.gov/survey/geography/ssurgo/description_gssurgo.html



Example gSSURGO Derived "Ready to Map" Themes

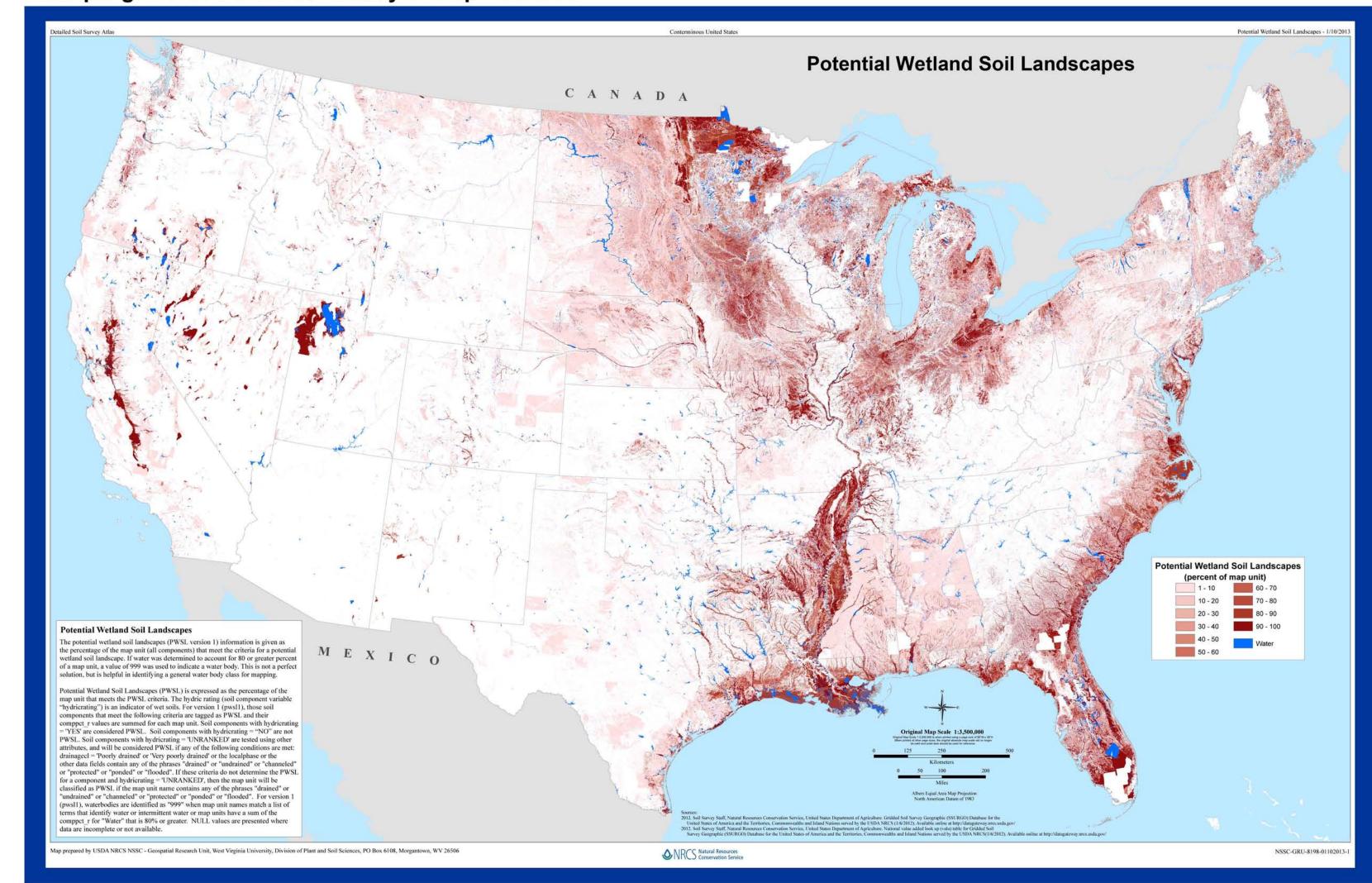


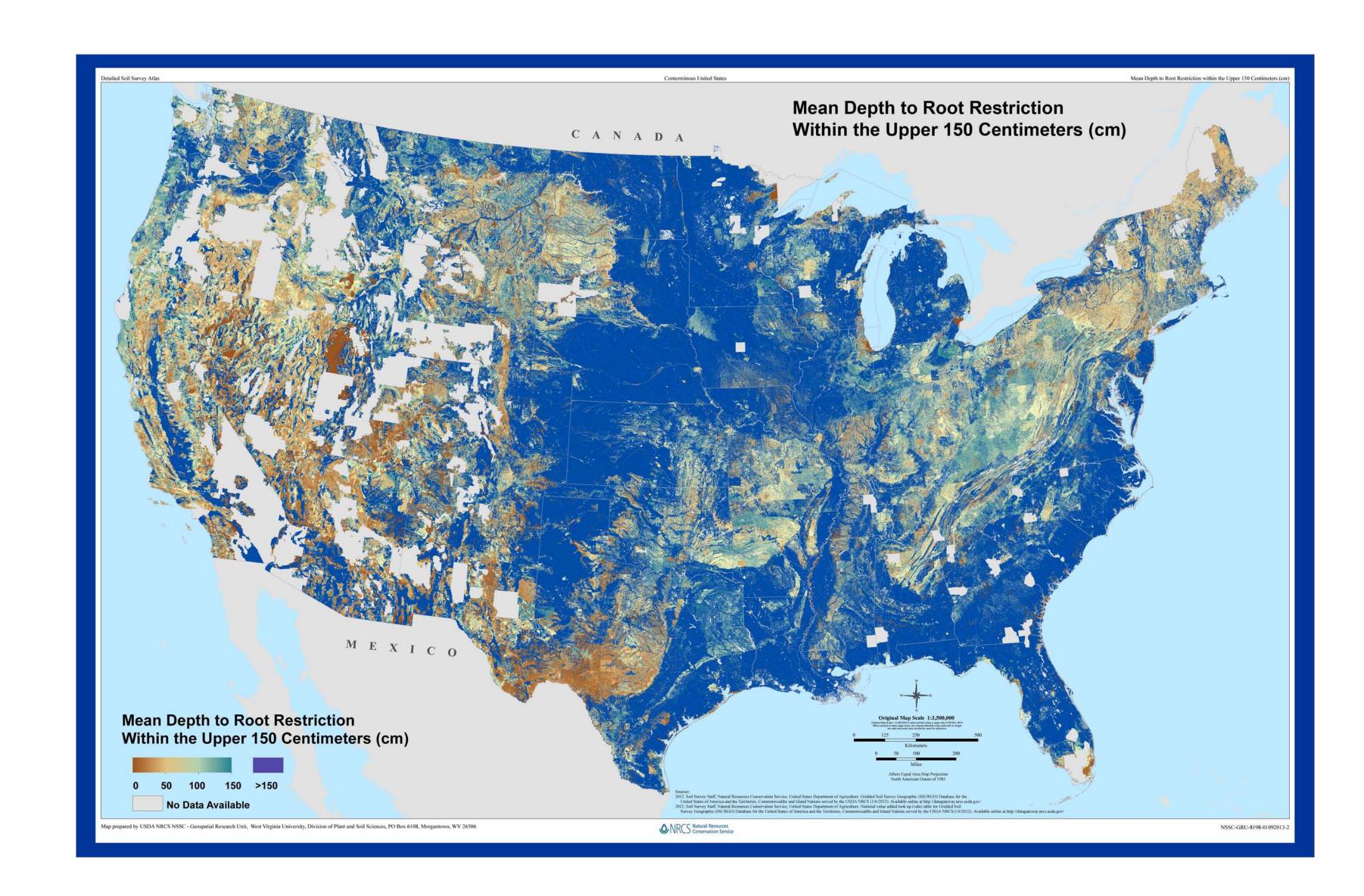






Example gSSURGO Derived "Ready to Map" Themes





REFERENCES

NATURAL RESOURCES CONSERVATION SERVICE, SOIL SURVEY STAFF, NATIONAL VALUE ADDED LOOK UP (VALU1) TABLE FOR THE GRIDDED SOIL SURVEY GEOGRAPHIC (GSSURGO) DATABASE FOR THE UNITED STATES OF AMERICA AND THE TERRITORIES, COMMONWEALTHS, AND ISLAND NATIONS SERVED BY THE USDA—NRCS (Oct. 15, 2012), available at http://datagateway.nrcs.usda.gov/.

NATURAL RESOURCES CONSERVATION SERVICE, SOIL SURVEY STAFF, THE GRIDDED SOIL SURVEY GEOGRAPHIC (GSSURGO) DATABASE FOR THE UNITED STATES OF AMERICA AND THE TERRITORIES, COMMONWEALTHS, AND ISLAND NATIONS SERVED BY THE USDA-NRCS (Oct. 15, 2012), available at http://datagateway.nrcs.usda.gov/.