

Title: NRCS Soils Notes
Prepared by: Adam Skibbe
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In terms of SSURGO data, soils are referenced by a Map Unit Symbol code (MUSYM). This code is the best option for identifying the spatial location of soils. Problematically, most of these coded series consist of both major (higher percentages) and minor soils (lower percentages). Even more complicated, there are several soil series consisting of more than one major soil. For example, the Benfield Florence complex (MUSYM - 4530) is listed as being comprised of (a representative sample of) 45% Benfield soils, and 30% Florence soils.

In terms of the NRCS Soils Characterization Database (SCD), soils can be identified by a series of searches (sampled as, correlated, etc.). For our purposes, “correlated” is likely the best option to minimize error in the models. Unlike SSURGO, SCD data is not referenced by the MUSYM, but rather is broken down by soil type (Benfield or Florence).

Initial thoughts were to do a weighted average of these soils, however it was suggested by both William Wehmueller (Kansas NRCS) and DeAnn Presley (KSU, Dept of Agronomy) that the best way to deal with this inconsistency is actually to use just the dominant soil type data for a given series (typically with dominant soils being the first named in the complex). Wehmueller also made one other note that on Konza, that in the Dwight-Irwin complex, Irwin was actually more dominant.

A subset of the SSURGO soils data will be selected to represent the necessary attributes. A selection representing one of the larger, by component percentage, map units for each soil series will be selected. This will provide one set of data for each soil series for which to append the SCD data.

That said, here are the current selection notes...

- The original 16 MUSYM codes, for the purpose of the SCD will equate to only 9 soil types....
 - Benfield, Chase, Clime, Irwin, Ivan, Konza, Reading, Tully, and Wymore
- For SSURGO, all designations will be based on an average for a series, or on the dominant soil type, which ever is available.
- For SCD data, sites were selected based on the following criteria (1 being most important, 4 least)
 - 1. Must be a correlated sample
 - 2. Samples from Konza preferred
 - 3. If Konza sample is unavailable, Riley or Geary County data is preferred
 - 4. Last case, soils from Kansas