TECHNICAL NOTES

August 11, 2004

MO-1 Technical Note Number 12 (Revised)

Re: Official Series Description - Field Texture in Andic Soils, Soil Depth, Climate, and Naming

Field Texture in Andic Soils - The use of apparent field texture when describing soils has been the convention, with laboratory data being used to support or revise those textures. For soils having no or minimal andic properties and adequate particle-size dispersion, as determined by 15-bar/clay ratios of <.6, the agreement between OSD textures and laboratory derived textures should be relatively good.

When dealing with soils having andic soil properties, the agreement between apparent field textures and laboratory derived textures breaks down. In these cases, percent clay has been estimated using the model, 2.5 x (15-bar H2O-% O.C.). The resulting clay range and texture in many instances is significantly different (higher) than the pedon described using field textures. The family particle-size class can be very different based on whether field texture or laboratory data driven.

The apparent discrepancies, from a user standpoint, between an official series description having apparent field textures described, for example, as loamy family and a laboratory based particle-size class of fine family, needs to be avoided. A recommendation will be to have calculated clay as a field in NASIS along with other clay values such as carbonate clay.

The convention will continue to be the use of apparent field textures with a supporting family particle-size class when describing soils with andic soil properties. It should be noted in the OSD that textures are apparent field textures.

Soil Depth - The terms used to identify soil depth and their meanings are:

_ very shallow, less than 10 inches
_ shallow, 10 to 20 inches
_ moderately deep, 20 to 40 inches
_ deep, 40 to 60 inches
_ very deep, great than 60 inches

The convention for defining soil depth at the series level will be the terms listed above as documented in the NSSH part 627.06, (e)(2).

There have been repeated instances in the past where the deep and very deep depth classes have been combined to define a soil series. This convention will not be used as the rule in defining depth at the series level. In selected cases, Soil Taxonomy actually prevents the combination of deep and very deep (i.e., Palehumults vs. Haplohumults and Palexerults vs. Haploxerults). In other cases, the issue of being able to achieve an exact or acceptable join between surveys becomes significant. A series defined as deep and very deep to bedrock may be recognized as a deep phase in one survey and matches to a very deep phase in an adjacent survey. An exact join would not be achieved in this example, but would be considered acceptable.

Although there may be exceptions, the rule will follow the recognition of deep and very deep depth classes as series differentia.

Climate - The precipitation range given in the OSD will be based on climatic or actual precipitation values and not effective precipitation values which may be based on aspect, snowmelt, etc. Consequently, the PZ range for a range site will not always be the same as the precipitation range for the map units. It is recommended the PRISM derived precipitation maps be used for soil survey project areas. If PRISM derived precipitation ranges are used in the map unit descriptions or other parts of the soil survey report, the following should be included in the climate narrative for the manuscript along with the reference.

Precipitation ranges used in this report are derived in part for climate maps produced by the Spatial Climate Analysis Service (SCAS) at Oregon State University, in a collaborative effort with the USDA-NRCS National Water and Climate Center (NWCC). This SCAS/NWCC project utilized the Parameter-elevation Regression on Independent Slopes Model (PRISM) system to derive the latest, high-resolution digital climate coverages of the U.S. (Daly, C., R. P. Neilson and D. L. Phillips, 1994)

Reference:
Daly, C., R. P. Neilson and D. L. Phillips, 1994: A statistical-topographic model for mapping climatological precipitation over mountainous terrain. J. Appl. Meteor., 33, 140-158.

Series Naming Convention – The following naming convention is provided in this technical note for the purpose of bringing attention to the procedure used when proposing a new soil series. This guidance is taken directly from the NSSH part 614.06(e), except for the reference to maximum number of characters used for naming and the use of names with specialized connotative meaning.

- Preference should be given to the names of geographic places

- Avoid the following kinds of names:

    - names consisting of very long words or two words (as a rule, the maximum number of characters should not exceed 12)
    - bizarre, discriminatory, comical, and vulgar words;
    - geological terms, such as the manes of rocks, minerals, landforms, and the formations of a locality;
    - names of animals and birds;
    - given names of persons, unless the name is a known geographic location;
    - copyrighted names and registered trademarks;
    - names essentially identical in pronunciation or similar to a name already in use;
    - bizarre, coined names with specialized connotative meaning