Fundamental Changes in Soil Taxonomy Task Force

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NCSS National Conference
June 7-11, Duluth, MN
SSSA Task Force Members

- Mark Stolt, Univ. of Rhode Island (chair)
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- Dylan Beaudette, NRCS
- Jon Hempel, NRCS
- Curtis Monger, NRCS
- Patrick Drohan, Penn State
- John Galbraith, Virginia Tech
- Dave Lindbo, North Carolina State
- Toby O'Geen, Univ. of California-Davis
- Marty Rabenhorst, Univ. of Maryland
- Mickey Ransom, Kansas State
- Joey Shaw, Auburn
Task Force Objective

• To facilitate an open and transparent process to develop a suite of fundamental changes to Soil Taxonomy leading to a more user-friendly product that can and will be used by more than just trained soil scientists.
Rationale

• Complexity of Soil Taxonomy has increased dramatically since its inception

• Objectives of Soil Taxonomy have broadened
  1. Soil Survey
  2. Communication tool for soil science
  3. Classification system for soil science

• Audience for Soil Taxonomy has diversified
Rationale

• Few other disciplines use the system to communicate soils information
• Need for decrease complexity in order to increase use among non-experts
• Current system to update Soil Taxonomy not conducive to making fundamental and conceptual changes
Guiding Principles

1. Changes should lead to a more user-friendly product that can and will be used by more than trained soil scientists
   - Broad input will be required from both the United States and international community

2. Minimal negative effects on existing soil survey products
   - Don’t change concepts of specific series
Guiding Principles

3. Complement concepts used in other soil taxonomic systems (e.g. WRB)
4. Consider that ST is both for soil survey and is the classification system for the discipline of soil science
5. Improve Soil Taxonomy without losing knowledge
6. End product a complete integrated package
Task Force Status

• Agreed on Guiding Principles
• Collected potential change ideas
• Currently forming subcommittees to develop high-priority ideas  
  – Open for participation
• No proposals for changes have been made to date
• Outreach will be expanded
Example changes: Criteria and Definitions

• Simplify definitions
  – Organic soil materials and epipedons
  – Mollic epipedon

• Simplify criteria:
  – Change CEC requirement for kandic and oxic from current "and" to "or" (i.e. "CEC <16 or ECEC <12").
Example changes: Structure, Architecture, and Format

- Allow for redundant information (e.g. “smectitic, superactive”)
- Remove moisture regimes from the suborder (move to family)
- Harmonize meanings across the hierarchy
- Clarify mandatory classification elements for soil series
The Big Picture Opportunity

• The discipline of soil science faces many challenges
• Without change, risk continued marginalization and lack of use of Soil Taxonomy
• Opportunity to revitalize Soil Taxonomy
• Less complicated, user-friendly system has potential to increase recognition and use of Soil Taxonomy
More Information

• Poster
• Task Force wiki
• Talk to or contact a Task Force member
  – Mark Stolt: mstolt@uri.edu
  – Brian Needelman: bneed@umd.edu
• Participate!