

Soil Change Working Group Report

NCSS Meeting

Las Cruces, New Mexico

May 9-14, 2009

Working Group Objective

To evaluate and initiate ongoing and planned soil change activities as part of the National Cooperative Soil Survey.

Working Group Charges

1. Review and evaluate soil, landscape, and vegetation/biomass parameters to be collected as part of the soil change inventory, especially for pasture and cropland management systems. See Tables 1 and 2 for properties currently identified in the Soil Change Guide (2009).
 - a. Parameters suitable for field data collection
 - b. Parameters measured in laboratory
 - c. Hydraulic properties(?)
 - d. Biological properties(?)
2. Propose criteria for selection of soils and management systems that should be highest priority for soil change inventory.
3. Recommend methods to directly relate soil change data to soil function and ecosystem services.
4. Recommend methods to extend or extrapolate soil change data to soils where measured data are not available. Include identification of soil variables needed for such interpolations for various soils and management systems.
5. Recommend soil and landscape interpretations that incorporate management dependent soil change data as related to soil function and ecosystem services.
6. Partner with the SSSA Soil Change Working Group wherever objectives overlap

NCSS Meeting Activities

Monday: First Meeting of Working Group:

- 16 attendees
- Brief presentation of soil change by Arlene Tugel
- Round Robin of interests
- Approved Objectives and Charges, with one modification
- Discussed challenges, concerns, and knowledge gaps
- Made recommendations

Tuesday: Field Trip

- demonstrated DSP plot sampling for all conference attendees

Wednesday: Second meeting held jointly with Research Agenda Committee

- Additional 9 members joined
- Reported on Monday's meeting
- Further discussion of challenges, concerns, and knowledge gaps
- Made recommendations

Thursday: Report of recommendation to full conference

Challenges Identified and Discussed

- How to identify steady states, especially in cropland
- Need to include both a management narrative and a limited set of classes for comparison among projects in the database
- How to handle natural disturbance
- Need further input & agreement on Minimum Data Set

Recommendations from Working Group:

- Develop a concept statement of the NCSS' role in soil change, i.e. define the role of pedology at the human time scale
- Review & comment of NRCS Strategic Plan for Soil Change Implementation
- Develop appropriate definition(s) of landscape for soil change
- Consider extending initiative to include subaqueous soils
- Add text to Charge # 2 to reflect the need to capture of management data (Completed revised charge below.)
 2. Propose criteria for selection of soils and management systems that should be highest priority for soil change inventory. Recommend specific management information that should be collected and stored in the database.
- Use properties that reflect information needs; continue work on MDS
- Consider availability of LT research when choosing soils (and defining benchmarks)
- Report outcomes to the SSSA Soil Change Working Group
- Continue the Soil Change Working Group