Research Needs Committee
NE Soil Survey Conference

Larry West, Chair

National Research Needs

- Soil change inventory
- Hydropedology
- New technology for mapping and characterizing soils
- Soils with high soluble salt and/or gypsum contents

National Research Needs

- 3 research issues categories
  - **Short-Term Priorities**
    - Soil change
    - New technology
    - Ecological site inventory
    - Subaqueous soils
  - **Global Priorities**
    - Landscape-scale carbon processes
    - Soil function
    - Soils and ecosystem services
  - **Application of Soil Survey Data**
    - Decision support tools
    - Integration of carbon and landuse
    - Landscape soil water relationships
    - Urban/suburban interpretations
- **Strength of Pedology is landscape scale**

Charge 1

Recommend research areas that would assist in addressing short term soil survey mission needs

- Hydraulic properties
  - Revision of hydrologic soil groups (too many Group D)
- Salinity classes (data?) for subaqueous soils
- Nutrient and trace element fate and behavior in subaqueous soils
- Data mining – have data; what does it mean

Charge 2

Identify global research areas that would benefit from pedological research and inclusion of soil survey concepts and data

- Soil temperature and moisture data (SCAN)
  - Valuable data for interpreting soil hydrology
  - Other processes and functions
  - Need more
- Soil organic C fractions
  - What do they mean
  - Broad application?
    - Often developed in limited geographic region
- Soil buffering capacity related to atmospheric deposition

Charge 3

Recommend research that would enhance the Rapid Carbon Assessment initiative

- Urban/suburban data collection
- Landscape and landuse
- Sample archive
- Carbon fractions and meaning

Charge 4

Recommend research that would contribute to Ecological Site Inventory and Dynamic Soil Property initiatives

- Urban/suburban data and models

Charge 5

Recommend methods for incorporating digital mapping techniques for updating soil survey and developing soil property maps

- Technology committee?

Charge 6

Recommend research areas that are regionally important

- See above
- Urban/suburban

NCSS Research Funding Topics

- Characterization of and mapping tools for saline and sodic soils
- Characterization, mapping, and interpretation of subaqueous soils
- Characterization and interpretation of soil resistance and resilience
- Mineralogical, especially Fe mineral species and abundance, effects on soil behavior and interpretation
- Characterization and interpretation of soil ecosystem services
- Soil and landscape interpretations related to catastrophic events (landslides, flooding including flash flooding, liquefaction, etc.)
- Soil interpretations for vineyards, horticultural crops, and specialty crops

Chair – Chris Smith
Co-chair – Jim Thompson