Soil and Ecosystem Dynamics Committee Report:

A new NCSS Standing Committee

Co-chairs:
Susan Andrews, NRCS
Mike Duniway, USGS

This Week's Activities

- Meeting 1: Discussion of Committee Roles
  - Presentation on Related NRCS Activities – S. Andrews
- Meeting 2: Dynamic Soil Properties (DSPs)
  - Discussion of Action Items & Research Needs
- Meeting 3: Ecological Sites (ESs)
  - Discussion of Action Items & Research Needs
  - Presentation of Related Posters
    - ESD Partnerships – M. Clendenin
    - LiDAR to Determine Site Indices – E. Mihailova

Soil and Ecosystem Dynamics Committee Forum

Mix of topics, good attendance and discussion

- A new method for differentiating ESs -Ireland and Drohan
- Data mining and meta-analysis of DSPs to validate NRCS tool -Ugarte and Wander
- Humic and fulvic acid component of soil organic matter -Gabbhour and Davies
- Rapid Carbon Assessment Project: Initial Findings and Plans -Wills et al.

What does the new committee envision as its role in NCSS?

- Make management recommendations about soils as a resource
- Develop recommendations for DSP and ES methodologies and interpretations
- Develop partnerships with other agencies and entities, such as NEON
- Outreach and education for soil and ecosystem dynamics

Recommendations for Soil Quality / Soil Health and Dynamic Soil Properties Initiatives

- Collaborate with entities to put tools on the ground to inventory DSPs
- Coordinate with SSSA Soil Change Working Group
- Develop proposals to put collaborative pilot studies on the ground
- Publish contemporary definition(s) of Soil Quality / Soil Health
  - SWCS policy committee has great interest
  - Andrews has invitation to write editorial for JSWC, which could represent committee

Dynamic Soil Properties Initiative Recommendations (continued)

- Form sub-committee to address DSP data needs:
  - Review and recommend inherent and dynamic indicators by interest or need (include types of SOC)
  - Consider depth for each indicator
  - Identify standard methods or conversions
  - Determine meta-data needs
- Propose sample design (Nested transects?) to streamline data collection
- Analyze and synthesize pilot project data
- Collaborate to couple sampling with modeling

Ecological Site Recommendations

- Work with agencies and entities to address conservation, remediation and restoration needs
- Recognized needs for forest ESD (and DSP) methods and interpretations, e.g.,
  - Full list of tree species for Site Indices.
  - Consider specialized needs for measures and interpretations, e.g.,Mercury deposition, heavy metal movement
  - Impact of nutrient fate and transport
- Develop methods for other ecosystems
- Need research into ES state thresholds of resilience
- Passed Motion to develop marketing strategies for ESDs, which differs by audience

Overall Committee Recommendations

- Form sub-committee to address education needs
  - Create materials and tools for educators, especially university partners
  - Consider use of (and quality control for) data collected by student groups or public
  - Offer training at NCSS meetings for DSPs and ESDs
- Passed Motion to develop contact list of potentially collaborating entities
  - Clendenin has volunteered to identify contacts in Soil Survey Regions 3 and 7, need others
  - Develop a call letter for partners, include inquiry of what each can bring to the table
    - Andrews to draft; Connolly to review

Overall Recommendations (continued)

- Identify potential products by audience:
  - Engage conservationists to determine needs
  - Passed motion that committee would review NRCS' policies and guidelines related to DSP
  - Review NRCS' draft DSP 3-year Plan; help to prioritize the goals
  - Review new NRCS National ES Handbook, currently under review and revision
  - Involve committee in determinations of database requirement decisions
  - Make point data publicly accessible for use by researchers
- Develop delivery systems
- Investigate methods to model and predict changes

Interested in participating on this committee?

Contact Susan Andrews at:

susan.andrews@lin.usda.gov