

Research Needs 2012, Summary Report Western Cooperative Soil Survey Meetings, Davis CA

- 1) Explore how soil survey can answer more questions related to climate change.
  - a. Utilize vast network of soil moisture and temperature monitoring stations and archived data
  - b. Identify people willing to organize, clean, manage and process the data making it available in a variety of formats
  - c. Investigate mechanisms to share data from point to landscape
  
- 2) Countless research questions can be addressed by making NASIS data available to collaborators. While this opportunity likely already exists, there are barriers that make it difficult to actually use outside of NRCS. A user friendly mechanism to query soil properties would be very helpful. These data could help support the models and analysis generated from SSURGO possibly helping provide some assessment of uncertainty for some properties.
  - a. Work towards simple interface that allows researchers to export data out of NASIS.
  
- 3) Explore opportunities to collaborate with users to develop big picture decision support tools that society wants e.g. drought tolerance, groundwater banking, carbon sequestration, restoration potential.
  
- 4) It may be unrealistic to implement dynamic soil properties into a nationwide inventory as currently conceived. Research is needed to understand the appropriate scales at which DSP's can be extrapolated...e.g. taxonomic scales great groups, subgroups etc... there must be a landscape scale at which variability in certain dynamic soil properties is minimized yet multiple soil series are involved.
  
- 5) Consider emphasizing soil survey research that might promote the use of soil survey among large non-tradition user groups e.g. urban population.
  
- 6) Urban soils studies
  - a. Soil survey is of limited use for the general public
    - a. pH, organic gardening, contamination, wetland,
    - b. Non-traditional use of Soil Survey is the new need
    - c. No slot in NASIS for chemical data
    - d. Can't fit urban info into current database
    - e. Historical records for data/urban land use
    - f. Considerable thought is needed in developing meaningful map unit legends for urban users... too many surveys contain "urban land" map units with no soil properties. Need to consider new and relevant properties for these landscapes.

- 7) Soil survey of the future needs to be more nimble....consider steps that help downscale or disaggregate current map units. How can we “place the components”?
  - a. Explore ways to link to high resolutions special projects done by consultants
  - b. Link whenever possible with university projects more field collaborations
  - c. The scale of soil survey needs considerable thought in urban landscapes.
  
- 8) Effect of pedogenesis on the fate of fibrous minerals and NOA
  
- 9) Intrinsic soil value and food security can we place a value on a unit of soil?
  
  
- 10) Soil Taxonomy is impenetrable even for most soil scientists! A classification system is needed that compliments soil taxonomy and communicate soil info to the layman. Not a number or a code like LCC but descriptive terminology.
  
- 11) Cooperators help us figure out what are the meaningful ranges of RV's. Percentiles reflect the shape of the distributions.