

NRCS Interpretations of the U.S. Soil Survey Database

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National Soil Survey Center (NSSC) Lincoln, NE
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New Structure, New Staff

▶ **New**

- Linda Scheffe, Agronomist
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▶ **Current**

- Curtis Talbot, Rangeland Management Specialist
- Bob Dobos, Soil Scientist
- Cathy Seybold, Soil Scientist
- Ray Sinclair, Soil Scientist
- George Teachman, Soil Scientist
- Sue Southard, NPS Liaison Soil Scientist

▶ **Retired**

- Dave Lightle, Agronomist
 - Arlene Tugel, Soil Scientist
 - Alan Price, ITC Liaison
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New Structure, New Staff

- ▶ **Moved to New Functional Team**
 - Jim Fortner, Database Coordinator NASIS 6.0 (Soil Business)
 - ITC Position (Soil Business)
 - Steve Peaslee, GIS Specialist (Soil Business)
 - DSP Soil Scientist (Ecological Site Inventory)

 - ▶ **ACES Employee**
 - Dave Lightle, Agronomist, Retired
 - Linda Greene, Public Affairs Specialist, Retired (Standards)
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NCSS Charges to Interpretations Committee

- Critical interpretation and technical development issues.
- Opportunities for partnering.
- Identify opportunities for funding validation of interpretations in the soil survey.
- Identify coordination and communication protocol with ongoing Standing Committees of NCSS (Research Needs, New Technology, Standards/Taxonomy).

Ongoing NCSS Critical Technical Development Issues

- ▶ Dynamic soil properties
- ▶ Ecological Site Inventory
- ▶ Technical Soil Services Handbook (<http://soils.usda.gov/technical/tssh/index.html>)
- ▶ Gypsum Interpretations
- ▶ Soil Change (SSSA Annual Meeting Symposium)
- ▶ Subaqueous Soils (2nd National Workshop, RI 8/10)

Ongoing NCSS Critical Technical Development Issues

- ▶ FSA uses the National Commodity Crop Productivity Index (NCCPI) to inform its payment rates—Concerns from the field
 - ▶ Irrigated National Commodity Crop Productivity Index (NCCPI) Model Review
 - ▶ LESA/CALES Handbook
 - ▶ National/Regional Interps for Salinity Maps
 - ▶ Interpretation protocols for Ecological Site Description (ESD) data
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Interpretation protocols for ESD

- ▶ Soil Interpretations on grazing lands
 - Ecological Site Descriptions
 - Forage Suitability Groups
 - Custom interpretations (e.g. BLM interps)
 - NASIS plant data
- ▶ DSP Technical Leadership Team
- ▶ Interagency Rangeland Ecological Site Handbook
- ▶ Ecological Site Implementation/Acceleration Plan
- ▶ Grazing Lands assistance to RIAD

Urban and Suburban Interpretations

- ▶ National U&SI Committee is restarting—George Teachman/Mike Wilson
 - ▶ Many Urban Surveys going on around the country
 - ▶ SUITMA—next year in Morocco(Sept.2009 US hosted in NYC)
 - ▶ Green Infrastructure high priority with NRCS
 - ▶ NPS (Sue Southard)is testing many new interps for High Intensity Non-Ag uses
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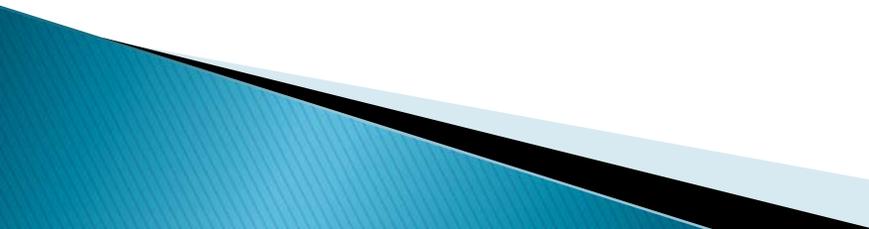
Interps Based on Soil Properties

- ▶ National Bulletin 430-10-3 (Calculated Soil Interpretation Values in NASIS and Soil Data Mart) September 30, 2010
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 - Corrosivity Concrete/Steel
- ▶ Database population of missing values is key to success in using soil properties to calculate interpretations by criteria
- ▶ Letter to MLRA Leaders

Interps based on Soil Properties

- ▶ Soil hydraulic property database(Ksat)
- ▶ Movement of water in soil and on its surface and the characterization and monitoring of water tables
- ▶ Flash Flood Forecast?
- ▶ Climate change effects on depth to seasonal saturation and urban interpretations related to seasonal saturation
- ▶ Data from field measurements (SCAN and SNOTEL sites, Ksat measurement tools, lysimeters, GPR), computer models (i.e., EPIC, SWAT, HYDRUS, DAYCENT, DRAINMOD, FLOW)

Opportunities for partnering

- ▶ Working with Ecological Sciences Division, NRCS
 - ▶ USDA NRI, FIA, CEAP
 - ▶ EPA & USGS—National Atlas for Ecosystem Services
 - ▶ North American Carbon Program
 - ▶ GlobalSoilMap.net
 - ▶ USDA–ARS, USDA–FSA, USDA–NIFA
 - ▶ International Partners
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Funding Opportunities for Validation of Interpretations

- ▶ Submit to NCSS Research Needs Committee to be included in RFP for the next year
 - ▶ CIG (Conservation Innovation Grants)
 - ▶ CESU vehicle and Graduate student studies programs for validation activities
 - ▶ Coastal studies—NSF & BP Oil (Subaqueous soils protocols into the mix)
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Communication & Coordination

- ▶ National Technology Support Center representatives coordinate NRCS Interpretation Needs
 - ▶ Use the Regional and National NCSS Interpretation Committees to peer-review new interpretations
 - ▶ Validation Requests go to Research Needs
 - ▶ National Interpretations are vetted for addition to NSSH through Standards Committee
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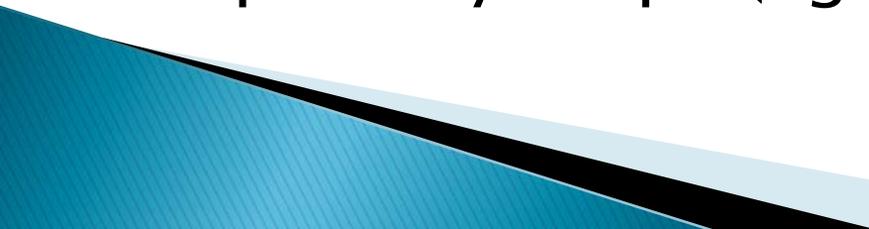
NSSH Standards— Second Generation Interpretations

- ▶ Guidelines for New Interpretations
 - NSSH part 617.04.
- ▶ Soil interpretations requirements
 - NSSH part 617.10.
- ▶ The interpretations should be supported by field observations, research (laboratory and field), and other documentation.

Second Generation Interpretations

- ▶ Soil interpretation derived from pedons and lab data nearest to the area of interest.
 - ▶ Interpretations that take into account temporal data (precipitation, temperature, etc)
 - ▶ Real-time Interpretations (Doppler radar, soil moisture probes)
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Food for thought as we move into new ideas

- ▶ How will we use DSP data?
 - ▶ How can we interpret for climate change with stable data sets?
 - ▶ Data by Raster—New Data Model? How will we interpret Soil Survey?
 - ▶ Sustainability—consider other factors or soil properties besides soil erosion to evaluate land productivity—A Sustainability Value or Index?
 - ▶ Specialty crops (eg. Vineyards, Olives)
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Discussion?

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Soil Survey Interpretations

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