

# National Cooperative Soil Survey “New Opportunities”

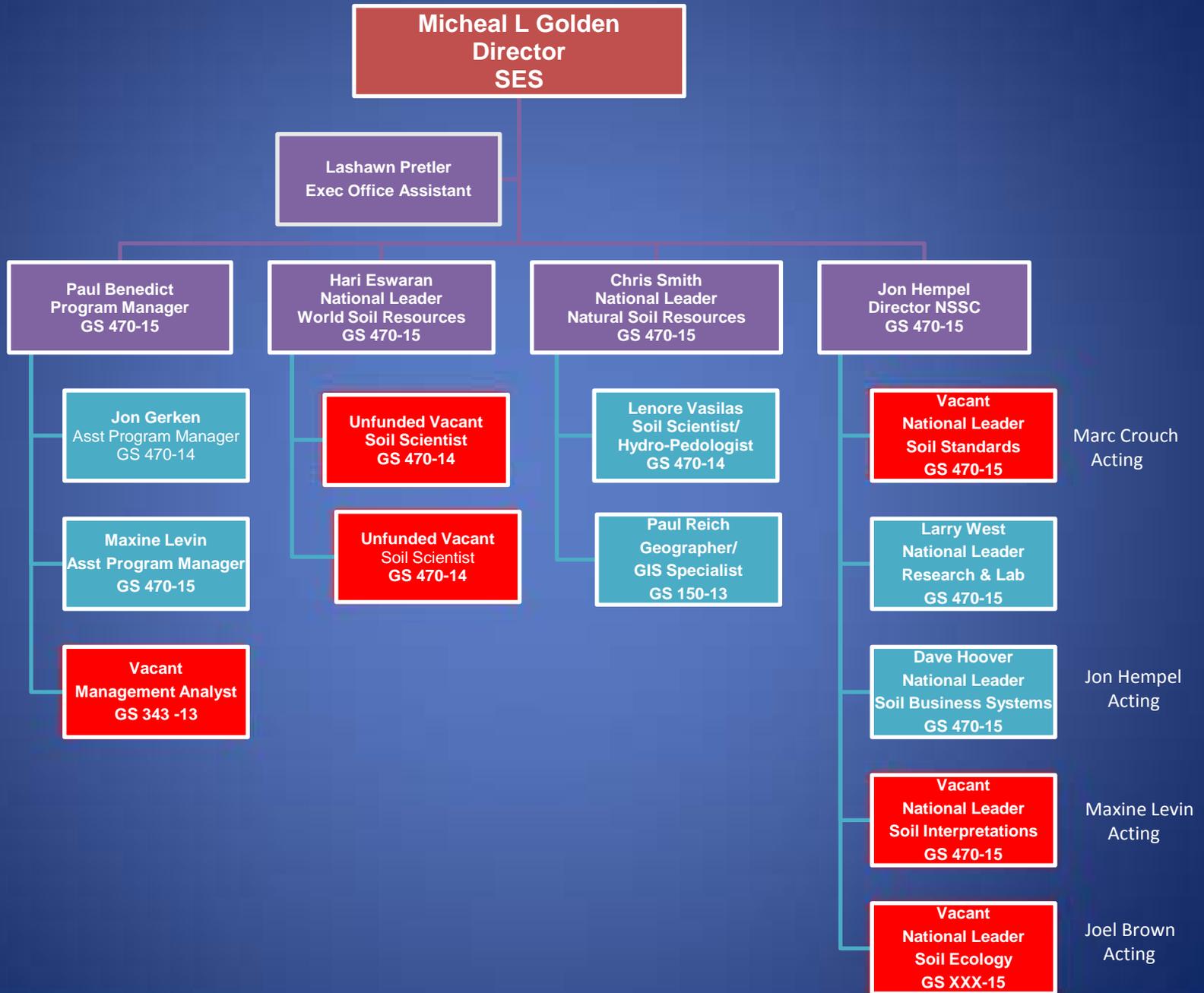
Micheal L. Golden  
Director  
Soil Survey Division  
West NCSS Region Conference  
Las Vegas, Nevada  
June 21, 2010

# New Opportunities

## TOPICS

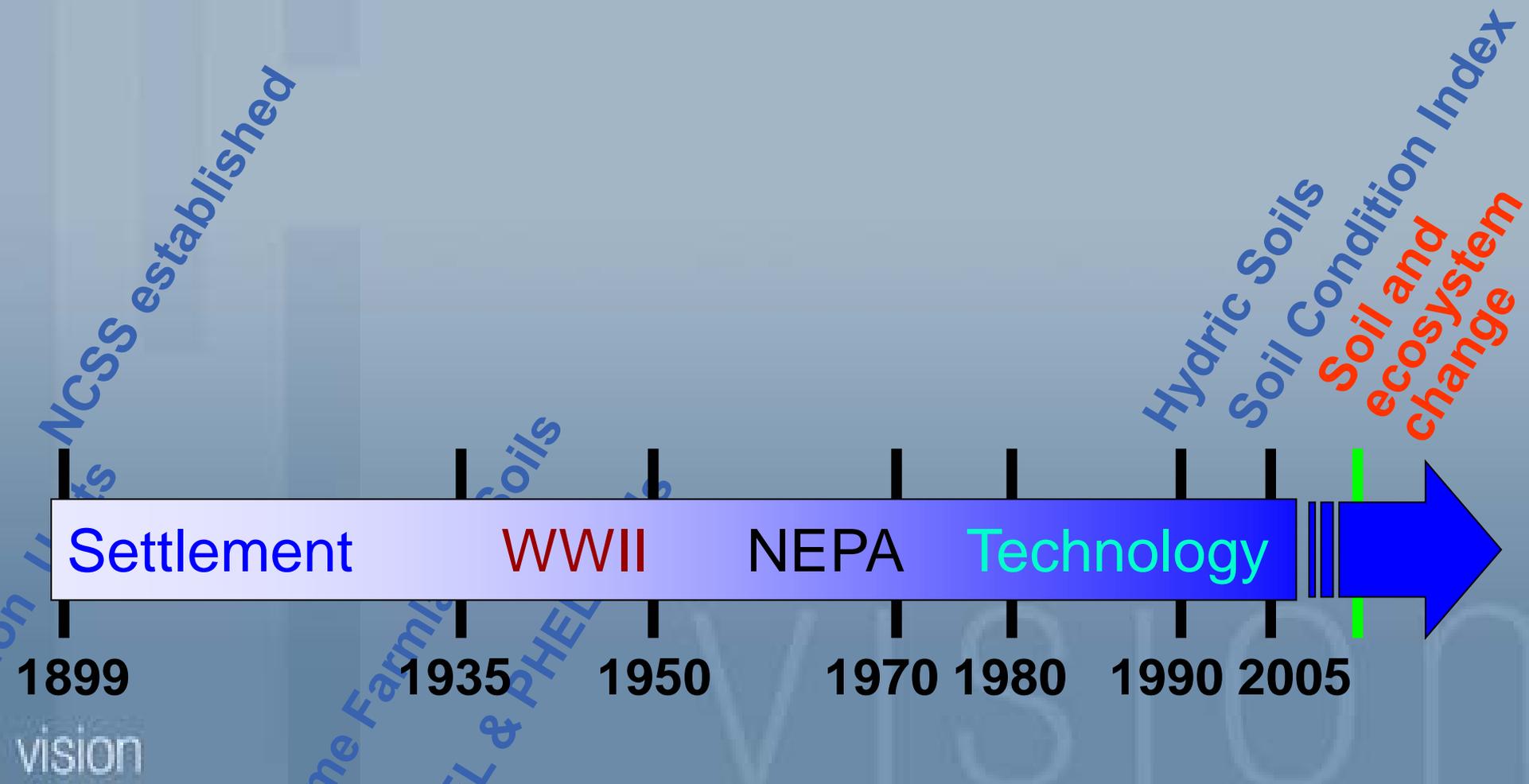
- Soil Survey Division Staffing
- Meeting the Customer Needs
- NCSS Partnerships
- Expanded Roles
- Universal Soil Classification
- International Opportunities

# SSRA/Soil Survey Division – Organization Chart

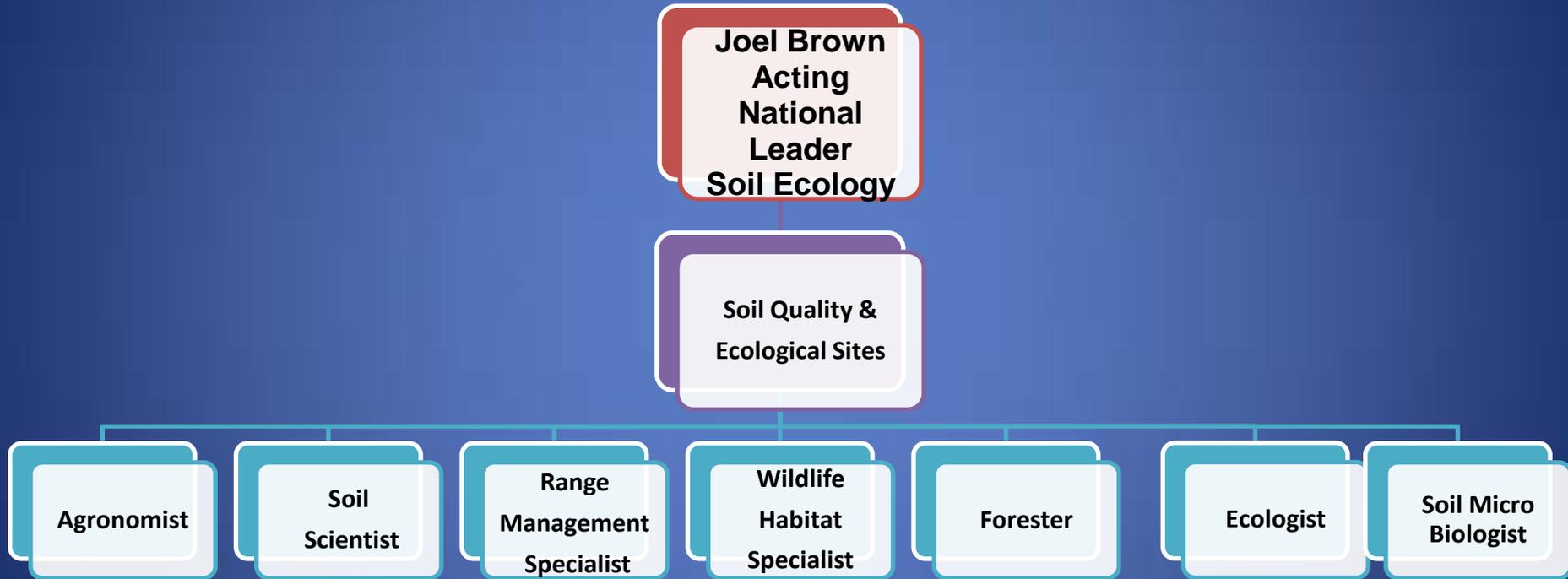




# 100+ Years of Meeting Customer Needs



# Soil Ecology Branch



# Soil Survey Direction

- Three key aspects
  1. Web Soil Survey - Seamless digital coverage of entire US
  2. New Technologies - Landscape Analysis and data modeling, pre-mapping tools, emphasis on enhancing existing soil survey information
  3. MLRA Soil Survey Offices - stabilize the work force for soil mapping, Keep survey Current, (143 permanent offices)

# Web Soil Survey Usage

- Visits
  - Over 6.0 million Visits total since 8/05
  - Over 160,000 visits per month
  - Up to 7,000 visits per day

# MLRA SSO Long Range & Project Plans

## Highest Priority

- Harmonize NASIS Database
  - Selected Soil Properties
- Smooth & Join Spatial Layers
  - Utilize NCGC Data Layers
- Identify Research Projects & Use
  - NCSS Cooperators &
  - NSSC Liaison

# New Opportunities

- Soil Moisture & Soil Temperature Models
  - Newhall (General)
    - Program from DOS to Windows - Penn State
  - EPIC (More Specific)
    - Enhanced model for Taxonomy - ARS Blackland Experiment Station & Texas A&M

# New Opportunities

- NCSS Research (from SSD)
  - FY09 Three Projects Funded thru RFP's
  - FY10 Six Projects with Funds thru RFP's
    - 2 West
    - 2 South
    - 1 North Central
    - 1 North East
- Conservation Innovative Grants (CIG's)
  - FY10 Soil Research Component

# New Opportunities

- NCSS-Dynamic Soil Properties
  - Four funded projects
- Deepwater Soil Interpretation Maps
  - Several New Interpretations Developed

# New Opportunities

## Expand Roles

- Soil Ecology
  - Soil Quality
  - Ecological Sites
- Soil Climate
  - SCAN Sites

## Technology

- Content Management
- National Soil Geographic Database
- Mobile Point Data Collection
- Mapping Tools (SIE, TEUI, RASP, etc;)

# New Opportunities

- Ecological Site Inventory
  - SSRA to lead Inventory & Correlation
    - Ecological Site – Inventory & Soil Interpretations
  - S&T to lead Technology Transfer
    - Ecological Site - Management Interpretations
  - National Coordination
    - Establish National Leader & 4 Coordinators NSSC
    - Establish QA at 7 MO's (PD's ready )
    - Establish QC at 19 SSO's (PD's ready )

# New Opportunities

## Rapid Carbon Assessment

- Trained Soil Scientists for each MO Region
  - VNIR equipment & Sampling Procedures
  - Selection of Plots with Use & Management (Benchmark or Other Important Soils)
- NRI (PSU Segments) or New sites w/o data
- ARS (Gracenet Sites) or Other Federal Partner (BLM/FS)
- University (Research Plots) or Other Studied Sites

Goal is to have a statistically Valid Database for Base Stocks of Soil Carbon by September 30, 2011

# New Opportunities

## Universal Soil Classification System

- Most Natural Sciences have
  - Common Classification System
    - Botany
    - Anthropology
    - Astronomy
- Natural Classification Systems are
  - Accepted & used Globally
  - “Soil Classification” is viewed as a National System yet to have international acceptance

# New Opportunities

## Universal Soil Classification System

- International Committees formed:
  - 1976 Low Activity Clays – (Alfisols, Ultisols, Oxisols)
  - 1978 Oxisol Order
  - 1978 Soil Moisture Regimes
  - 1980 Andisol Order
  - 1980 Aridisol Order
  - 1981 Vertisol Order
  - 1982 Aquic Moisture Regime
  - 1982 Spodosol Order
  - Their Intent was to:
    - Create a Universally Accepted System

**“Soil Taxonomy” translated into multiple Languages**

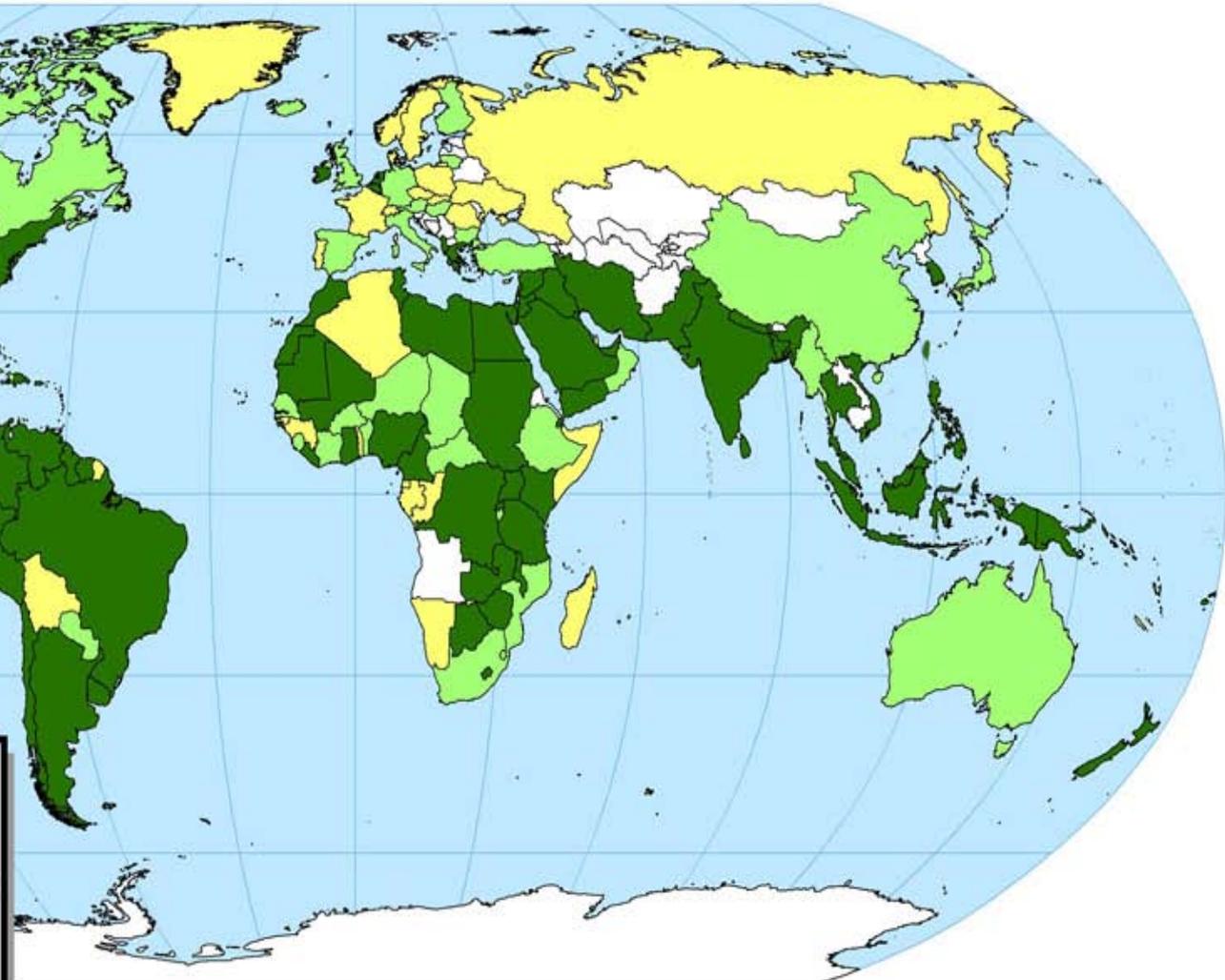
**Examples: English, Dutch, Indonesia, French, Spanish, Arabic, etc;**

## **World Soil Taxonomy Usage**

**139 Countries use as  
Primary or Secondary**

### **Soil Taxonomy Usage**

-  Used as national system (92)
-  Used in conjunction with other system (47)
-  Used only in technical reports (58)
-  Not used or unknown (53)



Robinson Projection

0 1,000 2,000 4,000 6,000 8,000 10,000 Kilometers

January 2010

# Global Soil Regions

## New Opportunities

### USAID Project Proposals

- **Haiti - Soil Survey and Reconstruction**
- **Africa - Soil Training w/Global Soil Map**
- **Mexico - Soil Survey and Desertification**

Robinson Projection  
Scale 1:130,000,000

#### Soil Orders

 Alfisols	 Entisols	 Inceptisols	 Spodosols	 Rocky Land
 Andisols	 Gelisols	 Mollisols	 Ultisols	 Shifting Sand
 Aridisols	 Histosols	 Oxisols	 Vertisols	 Ice/Glacier

# New Opportunities

## International Activity

- Mexico Soil Survey & Ecological Site Descriptions (ESD) on Web Soil Survey (WSS)
  - El Jabali Soil Survey on WSS
  - Three Soil Classification and Mapping workshops in Mexico
- International Technical Exchange (2-4 weeks)
  - 8 NRCS Soil Scientists going this summer to:
    - Africa – Global Soil Map Training and Soil Sampling for Lab
    - Italy – Ispra for GIS modeling
    - Hungary - Budapest for Salinity and Universal Soil Classification
    - Spain – Barcelona for SM & ST and Universal Soil Classification

# New Opportunities

## International Activity

- Canada
  - Global soil map and harmonizing of maps & data
  - Possible Soil Climate Analysis Network (SCAN) sites
  - Carbon data collaboration
  - Continued Technical exchanges at NCSS Conferences

# New Opportunities

## International Authority

- Language submitted thru USDA – ON HOLD!!!

## Universal Soil Classification System

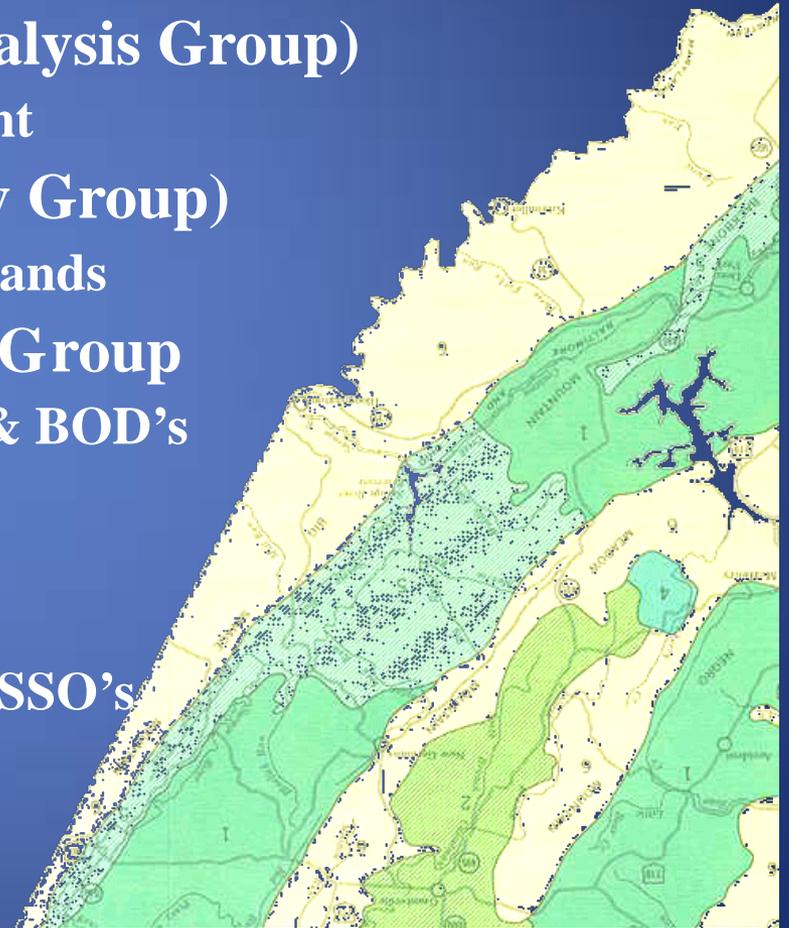
- IUSS Soil Classification Committee - Work Group
- Present paper at World Congress of Soil Science in Brisbane, Australia
- John Galbraith US Lead in IUSS

## Globalsoilmap.net (North American hub)

- Coordinate with Mexico and Canada

# Advisory Groups

- **SBAAG (Soil Business Area Analysis Group)**
  - Issues dealing with IT Development
- **FLAG (Federal Lands Advisory Group)**
  - Issues dealing with Mapping All Lands
- **State Conservationist Advisory Group**
  - Issues dealing with Management & BOD's
    - MLRA Restructure
    - ESD Implementation
- **MLRA Region Office Leaders**
  - Issues dealing with managing 143 SSO's
    - Operations and Standards
- **NCSS Advisory Group**
  - Think Tank for Future Issues



# Advisory Groups

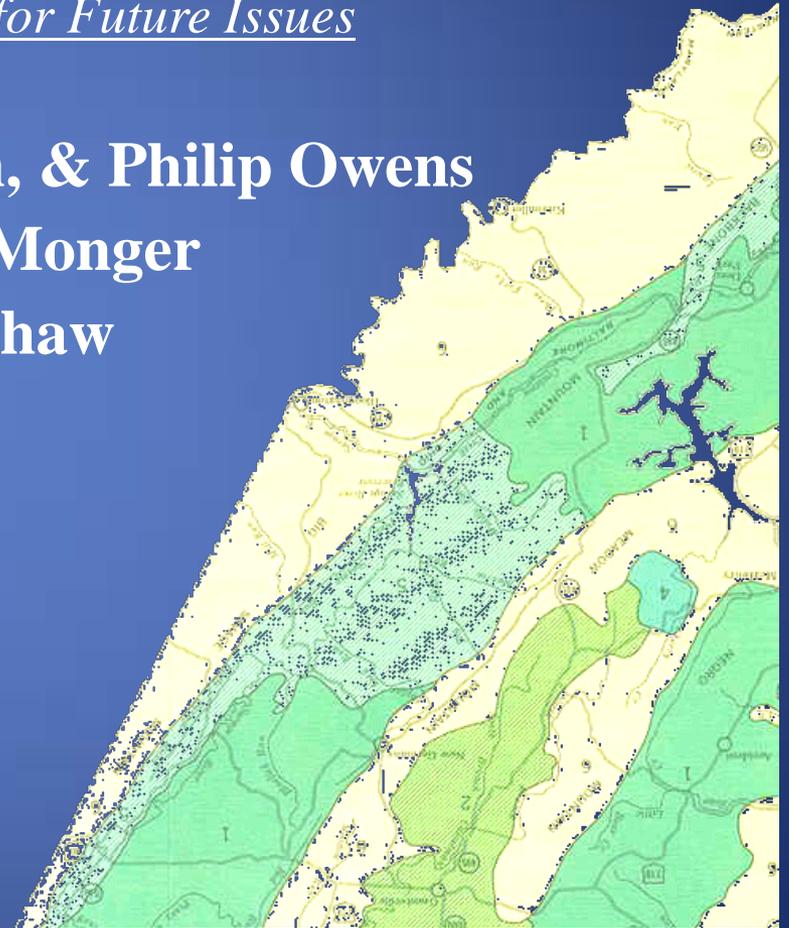
## NCSS Advisory Group - *Think Tank for Future Issues*

- North Central – Micky Ransom, & Philip Owens
- West - Toby O'Geen, & Curtis Monger
- South – Mary Collins, & Joey Shaw
- North East – Jim Thompson

## Ad Hoc Advisory Members

- Larry Wilding & Dick Arnold

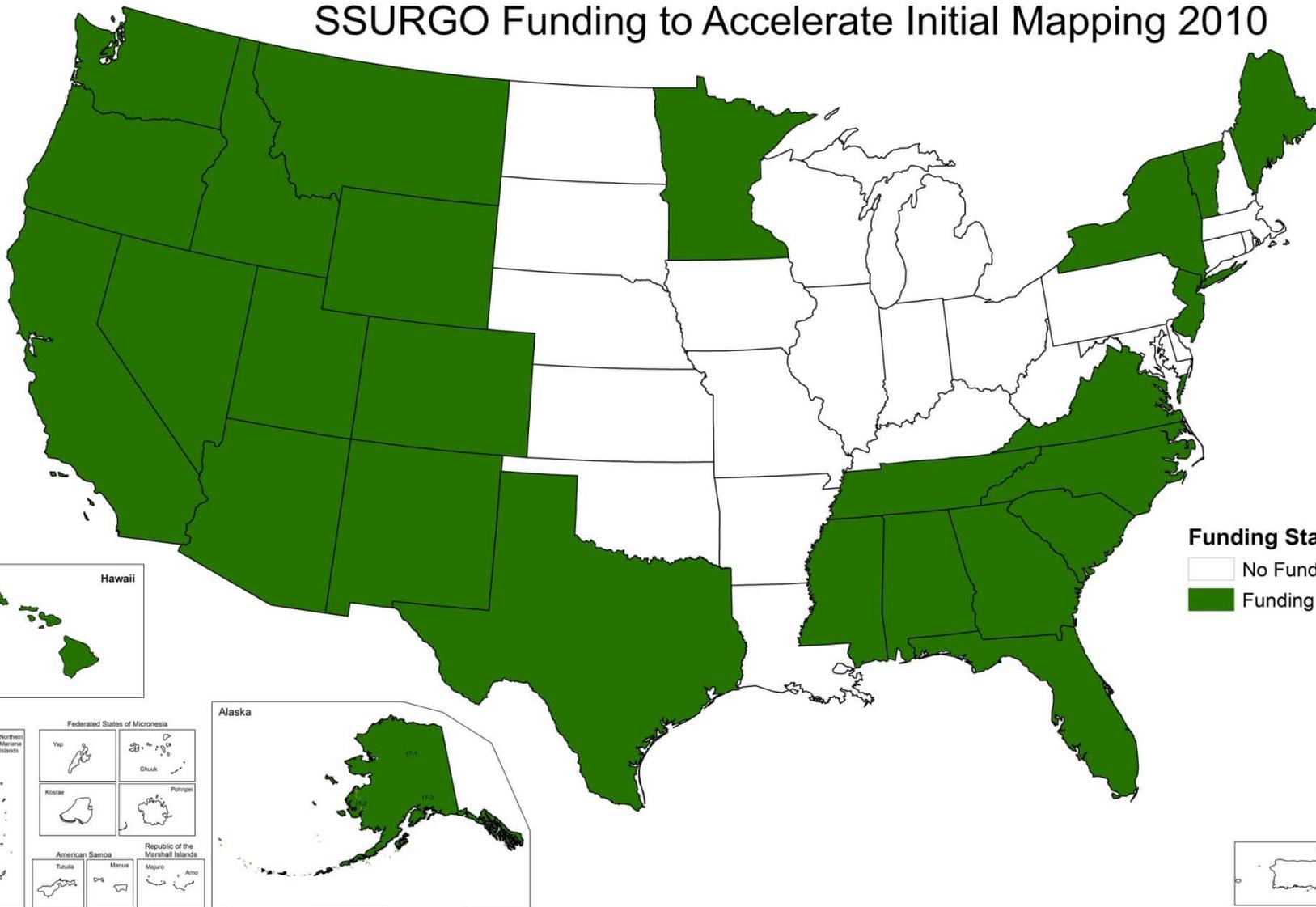
*“Thank You”*



# New Opportunities

## 27 States Additional Funding thru 2011

### SSURGO Funding to Accelerate Initial Mapping 2010



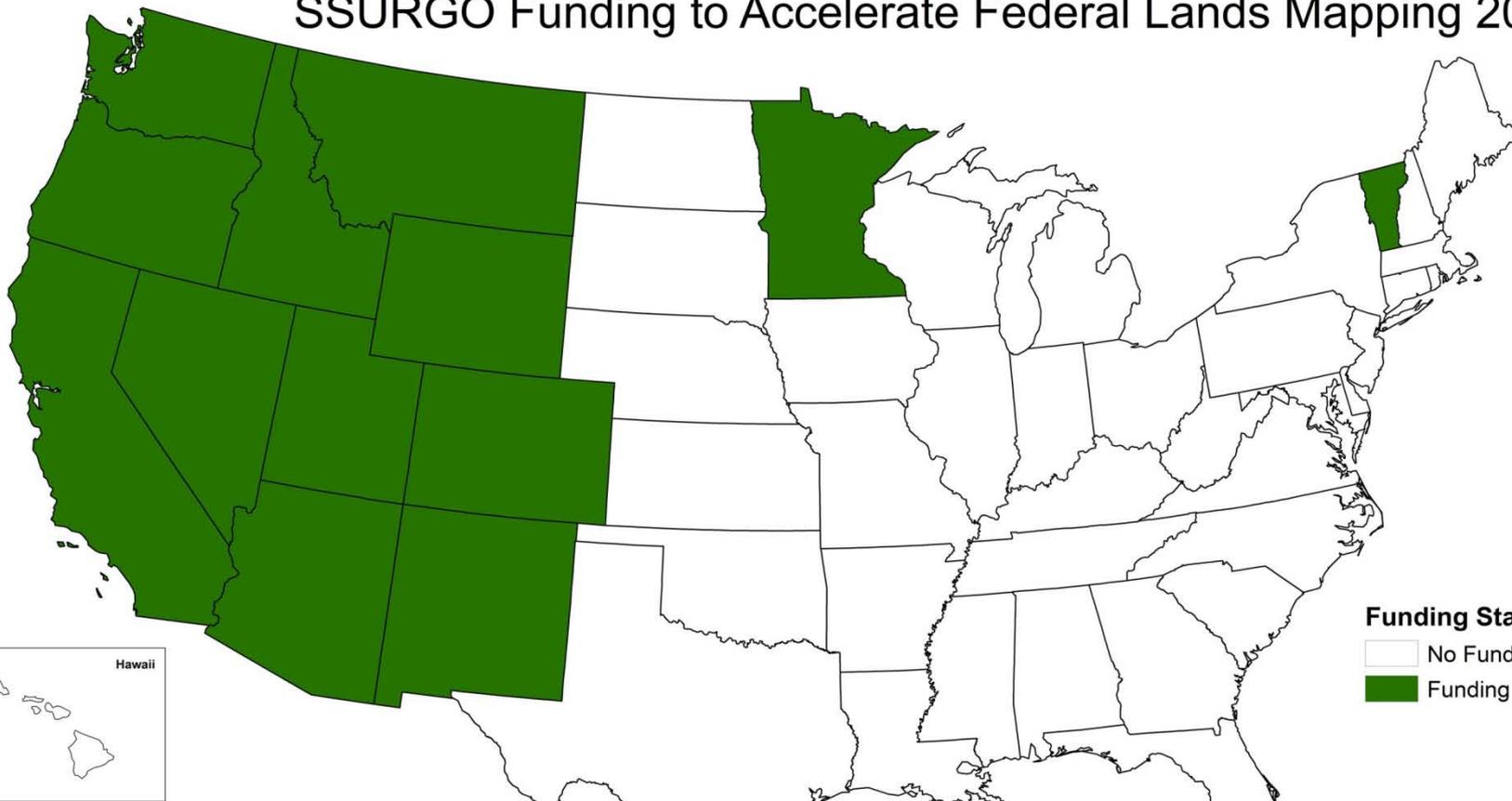
#### Funding Status

- No Funding
- Funding

# New Opportunities

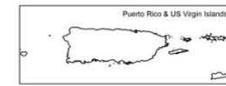
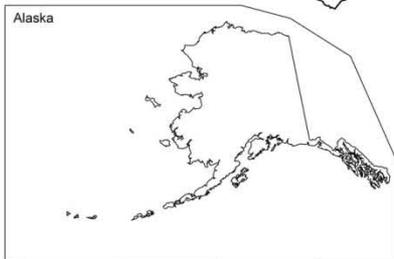
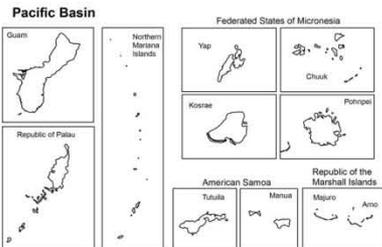
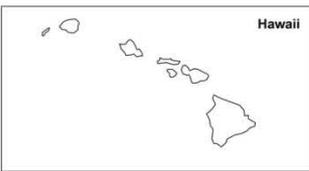
## Soil Survey On ALL Lands -14 States Additional Funding

### SSURGO Funding to Accelerate Federal Lands Mapping 2010



#### Funding Status

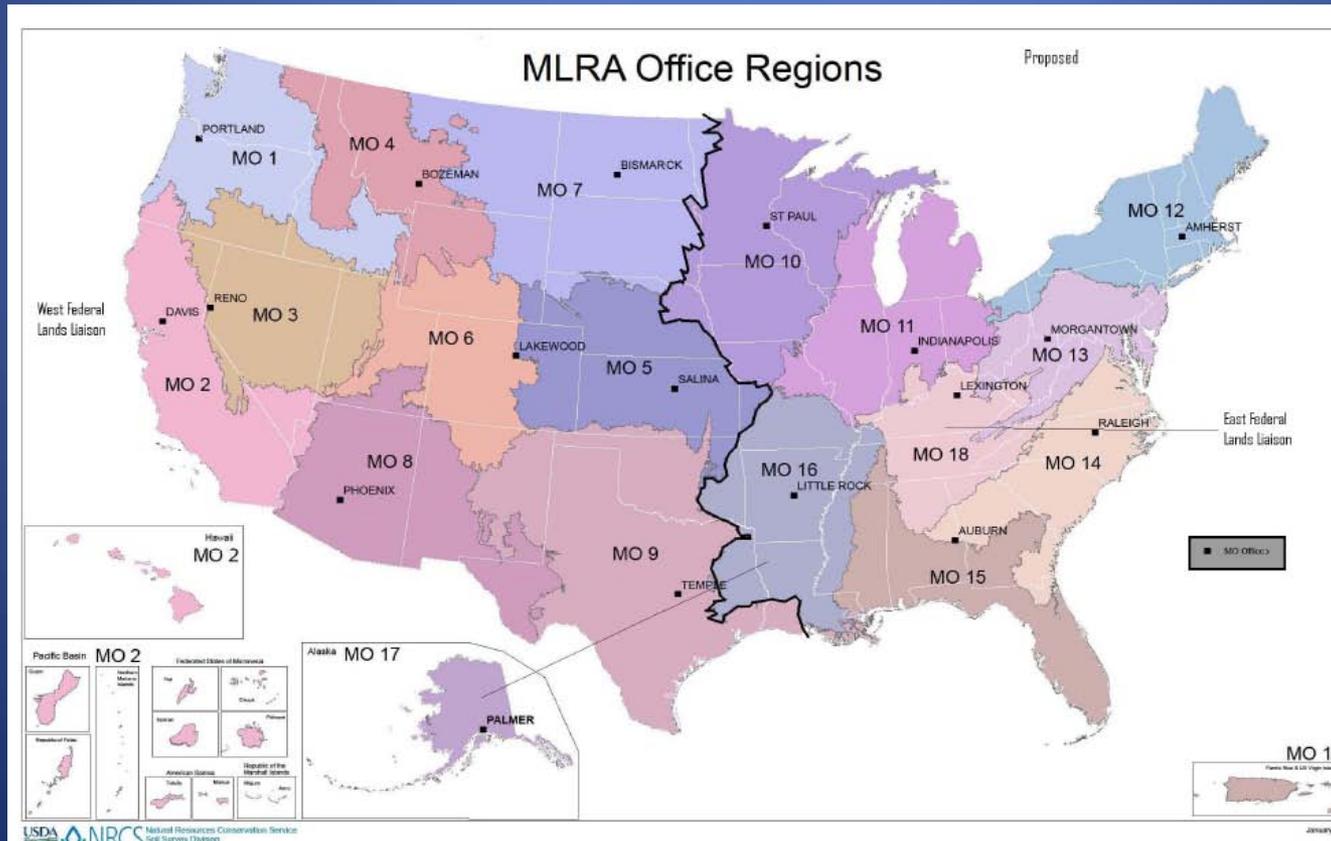
- No Funding
- Funding



# New Opportunities

- Federal Land Liaisons

- Davis, CA - National Park Service (Sue Southard)
- Auburn, AL – Eastern FS, DOD, FWS, BIA (Vacant)
- Bozeman, MT – Western FS & BLM, DOD, FWS, BIA (Vacant)





Thank

YOU

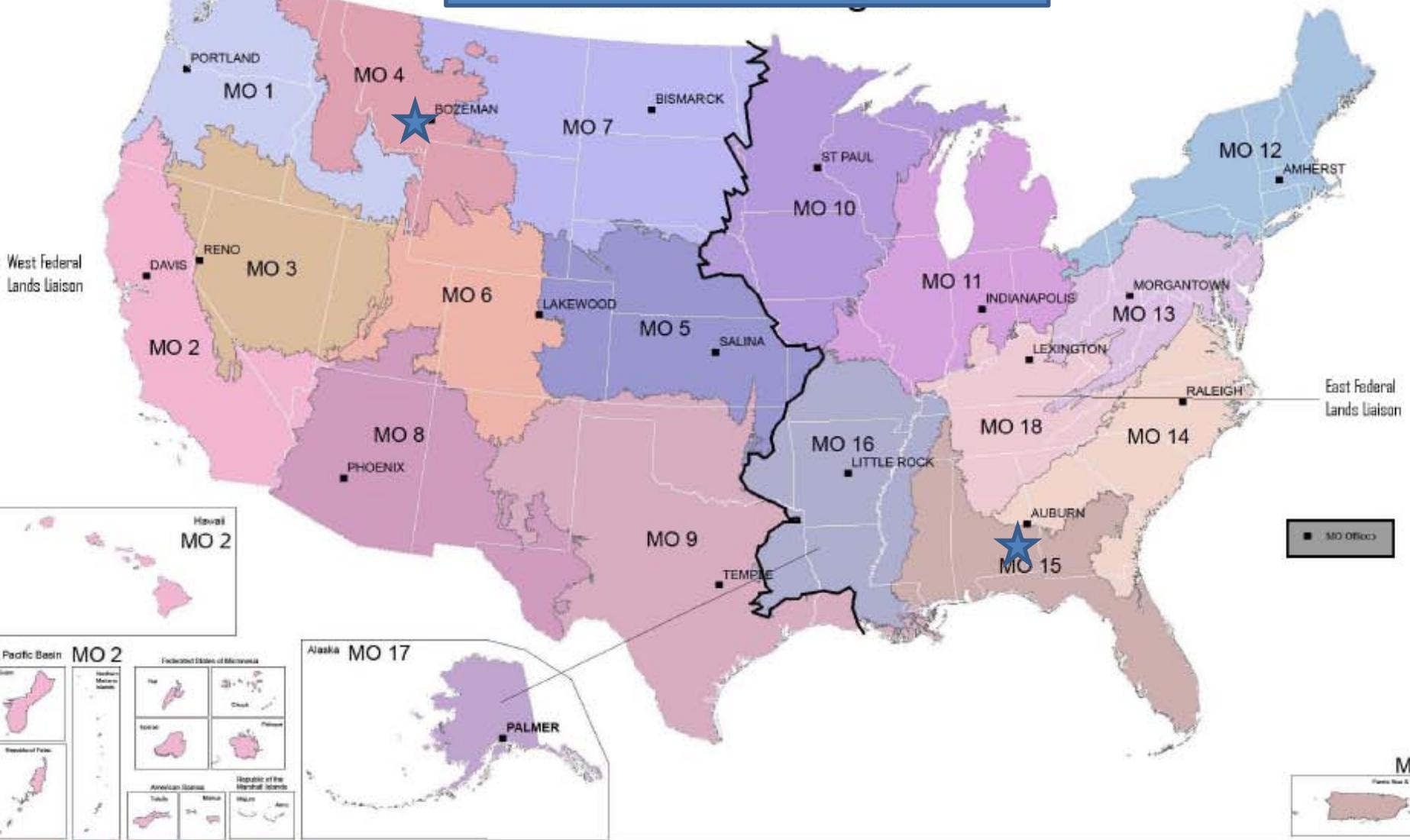
for

Your

“Attention”

# Federal Lands Liaisons

Proposed



# SSURGO Digitizing Units

**Mike Hanson**  
**Coordinator**  
**Bozeman, MT**

Missouri

Michigan

Wisconsin

Kansas

Montana