**Update Mapping Sub-Team Meeting**

**7/24/2018 – 11:00am to 12:35pm**

**Participants:**

1. Joe Brennan, SS SSR10, St. Paul, MN
2. Dave White, SS 8-LAS, Las Cruces, NM
3. Chance Robinson, SS 9-STE, Stephenville, TX
4. Rebecca Fox, SS 12-PAS, Paul Smiths, NY
5. Jamin Johanson, ESS 12-DFX, Dover-Foxcroft, ME
6. Jacob Isleib, SS 12-TOL, Tolland, CT
7. Stephen Roecker, SS/GIS SSR11, Indianapolis, IN
8. Betsy Schug, SS 10-FER, Fergus Falls, MN
9. Tyson Morley, SS 9-ALT, Altus, OK
10. Luis Garcia, ESS 8-LAS, Las Cruces, NM
11. Lynn Loomis, SS 8-MAF, Marfa, TX
12. Eric Wolfbrandt, GIS SSR8, Phoenix, AR
13. Martin Figueroa, SS 7-FOR, North Ft Myers, FL
14. Sara Saunders, SS 6-MIL, Mill Hall, PA
15. Suzann Kienast-Brown, SS/GIS SSR4, Bozeman, MT
16. Matthew Duval, ESS SSR3, Raleigh, NC
17. Chad Ferguson, SS/GIS NSSC, Lincoln, NE
18. Tom D’ Avello, SS/GIS NSSC-GRU, Morgantown, WV

**Absent:**

1. Jessica Phillipe, SS 12-STJ, Saint Johnsbury, VT
2. Neil Martin, SS 11-FIN, Findlay, OH
3. Jordaan Thompson, SS 10-FAR, Fargo, ND
4. George Otto, ESS 7-TUS, Tuskegee, AL
5. Dan Benyei, SS 6-MAT, Marietta, OH
6. Tiffany Smith, SS 6-WAY, Waynesville, NC
7. Nathan Hartgrove, SS 6-CLI, Clinton, TN
8. Amber Wyndham, SS 5-PUE, Pueblo, CO
9. R Jay Ham, SS 3-GRE, Greensboro, NC
10. Stephon Thomas, SS 3-GRI, Griffin, GA
11. Wade Bott, SS State Office, Bismarck, ND
12. Adolfo Diaz, GIS Madison, WI
13. Jeffrey Hellerich, SS State Office, Salina, KS

**Introduction**

* At the request of Joe Brennan, Tom D’ Avello discussed the purpose and history of the DSM Focus Team and 3 sub-teams (Properties, Initial, and Update).

**Roll Call**

**Team Goals (Joe Brennan, Chance Robinson, Dave White)**

1. Moving DSM from niche to operational.
2. Develop a variety of quality update projects.
3. Build on and improve NSSH Part 648 together.
4. Develop new raster products and delivery systems.
5. Improve communication amongst practitioners of DSM.
6. Accelerate the use and utility of DSM.

**NSSH 648 Introduction/Discussion – Joe, Chad, Suzann**

* SSURGO Data Model took 10 years to develop (conversation with Jim Fortner)
* Catena or geomorphic context important to developing quality projects
* 10m resolution chosen to match land cover dataset, gSSURGO, gNATSGO (under development), and gSTATSGO (under development)
* Work at any scale (i.e. 5m) and resample to 10m for validation and publication
* Raster products, vector products, or both may be developed from DSM

**Clarity within the agency – Chad, Eric, Suzann**

* SSURGO map unit product or component product?
* “Raster Mapping” – What do you mean? Different things to different people
* Some misunderstanding of terms and definitions to describe the process, products, etc.
* SSM, Part 648, NEDC Training provide definitions and process. What else can we do?

**gNATSGO – Joe, Stephen, Suzann**

* Might incorporate Raster Soil Survey “best available” product
* Individuals outside of focus team, have expressed concern with “mixing” of data (initial SSURGO and update?)
* In development discussions, “Best Available” name was scrapped for gNATSGO
* Each data type would be noted (i.e. traditional versus update)

**Job Aid Website – Chance, Chad, Tom, Stephen, Suzann**

* Reorganization of the “Soil Databases, GIS” portion of the Job Aids web site
  + <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/edu/ncss/?cid=nrcs142p2_054322#database_gis>
* Chad can remove old/outdated topics and update website
* Proposal to restructure with subcategories reflecting stages/processes in SSM – Chapter 5
  + General GIS skills
  + Digital Soil Mapping

1. Define area and project scope
2. Identify physical features of interest
3. Data sources and preprocessing
4. Data exploration and landform analysis
5. Sample for training data
6. Predict soil classes or properties
7. Calculate accuracy and uncertainty of results

* Tom expressed support for the website update
* Utilize <https://github.com/ncss-tech> for incremental updates to job aids
* Convert some pdfs to github format
* “Data and Project Management” job aid on the to do list in the next month or so
* Remove earlier verison of ERDAS models
* List of topics requiring an existing or new job aid (contact Chance to volunteer to work on a topic)
  + Identify physical features of interest
    - Where can I find the data?
      * Available resources in “Intro to DSM” or “Remote Sensing” course?
  + Data exploration and landform analysis
    - Select appropriate predictors
      * CovariateReduction\_v0.1.R (link to Github?)
      * Create a Knowledge Based Job Aid for Covariate Selection?
  + Predict soil classes or properties
    - Link to R scripts for Predictive Mapping on Github?
    - Link to ArcSIE downloads website?
  + Calculate accuracy and uncertainty of results
    - Link to available resources from Remote Sensing for Soil Survey course
    - Link to R scripts on Github
      * Available resources from Stats course?
  + General GIS skills
    - Accessing GIS Web Map Services

**Nationwide Environmental Covariates**

* DSM Focus Team working on nationwide product with seamless coverage of environmental covariate data for most commonly used covariates (base line product for MSSO)

**Presentation and Discussion of new Job Aid**

Sampling with cLHS in R – Dave White

**Closing Remarks**

* Volunteers requested to give brief overview of project (Suzann)
* Proposal to work through the Stages and Processes for DSM Projects over the course of the next several sub-team meetings (Tom)
  + With agreement and no objection the proposal was accepted
  + **Next month’s theme/topic – “Starting a DSM Update Project”**

1. Define area and project scope
   1. Define and refine objective: soil classes and properties
2. Identify physical features of interest
   1. SCORPAN—important covariates and appropriate data
   2. Scale of processes and measurements
   3. Available measurements (field and remote sensing)

* Rebecca Fox volunteered to provide an overview of an upcoming/current DSM project

**Attachment 1**

NRCS\_Soils\_Website\_JobAids\_Status.xlsx