**Agenda for Monthly Meeting of Digital Soil Mapping Update Focus Sub-Team (Tuesday, October 23rd 11AM – 12:30 PM Central)**

**Welcome & Roll Call**

Joe Brennan,

Lynn Loomis

Chad Ferguson

Linda Harring

Tyson Morley

George Otto

Dave White

Dan Wing

Tom D’Avello

Jocelyn Wardrup

Jordaan Thompson

Stephen Roecker

Suzann Kienast

Adolfo Diaz

Jo Parsley

Pete Weikle

**Sample for Training Data (9-STE Case Study) - MLRA 84B - Paluxy Erosional Hillslopes, Central Part** – C. Robinson – Chance is out due to family situation. This topic will be tabled for a later time.

**Focus Team Updates & Discussion** – T. D’Avello & S. Kienast

* Initial – Jessica Philippe and Suzann Kienast will be the team leads. The DSM Focus Team Initial mapping sub-team had a bit of a slow start with Jess out and Phillip Roberts moving to FSA. They had an initial meeting with the DSM team several months ago. They are currently coordinating with the Initial Mapping Focus team to ensure both teams complement each other. The sub-team is still in its beginnings but should have something rolling in the next couple of months.
* Soil Properties – meeting regularly twice a month for the last 6 months. There are 14 people that participate regularly, including staff and partners from NRCS, FS, USGS, and Academia.
  + Current approaches model DSM properties at the CONUS scale. The properties sub-team has decided to explore narrower modelling domains. The first project area is in the greater southern Appalachia area, and encompasses MLRA 130b and all its adjacent MLRAs. This area is roughly 35 million acres in extent.
  + A research position located at WVU will work with Dr. Jim Thompson, and directly with the DSM soil properties sub-team to develop the continuous soil properties for the first project area.
* JB – There was a Regional GIS Specialists meeting recently, where it was mentioned by Drew Kinney that there may be pilot DSM projects on some selected watersheds. Is there any more information available on this at this time?
* TD – The intent behind these watershed projects, would be to work the soil conservation side to develop soil property and class maps for a given watershed. These pilot projects would serve as study areas to present the DSM techniques with the conservationists, and to develop methods in which they could use these types of products during the conservation planning process. This is a tentative proposal with 10 watersheds across the country, possibly with DSM data (or other update data), would be used as test locations to generate property and class products. Perhaps work can compliment or be aligned with NRCS-SSRA Conservation Easement Assessment Team (Lee Norfleet) & ARS-Ames, IA Agricultural Conservation Planning Framework.
* Digital Soil Mapping Field Weeks – The first field week supported by the DSM Focus Team was held in the Great Smoky Mountains National Park.
  + Tentatively scheduled to have up to two field weeks a year.
  + These may be selected based on the solicitation of project areas.
  + These field weeks will serve as an opportunity to build a network of people interested and or familiar with DSM across the country.
  + Cross training, field sampling, and ultimately generation of DSM products are 3 primary goals of the field weeks.
  + May be RFPs submitted to Regions for sponsored projects
  + GSMP – NRCS Soil Scientists, USGS and WVU Collaborators, and Regional Office Staff joined together for a week to collaborate on the update of Frigid Soils on Anakeesta geology. Participants collected field data and developed several property and class maps. Once the data and scripts are cleaned up they will be uploaded to a central site for sharing. A presentation will be given in the future, when the final products are developed for the project area.
  + Discussion
    - CF – Can the team members involved in the field week present on the findings/results?
    - TD – Too early, week came together quickly. Local crew still working to make sense of the findings. Perhaps at a later date.
    - SR – What are some of the successful DSM outcomes we have had thus far? What are the outcomes for these DSM field weeks? Training may be given, but sometimes we fall short of producing a DSM product. Are there any other thoughts on the approaches that need to be taken to have successful DSM products?
    - TD – The training allows for staff to identify the possible application of DSM. Often there is a hurdle of applying the training to specific project areas. The DSM field weeks provide an opportunity for people to gather with an existing project, and firm up confidence in the application of DSM techniques to project areas.
    - SR – Is there a point of contact to see that the project office completes the DSM project. Many collaborators may come together for a project but may not have one person ensuring that there is a final product.
    - SK – Ultimately the project office is responsible for completing the project. DSM focus team members will be there to assist where needed. Other projects in the future may have the completion of DSM projects built into performance plans, thus allowing for more time given to assist rather than having side projects.
    - TM – Each regional office handles DSM projects differently. How is the NC office handling the DSM project along with all the other types of projects? How much time do they have to complete this project? Having leadership backing the pursuit of DSM projects is key.
    - TD – They have been working on this project for roughly a year, with an expected completion date of FY19.
    - SK – During the last properties team meeting, there was discussion to have all the sub-teams come together to give updates as to what each is doing. This will likely be held during one of the regularly scheduled properties meetings. There will be a DSM webinar on Thursday October 25th at 1:00 central Applied Digital Soil Mapping”, by Travis Nauman. All are encouraged to attend.

**MLRA Project/Raster Soil Survey (Data Quality, Correlation & Export)** – J. Brennan

* DSM and Raster Soil Survey
  + Project Development – the first ¼ of a project should be devoted to this activity. Active dialogue between the project office and correlators on the specific details of the project.
  + Project timeline – It is important to plot out a specific timeline for the project. Fits well with stages and processes outlined in the SSM, but may have more emphasis on other project business.
  + Objectives of the project – Consider looking at larger footprints by looking at associated soils and broader scale covariates. Include a significant buffer area to be able to expand the foot print of concepts as needed and explore gradients.
  + Demonstrate the significance of a project in the proposal. Maps of discrepancies in soil properties and interps are useful.
  + Consider using the SSURGO data to assist in the data analysis phase of the project.
  + Inventory existing data and plan for new documentation to fill in the gaps using model-based/stratified random approach mixed with purposive.
  + Assure consistent documentation and ‘class criteria’ throughout the project to facilitate data development and logical predictions.
  + Revisit class criteria continuously throughout the project
  + Re-evaluate covariate list and variable importance after all training data is collected.
  + Correlation & Certification – Roughly the last 1/3 of project.
  + Ask the question; are the predictions a better representation than the existing SSURGO data?
  + Independent Accuracy Assessment could facilitate Quality Assurance.
  + Review Independent AA & error matrix in the context of final correlation of raster data.
* TD – How could class error in correlation/confusion matrix inform correlation decisions?
  + Is component A really out there? Is it underrepresented? Could it be correlated with another concept with expanded RICs? If it is combined, is it meaningful?
* SR – It appears as if series or taxon is the default concept for a prediction. Must find balance to provide necessary detail for a unique phase without over phasing.
  + Data Development – May not be much difference in component data between SSURGO . Updating SSURGO data should be relatively painless.
  + Certification & Export – Very similar process from SSURGO. Precedent set from Essex, with a NASIS Export & Geodatabase raster mimicking gSSURGO.
  + Legends are currently established a project level but will be established at a state level

**Raster Soil Survey Areas**  – C. Ferguson

State raster soil survey area type – raster soil survey area is not a choice in PANGAEA. Regional staff would have to add it to regional sites (potential for inconsistency there) to export the data. State wide legend lightens the burden of the correlation and aligns with gSSURGO.

You would only have to correlate once per state wide legend versus multiple survey areas. There will be a meeting soon with the Standards & Business Staff to address this very topic.

* SR-Could co-opt an existing statwide area type