United States Department of Agriculture

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Digital soil mapping (DSM) has been used successfully for several dozen soil survey projects over the past 10-15 years. The soil scientists using these techniques typically operate independently and lack a network of similarly knowledgeable collaborators. The DSM Focus Team is proposing the implementation of DSM Field Weeks to bring together DSM practitioners from NRCS, academia, and cooperating agencies to work with field soil scientists that are pursing DSM-centric projects. The objectives for conducting the DSM Field Weeks are to:

1) Develop a nationwide network of soil scientists informed by DSM techniques
2) Cross-train local soil scientists and DSM experts while helping deliver soil survey products
3) Develop knowledge and expertise of soil scientists embarking on their first DSM efforts
4) Target sparsely investigated project areas or modeling problems
5) Increase the network of point observations across the USA and Territories
6) Advance the Soils2026 effort

The initial DSM Field Week is proposed to assist the Waynesville, NC, Soil Survey Office with the MLRA 130B Frigid, Anakeesta Slate Landform project, located in the frigid soil temperature regime regions of The Great Smoky Mountains National Park and vicinity. This is an approved project for the soil survey office and field work has been in progress since early May 2018. The field week is proposed for October 2018.

Tentative itinerary:

Sunday..... travel to Gatlinburg, TN
Sunday evening..... introduction to project area, soil landscape relationships, objectives, etc.
Monday morning ..... safety protocol, team assembly, verify trail opening (meet at Twin Creeks to pick up radios/SPOT)
Monday – Friday ..... field collection and on-site modeling during the day, discussions, possible modeling during evening (plan to be in the field 7:00am – 2:30 pm, field discussion followed with modeling)
Friday afternoon ..... wrap-up, verify dates and deliverables
Saturday ..... travel to duty stations

Two required teleconferences will be held prior to the field week to ensure participants are familiar with the project (background, project design, goals, etc.). This will maximize the benefit of funds and time allocated to the field week and project.

The soil survey office is prepared to accommodate 14 people, which will be split into 5 teams. The local field crew includes 4 Ecologists (2 from the National Park Service; 2 from the NRCS) and 3 Soil Scientists from the NRCS. The costs associated with the field week for the existing Region 6, NRCS staff are already accounted for within the existing project plan. We propose assembling up to 7 members from the DSM Focus Team to assist the current crew in both field activities and on-site modeling support during the field week:

1. DSM Focus Team Lead – James Thompson, West Virginia University
2. DSM Focus Team Lead – Tom D'Avello, NRCS
3. NRCS soil scientist – DSM Focus Team member (Chad Ferguson, NSSC; or Stephen Roecker, Region 11)
4. Cooperating soil scientist – DSM Focus Team member (Travis Nauman, USGS; Matt Levi, University of Georgia; or Colby Brungard, New Mexico State University)
5. NRCS soil scientist – DSM Focus Team mentee – (Amber Wyndham, Region 5; Sam Streeter, Region 4; Jacob Isleib, Region 12; or Andrew Brown, Region 2)
6. NRCS soil scientist – on-site DSM Focus Team modeling support (Stephen Roecker, Region 11; or Alex Stum, Region 9)
7. NRCS soil scientist – on-site DSM Focus Team modeling support (Dave White, Region 8; Jessica Philippe, Region 12; or Suzann Kienast-Brown, DSM Focus Team Lead)

Costs to support the effort include lodging, per diem, and travel fare for the five NRCS staff representing the DSM Focus Team are estimated at $6,800. Cooperators would be expected to cover their own travel expenses, although NRCS may be able to provide assistance for special circumstances.

The field week will be the initial effort to assist the local soil survey office. The year following the field week will be used to train and support the office and implement DSM methods to achieve their project goals.

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Digital Soil Mapping Focus Team Leaders

Cc:
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