

Summary of Regional Reports for New Technology

Confusion:

There appears to be a lot of confusion about what is available, what works, what people are doing, and what products are available with current digital mapping methods and processes methods and processes.

Suggestions:

1. There should be a survey and review written regarding digital mapping.
2. A forum should be created to discuss the issues.
3. A survey of Land Grant cooperators is needed to get highlights from their programs and try to summarize the current state of the art.
4. A survey should be conducted from within the agency to find out how people are utilizing digital resources to aid mapping.
5. catalog of band ratios (by land resource areas)/library of spectra
6. remote sensing curriculum
7. awareness of success stories
8. primer for DSM
9. bridge between universities and NCSS DSM process (do universities need to teach DSM and provide training to undergraduate, graduate, NCSS soil scientists) students)
10. could each region provide a DSM course that captures what technology works?

Standards

There does not appear to be any standards regarding the use of digital mapping, remote sensing or geophysical methods.

Suggestions:

1. The USDA-NRCS Soil Survey and University Land Grant Cooperators should develop a publication similar to the Soil Survey Manual to determine standards and methods.
2. Methods for initial soil surveys, as well as, map updates are needed. Currently, soil survey offices are using different methods at different levels. Providing the Methods Manual would help standardize the mapping activities. This document should provide guidelines for soil survey evaluation, validation and scales for evaluation techniques.
- 3.

Training needs:

Many soil scientists would take advantage of the available information if they were more comfortable with the software. Training is crucial for the next generation soil surveys. Educational will enhance adoption of the new technologies.

Suggestions:

1. Provide a 2 week course similar to the current Soil Survey Course. The agency could provide courses for beginners and for advanced training.
2. The University Cooperators should provide better undergraduate training of basic GIS skills. This could be accomplished through online courses so that students at institutions where GIS is not emphasized could have access to the information. If GIS were listed as

a skill needed in the job description, students would see the need for this type of training. In the future, GIS tools will be as important as other tools currently used by field soil scientists.

3. We have seen a tremendous expansion of available land surface digital information. The Soil Survey must capitalize on this widely available information to create the best possible inventory of soil resources.

Capitalize on Training

Training supplemented with a GIS knowledge resource (GIS hotline) would ensure that training and education would continue. With GIS, there is a need for baseline of information for the user to maneuver through the software. Much of the applications within GIS are self taught.

Suggestion: Create a GIS person dedicated to helping field staff. With GIS resources available (personnel), soil scientists will be able to call for help when they are stuck and then move forward and complete projects. Without the resource, projects may stop due to frustration with learning the new tool.

- Fill all MO GIS positions
- Support network for GIS and DSM (skills available at any level) need statistics, geostatistics remote sensing skills, image processing
- Centralized position for support to the MOs

Reward Structure

Suggestion: A reward structure which encourages scientist to learn new tools would also move the program forward. Currently, field soil scientist would not achieve goals of mapped acres if they invested time into learning GIS tools. Giving credit for achievement in gaining knowledge in the new technologies would eventually yield great returns for the Survey.

Use training development plan