

# The Coastal Plainer

3381 Skyway Drive, P.O. Box 311, Auburn, AL 36830

Phone: (334) 887-4549 Fax: (334) 887-4551

Online: <http://www.mo15.nrcs.usda.gov/>

## Message from the MO- Leader’s Desk

By Charles Love,  
MO-15 Team Leader

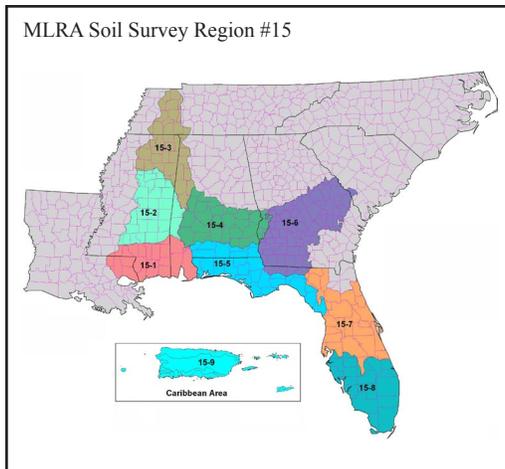
Again, greetings!

It’s hard to believe that FY-09 has come and gone. It seems like just yesterday we began developing business plans for achieving all the year’s soil survey activities in the MO-15 region. The year seemed short, but it was very successful for us! We are glad to report that we filled all of our MLRA Soil Survey Leader positions and that the leaders are hard at work establishing their technical teams and drafting their long range plans. Also, we are glad to be completing the final touches on the establishment of our last two MLRA soil survey offices.

In the summer of 2008, the MO-15 team agreed that a plan should be developed and implemented for updating and maintaining the soil survey on an MLRA basis. A document outlining the plan, “MO-15 Soil Survey MLRA Update Guidance Document and Operating Procedures,” was proposed to the board of directors and the management team in August 2008. The document and procedures were intended for the soil scientists within the MO region.

### Timeline for Document Approval

January 12, 2009: The MO-15 Management Team (consisting of the State Soil Scientists)



reviewed and approved the document.

June 8-12, 2009: A workshop was held for MO-15 State Soil Scientists and MLRA Soil Survey Leaders. The document was presented to and discussed with 30 soil scientists from around the region.

June 11, 2009: The MO-15 Management Team identified and approved soil survey priorities from the

discussions at the workshop. The management team agreed to submit the approved priorities to the MO-15 Board of Directors (consisting of the State Conservationists).

August 31, 2009: Dr. William Puckett, State Conservationist for Alabama and Chair for the MO-15 Board of Directors, hosted

## In This Issue:

Message from the MO-Leader’s Desk .....	1
Soil Geomorphology Institute .....	3
Delaney Johnson Named State Soil Scientist for Mississippi .....	5
Sharing Carefully .....	6
MLRA Staff Develop Soil Monolith For George Washington Carver Museum .....	7
NASIS 6.0 Is Coming...Soon .....	8
Alabama Hosts Work Planning Conference.....	9
MO-15 Regional State Soil Scientists & MLRA Soil Survey Leader’s Workshop.....	10

Love, continued from page 1

a teleconference for the MO–15 Board of Directors. The board reviewed and approved the priorities submitted by the management team.

The board approved the following priorities:

1. Provide resources to complete thorough soil survey evaluations for all nine MLRA soil survey offices by the end of 2012. The MLRA Soil Survey Leaders (SSLs) will need face-to-face time with interdisciplinary teams to discuss and make decisions about soil survey data from the evaluation processes and about approaches for developing long-range plans, project plans, and milestones for update activities.
2. Provide resources to MLRA SSLs to carry out meetings of the technical teams at least twice per year. The SSLs and technical teams will need time to conduct a thorough evaluation of the spatial data, tabular data, lab data, historical data, OSDs, and any issues regarding soil data or soil interpretations in order to develop long-range plans and project plans. The plans are agency milestones. The technical teams may need to spend up to 12 months conducting soil survey evaluations throughout MO–15. The evaluation process should be completed by 2012.

The following table lists the approved fiscal years for the technical teams to complete their soil survey evaluations:

MLRA Technical Team	Fiscal Year for Completing Evaluation
15–1 (MS)	FY–11
15–2 (MS)	FY–11
15–3 (AL)	FY–12*
15–4 (AL)	FY–11
15–5 (GA)	FY–11
15–6 (FL)	FY–10
15–7 (FL)	FY–10
15–8 (FL)	FY–10
*MLRA SSO 15–3 will complete initial soil survey mapping in late 2011.	

The board identified the need for MO–15 soil scientists to receive more geospatial training and NASIS training. The training is needed for conducting soil survey evaluations and planning activities. I will work with the management team to ensure that the proper training is provided to the soil scientists.

In the summer of 2010, the MO–15 team will assist Florida's State Soil Scientist in hosting a Spatial Geodatabase Workshop for Florida's soil scientists. The workshop will provide training in utilizing the five core data layers for conducting soil survey evaluations. The MO–15 team is also hoping to provide this training and assistance to other states in the region this fiscal year.

At the October 20th Alabama Cooperative Soil Survey Work Planning Conference, the priorities approved by the board were discussed with the cooperators and MLRA Soil Survey Leaders for implementation this fiscal year.

Scott Anderson, MO–15 Soil Data Quality Specialist, will continue to serve as database steward for MO–15 NASIS user groups. He will maintain the NASIS user group assignments as recommended by the MLRA Soil Survey Leaders and State Soil Scientists. The nine MLRA Soil Survey Leaders, in consultation with the State Soil Scientist of the host state, will approve the addition or subtraction of soil scientists from their NASIS user group.

In closing, I think we have done a good job of communicating our goals with all levels of management and with implementing the "MO–15 Soil Survey MLRA Update Guidance Document and Operating Procedures" for starting the development of the long range plans and project plans for our nine MLRA soil survey offices.

Again, thank you for all your support. ■

—Charles

## Soil Geomorphology Institute

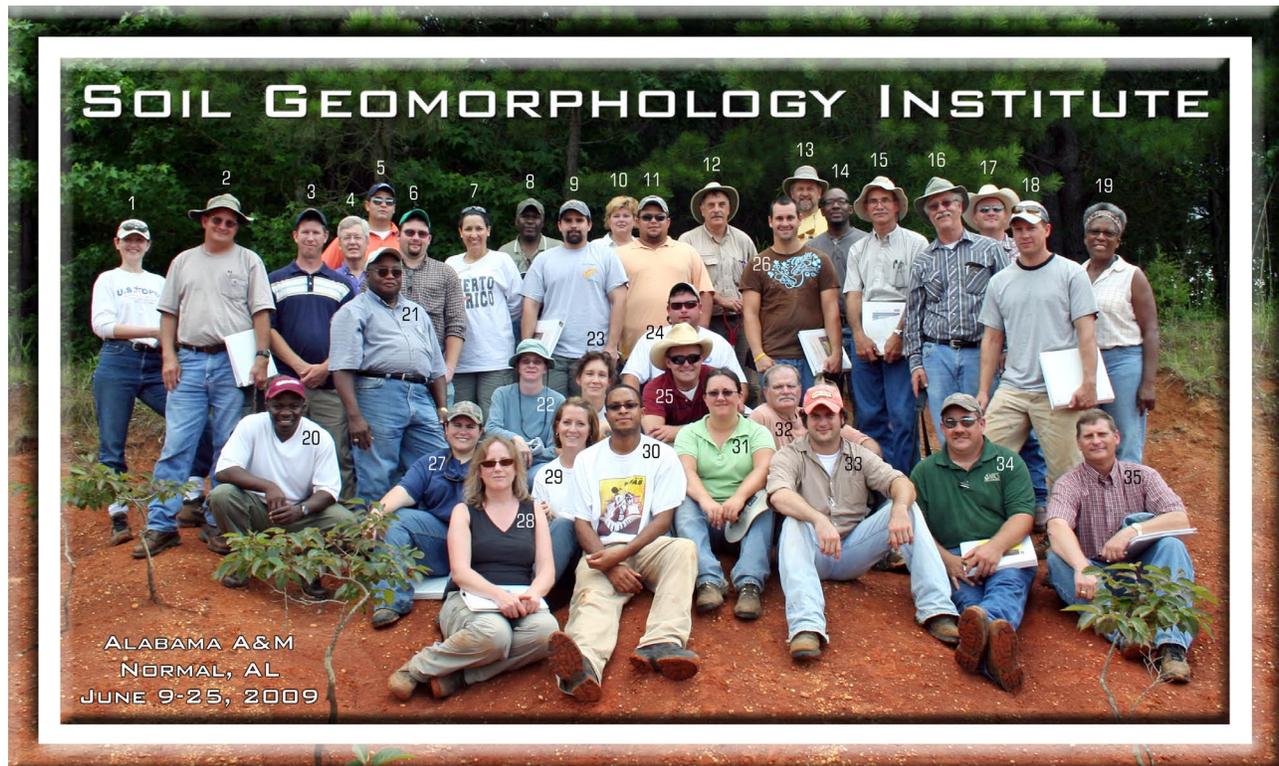
By Sylvia A. Long, Soil Scientist, MLRA SSO 15-4

How does the soil scientist approach discovery and inquiry for the purpose of gathering MLRA soil survey data? As historical philosopher Søren Kierkegaard once said, "Life can only be understood backwards, but it can only be lived forwards." The practical application of this thought was evident at the recent NRCS Soil Geomorphology Institute (SGI) course, which was held at Alabama A&M University in Huntsville, Alabama. The course systematically incorporated key principles to interpret and identify the history of the soil and water on a landscape as it relates to the distinct local associations of soil systems. It provided a thorough, science-based course experience for soil scientists and natural resource scientists. The

four basic SGI principles were geomorphology, stratigraphy, hydrology, and pedology.

The objectives of the Soil Geomorphology Institute were to: (1) use interrelationships of ecological factors to soil geomorphology in preparation of soil survey data; (2) identify soil patterns as controlled by soil landscape hydrology and their relationship to water quality and hydric soils; (3) discuss the spatial distribution and age, both relative and absolute, of geomorphic surfaces and their relationships to landforms, soil processes, soil patterns, and ecological influences in order to produce high quality soils data; (4) identify types of earthen materials, sediment bodies, and stratigraphic relationships as they relate to soil genesis for

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- |                          |                                 |                        |                             |                               |
|--------------------------|---------------------------------|------------------------|-----------------------------|-------------------------------|
| 1 - Maria Nobles (AL)    | 8 - Melvin Simmons (MO)         | 15 - Don Sabo (TX)     | 22 - Audrey Marie Ross (AR) | 29 - Jessica Lene-Jobe (TX)   |
| 2 - Anthony Khiel (TN)   | 9 - Aron Sattler (WV)           | 16 - Gene Fults (OR)   | 23 - Dee Pederson (GA)      | 30 - Chris Davis (ND)         |
| 3 - Neil Sass (IA)       | 10 - Debbie Brasfield (TN)      | 17 - John Sackett (TX) | 24 - David Hargis (TN)      | 31 - Jackie Reed (SC)         |
| 4 - Fred Young (Inst.)   | 11 - Roel Guerra, Jr. (TX)      | 18 - David Kohake (NE) | 25 - Gary Harris (TX)       | 32 - Jim Richardson (Inst.)   |
| 5 - Tyson Morley (OK)    | 12 - Doug Wysocki (Inst.)       | 19 - Sylvia Long (AL)  | 26 - Samuel Rios (PR)       | 33 - Caleb Gulley (SC)        |
| 6 - Thomas Dayberry (TX) | 13 - Phil Schoeneberger (Inst.) | 20 - Monday Mbila (AL) | 27 - Myra Jones (SC)        | 34 - Jeremy Dennis (OK)       |
| 7 - Carmen Santiago (PR) | 14 - Eddie Davis (AL)           | 21 - Levi Steptoe (TX) | 28 - Jane Karinen (MT)      | 35 - Jonathan Wiedenfeld (TX) |

Long, continued from page 3

the development of high quality soils data; (5) create 2-d diagrams and 3-d landscape models to illustrate key processes occurring in any geomorphic environment using tacit knowledge and/or field-gathered documentation; and (6) use the Geomorphic Description System properly in gathering and documenting point data. The principles apply to toposequences, hydrosequences, and soil associations to produce conceptual, visual models for MLRAs. The models are used to improve soil interpretations and communicate soil knowledge.

During the SGI course, participants were challenged with several major assignments, lectures, and field projects. Two modules of the course that piqued my interest were titled “Humdinger” and “GIS Applications in Geomorphology.”

The Humdinger assignment presented a challenge to participants in that we were to use soil morphology to predict landscape hydrology; the rationale being that soil morphology reflects soil processes and water history in a landscape. Participants were expected to visually describe the assigned soil and explain its development, focusing on specific dynamics where a “white Bk horizon is protodolomite” and noting the “Btn horizon is classified as Sturim: Coarse-loamy, mixed, superactive, frigid Typic Natraquoll.”

The process for completion of the assignment required: (1) examination of soil morphology (infer soil forming processes, water flow directions, and seasonal water variation); (2) evaluation for presence of salts (evaporites) and soil mineral precipitates, specifically manganese and iron (infer soil forming processes, water flow directions, and seasonal water variation); (3) evaluation of soil mineralogy (infer soil forming processes, water flow directions, and seasonal water variation); and (4) utilize 1, 2, and 3 above to interpret temporal and spatial soil-water distribution (hydrology) for the soil landscape. Participants were expected to use appropriate descriptions and explanations for:

- Matric flow: (a) wet to dry, (b) frost;
- Saturated flow above and below water table;
- Formation of a Bt, Btn, or Bk horizon in terms of hydrology;
- Dispersion, translocation, and reverse translocation;
- Braided streams and terraces;
- Evaporite sequences—alkaline branch;
- Redoximorphic features;
- Osmotic flow and reflow;
- The “Most Important Line;”
- Multiple working hypotheses;
- Phreatophyte;
- Meandering streams;
- Recharge, flow through, and discharge;
- Arid, semi-arid, sub-humid, humid states;
- Mass wastage;
- Erosivity and erodibility;
- Saltation, suspension, and traction;
- Hjulstrom’s diagram;
- Back-wearing, super-position, cross-cutting, and rule of ascending slopes;
- Geomorphic surfaces;
- Faceted (stepped) surfaces; and
- Cohesion and internal friction.

As a participant, I had not previously incorporated many of the concepts before. I experienced that when appropriately integrated, they provided key, science-based information to develop a visual description and explanation of soil development.

A key module for many participants in the course was “GIS Applications in Geomorphology.” The objectives were to: (1) understand how soil can be viewed as both a “particulate” universe and as a “continuous” universe; (2) be able to apply these views, conceptually, to geomorphology, hydrogeology, and soil survey; (3) understand how a GIS can apply these views quantitatively to create spatial models of surfaces; (4) understand how GIS-based landscape modeling techniques can be used to model the distribution of landscape components that predict patterns of soil variability; (5) understand some basic techniques used in GIS modeling for soil and landscape position, including Boolean logic and fuzzy-set logic; (6) be able to construct

simple Boolean logic models and fuzzy-set logic models; (7) understand how landscape modeling techniques are being used in production settings; (8) be aware of survey areas that are pioneering the use of these techniques; and (9) understand what software is available to soil survey offices.

The participants and instructors engaged in discussion of how technology and available data enhanced visualization and modeling capabilities in soil survey. Added discussion entailed how we are being confronted with views and uses of soil data and information that are different from historical perspectives. The discussion also centered on how a fundamental conceptual foundation aids in interpretation and application of GIS-based models across diverse settings. The discussion included modeling landscape position and soil patterns through GIS and the need to translate our mental models into digital models. The building blocks of these digital models are called “Environmental Covariates.” The term is commonly used in the world of digital soil modeling and refers to the individual inputs into digital soil models.

The SGI was an intensive 3-week training course. It included 40 course modules, 8 field team projects and exercises, 8 instructors, 30 participants, and 1 final examination. Overall, the Soil Geomorphology Institute provided me with expanded field skills for discovery and inquiry in soil survey. The skills included integration of soil and water history with conceptual approaches to the different geomorphic environments for soil survey data development, evaluation, and delivery.

Charles Love, Alabama State Soil Scientist and MO Leader, commented that the current Soil Geomorphology Institute is one of the most outstanding training courses provided by the NSSC and NEDC. He thanked Dr. Bill Puckett, Alabama State Conservationist, and the leadership at Alabama A&M University for their excellent support for the course. He also expressed appreciation to the many people who helped in preparations for the SGI, including MLRA Soil Survey Team 18-3; Dr. Monday Mbila and other faculty at Alabama A&M

University; Dr. Joey Shaw, Auburn University; and Dr. Phillip Dinterman, Geological Survey of Alabama. ■

## Delaney Johnson Named State Soil Scientist for Mississippi

The MO staff would like to congratulate Delaney on being named State Soil Scientist for Mississippi.

Delaney began his career with NRCS as a student trainee in 1983 at the soil survey office in Andalusia, Alabama. While in Alabama, he also worked at Union Springs, Pell City, and Butler. Additionally, he served on a 4 month mapping detail in Olivia, Minnesota.

In Mississippi, he has been the Soil Survey Project Leader for the Jackson County Soil Survey Office, soil scientist with the Mississippi Delta Regional Wetlands Team, and soil scientist on the state office staff. Delaney is a 1983 graduate of Alabama A&M University, Normal, Alabama, with a bachelor's degree in soil science. ■



*Delaney Johnson, Mississippi State Soil Scientist.*

## Sharing Carefully

By Aaron Achen, Editor, MO-15

### Sharing

You probably already know that the MO SharePoint site is great for sharing finished documents. The site can handle files that are five times larger than what our e-mail system can send. But did you know that the site is even better for sharing works-in-progress? By placing a document in the Internal Documents library, you and all of your collaborators can work on a single file. At the MO, we recently used the site to collaborate on our annual business plan, and the site vastly simplified the compilation of the plan.

If you have a Word document that only needs to be reviewed by a single person, you don't need SharePoint. You can simply turn on the "Track Changes" option in your document and e-mail the document to your reviewer. (A 30 to 45 minute training session on tracking changes in Word 2003 is available at <http://office.microsoft.com/training/training.aspx?AssetID=RC011600131033&pid=CR061958171033>.) The reviewer marks up the document with recommended changes, inserts comments, and e-mails the document back. You can then rapidly accept or reject the changes.

Reviews become more complicated if you need input from several people; for example, if you're putting together an annual plan of operations or a complex technical document. If you e-mail a draft to several people, you end up cutting and pasting from several replies. Keeping track of which changes have been incorporated can become cumbersome. More importantly, the reviewers don't get to see each other's input unless you send out revised drafts.

SharePoint can provide an elegant solution to the problems associated with producing a document with multiple reviewers. Placing your document on SharePoint allows the reviewers to all work on the same file, thus eliminating the problem of compiling from multiple sources. Also, the reviewers can see each other's

comments in an iterative manner. They can make comments back and forth and can make improvements by successive approximation. The single-source document can also save time by eliminating the need for more than one reviewer to point out the same error.

### Carefully

There is, however, a potential problem to using SharePoint to collaborate on a document. It is possible for two reviewers to work on the same file at the exact same time. If this happens, the work of one person can be overwritten by the other.

Fortunately, a simple solution exists for this problem. All you need to do is to check out the document when you are making changes. "Checking out" the document is another way of saying "locking the file so no one else can change it." Several sources are available for learning how to check out documents (and how to check them back in).

1. In the upper right corner of the [SharePoint site](#) is a question mark in a blue circle. Click on it for help files. Type "Check out" in the search box for articles on file check out.
2. On the right side of the SharePoint homepage is a list of links. Click on "[Getting Started with SharePoint](#)" for a Web site that provides an overview of SharePoint's capabilities. Type "Check out" in the search box for relevant articles.
3. In the Internal Documents library is a folder titled "About SharePoint." It contains directions on how to use the site. One of the files, [How2Check-Out-In.pdf](#), describes how to check files out and in using Microsoft Word.
4. [AgLearn](#) has various courses about SharePoint. Speak with your supervisor about taking one or more. "Getting Started with Windows SharePoint Services 3.0" is a good course for the SharePoint novice.
5. Last, but hopefully not least, you can contact me. The MO business plan indicates that it's my responsibility to help with the site. You can send me questions at [Aaron.Achen@al.usda.gov](mailto:Aaron.Achen@al.usda.gov). If you don't find help files to be helpful and you're not a fan of e-mail, give me a call. I'll be glad to help. ■

## MLRA Staff Develop Soil Monolith For George Washington Carver Museum

By Alice Love, Agricultural Outreach Liaison, NRCS, Auburn, AL

Dr. Walter Hill, Dean of Tuskegee University's College Of Agricultural, Environmental and Natural Sciences, envisioned showcasing the works of Dr. George Washington Carver. This goal has been proudly demonstrated in the George Washington Carver Museum located on the campus of Tuskegee University.

Alabama NRCS State Soil Scientist Charles Love, along with Project Leaders Lawrence McGhee and James Mason, met with Dr. Hill to share visions of capturing Dr. Carver's contributions to soil science, studies, and activities through a soil exhibit.

In viewing Dr. Carver's work on "Paint Pigments From Alabama Clay," staff members from NRCS Major Land Resources (MLRA) Office 15-4 selected the Hannon series as an excellent soil to demonstrate these contributions because of its high clay content and distinctive color. The Hannon series is dominant on the Tuskegee

*The MLRA staff developed an 8" x 36" soil monolith of the Hannon series to be included as part of the soils exhibit. Visitors will be able to view the actual A, B, and C horizons of the series.*

University campus and within Macon County. Based on the history of the locations where Dr. Carver performed his studies, it proved to be a likely choice to support "Paint Pigments From Alabama Clays." ■



*The MLRA staff chose the Hannon series to represent Dr. George Washington Carver's work on "Paint Pigments from Alabama Clay."*

## NASIS 6.0 Is Coming...Soon

Excerpted from National Bulletin 430-10-1

NASIS 6.0 is a software application for developing, storing, and managing tabular data and information for the soil survey program. Version 6.0 of NASIS is a complete redesign of the application. It includes most of the functionality of NASIS 5.4 and allows the user to:

- Develop data for soil map units and map unit components.
- Input site and Pedon data, either directly or by uploading data from Pedon PC.
- Run reports and interpretations on map unit data.
- Periodically export certified data to the Soil Data Warehouse/Data Mart and Web Soil Survey.
- Manage soil survey projects and record initial mapping and soil survey update activity progress.
- Record Technical Soil Services activities.

The software has been rewritten using the Microsoft.NET operating system and SQL Server database management software to bring it more in line with other NRCS applications. NASIS also is now designed as a client-server application, meaning that the NASIS 6.0 client and SQL Server Express software must be installed on each NASIS user's local computer. An updated user guide and "Getting Started" reference will be supplied.

Deployment of NASIS 6.0 will require:

- Prior to deployment of NASIS 6.0, the NASIS 5.4 database will be frozen from editing so data can be prepared and converted to NASIS 6.0. This freeze should last about 1 week.
- At about the same time, it will be necessary to discontinue exports of new datasets to the Staging Server and Soil Data Warehouse. Datasets existing on the Staging Server at that time will either need to be committed to the Soil Data Warehouse or deleted by the States. Exports to the Staging Server are expected to be down for about 2 weeks.

- It will also be necessary to shut down the Soil Data Viewer (SDV) Rule Manager and Soil Data Mart (SDM) Report Manager Web applications as they are affected by changes in the NASIS software. These applications are likely to be down for about a month.
- The Web version of Soil Survey Schedule, which is not planned to be available with NASIS 6.0, will be permanently deactivated at this time.
- NASIS 6.0 and SQL Server Express software will need to be installed on each NASIS user's local computer.
- After deployment, many State- and MO-specific reports and queries will require editing to account for changes to the database structure. Some differences between INFORMIX and SQL Server will need to be addressed. Some evaluation and property scripts will need adjusting.

**Monday, November 30, 2009**, is the current target date to shut down edits in NASIS 5.4 and exports to the Staging Server and to shut down SDV Rule Manager and SDM Report Manager. The exact date for these actions will not be known until the application has gone through Common Computing Environment (CCE) certification. Specific dates and details will be provided to the States by the Soil Information System coordinator as they become available.

Near the time of deployment, the National Soil Survey Center will be conducting a series of distance learning sessions with all interested NASIS users to familiarize them with the new software and its capabilities. More information on these sessions will be provided later.

Exact details on distribution and availability of the software will be provided to all States and partners closer to the time of actual deployment. It is anticipated that these install packages will be pushed to the affected computers by the Information Technology (IT) Division's SMS process and installed without onsite IT assistance. The install package will work for both NRCS CCE platforms and the non-CCE platforms of our NCSS partners. ■



*The participants at the 2010 Alabama Work Planning Conference.*

## Alabama Hosts Work Planning Conference

By Sarah M. Walker, Secretary (OA), Auburn, AL

Participants gathered in Auburn October 20–21, 2009, for the 2010 Alabama Cooperative Soil Survey Program Work Planning Conference. Representatives from the three university segments (Auburn University, University of Alabama, and Alabama A&M University) participated along with the State Soil and Water Conservation Committee, the U.S. Forest Service, other state and federal agencies, and NRCS employees. Perry Oakes, State Conservation Engineer, welcomed the participants to Alabama and the conference on behalf of Dr. William (Bill) Puckett, State Conservationist.

Charles Love, State Soil Scientist, gave an overview of the Alabama soils program and discussed the following topics:

- Completing initial soil mapping on private and Native American lands by FY–2011.
- Implementing new technologies to increase productivity and consistency.
- Expanding technical soil services and interpretations to support Farm Bill programs and Homeland Security plans.

- Starting collection of 2008 NRI data and making final reviews of 2007 NRI data.
- Completing implementation of the MLRA soil survey restructuring plan.

Open discussion was held regarding the future of Cooperative Soil Survey Program special projects. The discussion reflected the theme of the 2009 National Cooperative Soil Survey Work Planning Conference, which was held May 9–15, at Las Cruces, New Mexico. The theme of the conference was “Soil Survey—Ecological Relationships and Soil Change.” Key discussion topics regarding the theme were:

- Carbon data collection to meet the NRCS vision regarding enhanced carbon storage.
- Implementing dynamic soil properties to assess soil functions by MLRA.
- Implementing ecological site descriptions for describing and interpreting ecological sites.

The discussion provided a forum for Alabama cooperators to exchange ideas for supporting these future projects.

MacArthur Harris, Milton Tuck, Johnny Trayvick, and Charles Montgomery received recognition and certificates for mapping 1 million acres during their careers with NRCS.

Thanks to all participants for your support of this year’s conference. ■



*The participants at the MO–15 Regional State Soil Scientists and MLRA Soil Survey Leader's Workshop.*

## **MO–15 Regional State Soil Scientists & MLRA Soil Survey Leader's Workshop**

From June 9th to 11th, the MLRA Region #15 Office hosted a workshop for the MO State Soil Scientists and MLRA Soil Survey Leaders. The workshop was held at Auburn, Alabama. Participants included State Soil Scientists, MLRA Soil Survey Leaders, the MO–15 team, and representatives from National leadership.

The purpose of the workshop was to communicate the MO–15 soil survey implementation plan, including objectives and operating procedures for supporting the MLRA concept for updating and correlating soil surveys throughout the region. The workshop was also intended to allow the State Soil Scientists, MLRA Soil Survey Leaders, and Soil Data Quality Specialists to have a discussion with leaders of the Soil Survey Division, NCGC, NGDC, and NSSC regarding the national perspective on the MLRA soil survey update and maintenance concept. During the discussions, it was stressed that the MO needs to ensure that the centers (NSSC, NCGC, NGDC, etc.) participate as

needed as advisors in the technical team meetings. Center participation is to include reviewing long-range plans and project plans for the MLRA soil survey offices before these plans are submitted to the management team for approval.

More information regarding the workshop is available on the MO–15 SharePoint site in the Open Documents library in the folder titled "09 June Auburn Soils Workshop." ■

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