

**Minutes of NCR-3
Ames, IA
September 22, 2003**

Administrative Adviser:

Dr. Gerald Miller
Associate Dean
Iowa State University
Ames, IA 50011-1050

Chair:

Dr. R. David Hammer
E2423 Engr. Bldg. East
University of Missouri - Columbia.
Columbia, MO 65211

Secretary:

Dr. Cynthia Stiles
433 Soils
1525 Observatory Dr
Madison WI 53706

Members in Attendance:

R. David Hammer - MO, Ken Olson – IL, Bill Zanner – NE, Tom Fenton – IA, Gary Steinhardt – IN, Mickey Ransom – KS, Gerald Miller - IA - Administrative Advisor

Members Absent:

Cynthia Stiles – WI, Neil Smeck – OH, Laurie Osher – ME, Jay Noller – OR, Douglas Malo – SD, David Hopkins – ND, James Bockheim – WI, Jay Bell - MN

Guests:

Russ Kelsea - USDA – NRCS, Ray Knighton - USDA – CSREES

The annual meeting of NCR-3 was held in Ames, IA on September 22, 2003.

The meeting was called to order at 9:00 am by David Hammer.

Minutes from the 2002 meeting were edited and approved. Gary Steinhardt was incorrectly listed as from USDA-NRCS instead of IN.

The agenda prepared by David Hammer was distributed and discussed. Tom Fenton requested an item discussing the United States Consortium of Soil Science Associations.

Committee Reports

Soil Taxonomy Committee - replacement is needed for Jay Bell. Cindy Stiles was nominated and elected. A detailed proposal of Soil Taxonomy has been in circulation since the spring.

Soil Survey Advisory Committee - no report. Moved and approved to dissolve this committee.

Eroded Soils Committee - Tom Fenton reported that attempts to add accelerated erosion as a classification criteria have not been successful. After June 2001 eroded soils no longer have been correlated as taxadjuncts. NC-174 has actively discussed this topic. There was detailed discussion about how accelerated erosion is currently handled in soil survey reports. There was also discussion about how urban erosion is handled in soil survey reports. The suggestion was made to contact John Gailbraith at Virginia Tech to get an update on the status of the International Committee on the Classification of Soils Impacted by Human Activity. Another suggestion was made to contact Carol Franks at the National Soil Survey Center in Lincoln about the mobility of subsurface C. ARS in Mandan is also dealing with soil carbon. The suggestion was also made to ask the State Soil Scientist in Missouri to have transects made across eroded Mollisol landscapes in Missouri so that differences on eroded and depositional surfaces can be documented and compared. There was discussion about the impact of soil carbon at depths below the plow layer on carbon sequestration and global carbon modeling. It was noted that the standard protocol for C sequestration sampling is 0 - 5, 5 - 15, and 15 - 30 cm. For soil survey sampling, we needed to collect more samples from the surface horizon according to these sampling depths. Some of these issues fit with activities in NCR-59. Jerry Miller suggested collaboration with this

committee and reviewing their minutes and objectives. Mickey Ransom suggested including C modeling as an objective for the new NCR-3 proposal. The discussion also concerned the need for cooperation with CASMGS. Moved and seconded to rename the Eroded Soils Committee as the Spatial and Temporal Distribution of Soil Inorganic Carbon Committee. Motion approved unanimously. Ken Olson will chair the committee. Members will be David Hammer, Bill Zanner, and Mickey Ransom.

Precision Farming Committee - no report. Jay Bell had agreed at the 2002 meeting to provide a list of key issues. He will be asked to provide some information on the status of the committee to NCR-3 via e-mail.

Hydric Soils Committee – A methods Manual has been assembled by Jay Bell, and a report on terminology was developed by Don Franzmeier. David Hammer will contact Jay and Don for reports.

Nominating Committee - all officers are now elected for two-year terms. Need a chair of a writing committee. Jerry Miller noted that NCR-3 needs to concentrate on recording our accomplishments. It was agreed to continue our current set of officers for one more year, which follows the strong recommendation of our Administrative Advisor. At next year's meeting, we will vote on whether to continue our current procedure of electing officers.

Old Business

The Regional Soil Map has now been published. It was suggested to publish the map on the NCR-3 website. Electronic copies will be e-mailed to all committee members. David Hammer will print copies for those without easy access to large format printers. Jerry Miller suggested adding to the legend that the map was developed and published by NCR-3, Soil Survey. There was discussion about how the map would be used. Jerry Miller also suggested that we publish the map in a refereed article in Soil Survey Horizons. The article would also include information about the objectives of NCR-3, the reasons for developing the map, and a request for suggestions about how the map should be used. Tom Fenton and David Hammer will work on the article.

Linking state associations - no report from the group chaired by David Hopkins. Tom Fenton reported on the US Consortium of Soil Science Associations. Tom has been working with Jim Culver on this. He passed out a brochure discussion this association. The association has a website that links all of the state associations. Eventually, it will include a listing of professional soil scientists in each state that are members of a state association and whether they are available for private consulting work. Much of this effort is aimed at the professional soil scientist who is not a member of SSSA. There will be a roundtable discussion about this topic on Tuesday evening at the ASA-SSSA meetings in Denver.

New Business

CSREES report (Ray Knighton)

CSREES currently is operating without a budget. Currently a large discrepancy exists between the Senate and House budgets. Ray expects the budget to hold even with the NRI allocations. The program announcement should be out in the next few weeks with major changes in NRI. Air quality will be a new program in NRI. New authority will be given in 2003 for CSREES to conduct integrative activities, and most programs in CSREES will have integrative components. An effort will be made to increase the award size because of the emphasis on integration. This will result in fewer but larger awards. There will be a trend to focus on more specific topics with focus on mission - linked research with applied applications. A strong effort is being made to strengthen cooperation between USDA and NASA in:

- Air quality
- Water management
- Carbon management
- Invasive species
- Efficient agriculture

USDA will be working to fund projects within states on geo-spatial extension. Proposals will be about \$100,000 per year for three years. State will be required to provide the faculty positions germane to geo-spatial analyses. Maury Horton has retired. Ray is working more in air quality. Another person, M. Morant, has been added to the CSREES staff.

USDA - NRCS report (Russ Kelsea)

Mike Golden is the new Director of Soil Survey. A reorganization is underway within NRCS, but this will not effect the state or MO levels of operation. A proposed framework plan has been released, but final details are not yet available (see <http://www.nrcs.usda.gov/about/reorg>). Under the proposed plan regional offices will be closed and their functions moved to state or national headquarters offices. Functions currently performed at Institutes and by cooperating scientists will be reassigned to three new, regionally located national technical centers. The Soil Survey Division is looking at alternatives to the published soil survey. Current law only requires that the soil survey information be made available in a useful form to the public. New rule changes probably will emerge on the dissemination of soil survey information, and these rules will be written into the code of federal regulations. The new rules will be available for public comment before they are adopted. A memorandum of understanding will be executed for each project soil survey. The plan is to move to a system within which the official source of soil survey information resides in the soils "data warehouse." A certification process would be required when a new or revised set of data are added to the soils data warehouse. More emphasis is being placed on using Technical Notes as a means of documentation. For example, there is a Technical Note on range in characteristics of soil series. The Tech Notes are available at <http://soils.usda.gov/technical> along with other technical references.

Administrative Advisor's Report (Jerry Miller)

Wisconsin told the directors that Birl Lowery is stepping down. Jerry Miller is the replacement, and the transition occurred in August. Directors are considering dropping NCR's committees and renaming them as NCIEG (North Central Information and Exchange Group). They are also considering changing NCT's to NCDC (North Central Development Committee). Items for NCR-3 member to complete:

- Governance
- Renew or die - need a vote
- If renew, need to decide if we want to keep NCR-3 designation
- If renew, need objectives and initial statements of issues - it was actually due on Sept. 15. Need a chair of the writing committee. Need to put up on the website (NIMMS).
- Current report - need minutes that follow the format. Need state reports in the standard format. Need list of accomplishments, and these must be in the minutes.

Jerry passed out information pertaining to the Justification for Retaining Old Project Numbers.

If we don't try to keep our NCR-3 designation, we will use NC_temp1089. Jerry passed out information pertaining to New and Renewal Approval Process for NCRA Projects.

It was agreed that David Hammer will be the Writing Committee. Drafts of the proposal will be distributed by e-mail to all members for review and input.

Jerry discussed the deadlines. We need to have the objectives and justification finalized in about 10 days. The deadline of December 1 for the proposal is rigid. Minutes must be posted by December 15. NCA committees review projects starting Feb. 15.

Jerry discussed the New and Renewal Project Development and Approval Process.

Jerry discussed the format required for the proposal as outlined in Appendix B. He also reviewed how to complete Appendix E-1. Each member's own administration will need to complete a new Appendix E-1 for NC_temp1089.

It was agreed that we will use MS Word to circulate drafts of the proposal.

We discussed the objectives in our current project and talked about how these should be modified for the new proposal.

We attempted to write objectives. The current project objectives are:

1. Coordinate activities and set priorities among the experiment stations for the NCSSS in the NCR.
2. Identify and prioritize common needs for soil and landscape research by Major Land Resource Areas to foster cooperative research projects and minimize duplication.
3. Provide the scientific foundation for databases needed for soil and landscape interpretations
4. Utilize the regional soil maps as a basis for generation of regional interpretative maps related to selected soil and landscape properties
5. Develop and utilize new models and methods of presenting soil and landscape parameters and data and their relationships with surface and subsurface waters.
6. Evaluate and use appropriate new technologies for characterization of soil properties and their spatial distributions on the landscape.

Much discussion ensued about what kinds of objectives we should pursue and how to document accomplishments. Jerry Miller reminded us several times that documentation of outcomes is essential. He said the accepted outcomes include

1. Publications
2. Workshops
3. Symposia
4. Documented cooperation with other regional committees and other members of NCSS

We agreed that the following issues are keys for our sub-discipline of soil science and fall within the historic and current activities of soil survey:

1. Interpretations/uses of soils information
2. Water quality – surface waters and the vadose zone
3. Soil organic carbon

We listed what we perceive to be the most important problems facing our sub-discipline of soil science and soil survey activities:

1. The standard soil survey has limitations for uses at different scales and applications.
2. Many users lack the skills to understand the potentials, limitations and applications of soil surveys and soil data bases.
3. Existing interpretive recommendations are qualitative and are too general or vague for the kinds of site-specific applications many users have.
4. The conversion of our data and maps to electronic media brings information to a wider audience of uneducated users, many of whom assume that anything that comes from a computer is fact.

It was agreed to that we should concentrate on developing broad objectives that we could easily document outcomes for over the next three years. During the ensuing discussions, several key ideas emerged, but the members did not commit them to objective form. Among these ideas were:

1. Developing web-based data files and interpretive files.
2. Addressing the issue of scales of soil attributes across temporal and spatial variances for land uses and interpretations.
3. The need to interact with users and potential users to determine what they need.
4. The need to educate users about what we know and what we can do for them.
5. The need to shift the emphasis of soil survey from classification and mapping to maintenance of map units, maps and data and refinement of those models and data for future interpretations and uses.
6. The need to shift the emphasis of soil survey from classification and mapping to precise interpretations for an increasing variety of users.
7. Integrating GIS and allied technologies in ways that allow us to do most of the above-mentioned things.

Jerry Miller again emphasized that we need to have the list of objectives and statement of issues within the next ten days.

The next NCR-3 meeting will be July 12 - 16 at Purdue University in conjunction with the NC Regional Soil Survey Conference.

Meeting was adjourned at 2:50 p.m.

Approved:

Signed: David Hammer

David Hammer, Chair
NCR-3 Secretary 2003

Signed: Gerald Miller

Gerald Miller
NCR-3 Administrative Advisor 2003

Summary 2003 of State Reports to NCR-3

Illinois

Ken Olson represented the University at soil survey field reviews, participated in conferences at county, state, regional and national levels and provided technical support to the survey. Research focused on soil productivity-soil erosion relationships, effects of conservation tillage on crops and soils, crop yield by soil series, and effects of tillage on soil carbon sequestration.

Indiana

Gary Steinhart recently replaced Don Franzmeier on the committee. The soil survey "once over" has been completed, and updates are being planned and conducted. Research includes: monitoring water table dynamics and effects on redoximorphic features in several toposequences; developing classification systems for reclaimed minesoils; and investigating precision farming, with an emphasis on soil spatial variability related to crop yield. The Indiana program for instructing soils in high schools is being revised, and is a cooperative effort between NRCS and Purdue University.

Iowa

Tom Fenton will retire in the spring of 2004, and a successor has not been identified. The state has been mapped "once over" and updates are being planned and conducted on an MLRA basis. All existing surveys have been digitized. Research focuses on: erosion-productivity dynamics in the context of "soil quality;" use of ground conductive meters for identifying soil attributes; soil water dynamics; wetland restoration; collection of water table information; uses of soil survey and GIS in precision farming applications; use of landscape and soil morphology in on-site waste water systems; soil organic carbon sequestration.

Kansas

Mickey Ransom is engaged in planning for soil survey updates on an MLRA basis, developing a state wide GIS, and bringing the digitized soil data base to NRCS standards. Research includes: dynamics of clay and carbonate accumulation in western Kansas, effects of clay distributions on soil fertility, soil-plant interactions on the Konza Prairie, environmental impacts of a golf course, soil carbon sequestration, and developing an irrigated crop productivity index rating for Kansas soils.

Missouri

David Hammer is a member of the states soil survey steering committee and directs the Soil Characterization Laboratory that supports the survey. He interacts closely with the Center for Agriculture, Resource and Environmental Systems (CARES), which developed the state's soil web site and digitized soil data base. He attends Major Land Resource Area (MLRA) update meetings, though which priorities and techniques are set and developed for the modernization of the soil survey. Research includes soil carbon sequestration studies, urban storm water runoff, effects of timber harvest on site productivity and water quality, and creating artificial soils to reclaim mine sites for cement products.

Nebraska

Bill Zanner is a new representative, succeeding Joe Mason. Bill attends soil survey correlation meetings and is active in organizing and updating the digitized soil data base and gathering new soil data. Research includes effects of establishing forest on prairie soils, investigations of paleosols and geomorphic processes in the Nebraska Sand Hills, investigations of ephemeral rainwater basins, distributions of soil organic carbon and clay in loess deposits and depositional and geomorphic processes in loess.

Ohio

Neil Smeck continues to represent the university at state soil survey activities. Research includes: impacts of accelerated erosion on soil properties and classification – with an impact on forested soils (Alfisols); monitoring water tables to obtain hard data to (1) evaluate estimated values currently available and (2) current endo- epi classifications of representative series; evaluation of criteria for the illitic mineralogy family; dynamics of argillic horizon development in poorly and very poorly drained soils in the NC region.

Wisconsin

Cynthia Styles recently replaced Jim Bockheim on the committee. Research includes: evaluation iron reduction indicators in northern Wisconsin; investigating distributions and effects of dense tills and glacial surfaces; developing a soil-landscape inference model with colleagues in the University of Wisconsin Department of Geography; fragic soil properties and tree throw; developing fine resolution soil property maps; relationships among slope physiography and soil properties; and refining the soil phosphorus index.

Reports were not submitted for Michigan, Minnesota, North Dakota, or South Dakota