

“USDA NRCS Technology News” ~ November 2000

United States Department of Agriculture
Natural Resources Conservation Service
Science and Technology

“USDA NRCS *Technology News*” is a monthly electronic information piece provided by Science and Technology. It is designed to deliver pertinent information to our customers about new technology, products, and services available from the Soil Survey and Resource Assessment and the Science and Technology deputy areas. “USDA NRCS *Technology News*” is in a format that is available to all NRCS field staff.

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MESSAGE FROM THE DEPUTY CHIEFS

Lawrence E. Clark and Maurice J. Mausbach

The latest issue of the Harvard Business Review includes a cartoon showing two people in an office. One is hanging a large sign on the wall that says: "THE TELECOMMUNICATIONS TECHNOLOGY REVOLUTION IS HERE!" The other sits at a desk behind a sign that says: "HUMAN ASSISTANCE STILL AVAILABLE."

The irony of the cartoon probably does not escape any of us. At a time when communications technologies of all kinds are burgeoning, the availability of a live human being with whom to communicate is often sadly missing. Who among us has not railed at the ubiquitous telephone message that urges us to "Press 1 for x" and "Press 2 for y", etc. (A Washington lobbying firm has tried to reduce frustration among callers by offering another option: "Press 7 to hear a duck quack". There is no information as to whether this strategy is successful.) In some of these systems, the caller eventually reaches a real person; other systems are entirely automated with no option at all for personal assistance.

In mid-October, President Bill Clinton directed federal executives to work closely with the private sector to identify spectrum bands that could be used for cutting-edge wireless Internet technologies (GovExec.com, October 16, 2000). These technologies, known as "third-generation" or "3G" technologies, are expected to make it possible to include in one device a cell phone, computer, pager, and radio. Clinton's memorandum predicts that 3G technology could help lower the cost of Internet access, providing benefits to low-income, minority, and rural residents.

The options for an agency like NRCS to serve customers in this environment are an important consideration. Our history is rooted in personal technical assistance to farmers and ranchers. Hugh Hammond Bennett's first conservationists in 1935 were interdisciplinary teams made up of biologists, engineers, soil scientists, hydrologists, social scientists, and others. They met with farmers in "kitchen table" sessions to solve soil conservation problems together. In subsequent years SCS (NRCS) professionals have developed a reputation for technical assistance to farmers and ranchers.

Is it possible for NRCS to retain its reputation for customer service in an era of communications revolution, or must we join the ranks of recorded messages and remote technical assistance? The question poses a tremendous challenge to the Agency, for, along with technological change, limited budgets pose an additional constraint. Yet it is important for us to sustain the same levels of technology as our current customers. Many farmers and ranchers are quite familiar with the potential of communications technology and are utilizing the Internet in their own operations for market reports, agronomic management, and specific advice from colleges and universities.

An alternative for NRCS that combines the best of both communications technology and customer service is an exciting future to contemplate. Suppose, for example, that an NRCS field person could take a compact unit to the field that includes a cell phone,

computer, and pager with access to the Internet. (The private sector calls this "mobile commerce"). He or she might spend much less time in the office and much more time interacting with customers. In fact, most of the technical assistance--erosion calculations, soil surveys information, nutrient management plans, engineering design, GIS--could be carried out right in the field. All necessary data could be accessed from the Internet.

Possibilities exist for NRCS to make use of 3G technologies and other communication technologies to enhance, not substitute for, customer technical assistance in the future. The nation's "Telecommunications Technology Revolution" can become the "Scientific and Technical Assistance Revolution" for NRCS. While 3G technologies remain in the future, less advanced communication technologies that are still not widely used in NRCS can facilitate customer assistance now.

Integrating the existing technologies into our current ways of doing business will require a sense of mission and vision, and creative thinking "out of the box." The challenges are huge and in many ways seem insurmountable. Yet the alternative is to drop out of the technology race and become less and less able to provide relevant technical assistance to a smaller and smaller group of customers. We can probably agree that we would rather keep that sign on our desks--HUMAN ASSISTANCE STILL AVAILABLE (but with some telecommunications support!).

CONSERVATIONIST'S CORNER

Kenneth M. Kaneshiro, State Conservationist, Hawaii

Hawaii is a beautiful, unique, and diverse state. NRCS and their partners in Hawaii are committed to conserving and managing the state's natural resources. It is with these thoughts NRCS Hawaii's vision, "Our People...Our Islands...In Harmony," was formed.

In Hawaii, we value NRCS Institutes and Centers and call upon them for assistance. NRCS Hawaii first utilized the Social Sciences Institute (SSI) when members of the Institute traveled to the island of Molokai to study the sociocultural impacts of the Molokai Agricultural, currently known as Molokai Agricultural Development (MAD). SSI staff collected data from the small population of about 7,000 residents, of which 61 percent live in a rural area. The island residents have little income available to practice intensive agricultural development or natural resource conservation.

The MAD program provides resources for people to become actively involved in improving small land units that can be as little as 5 acres. Participants use the improved land to educate children in the value of farming as a way of life, and the value of respecting the land both as a commodity and as part of a spiritual system.

Several factors contributed to the success of the program. A clear need for conservation and on-farm improvements, conservation planning and education of future generations, projects that have increased personal and family pride, and community members who feel a great deal of "ownership" toward the program all make the program a success.

The MAD program is an excellent example of locally led natural resources conservation. Many positive changes for the land and the people of Molokai have occurred because of joint efforts between the State and Federal agencies and the private landowners.

Another example of assistance that the Social Sciences Institute brings Hawaii is *The Leader in You* satellite seminar training sessions. Hawaii continues to benefit from this excellent series.

Hawaii has utilized the Soil Biology Primer, produced by the Soil Quality Institute, as a reference tool for enhancing the understanding of critical functions performed by soil life. This popular publication is in demand by our teachers, students, farmers, ranchers, and NRCS employees.

The National Water Management Center (NWMC) assisted Hawaii with review and preliminary analyses of two flood problem areas. One was in an operational watershed and the other was in an urban expansion area in Hilo. While the urbanizing Waiakea Watershed was judged economically infeasible, the analysis for the operational Wailuku-Alenaio Watershed identified new alternative configurations that would address the current flood problems.

The NWMC continues to provide assistance for the Wailuku -Alenaio Watershed in FY 2001 with fieldwork by engineers and economists. They provide the engineering alternatives and economic justification for the Supplemental Watershed Plan and Environmental Impact Statement.

Hawaii relies on the Agency's Institutes and Centers to keep us current with up-to-date tools and resource information to meet the conservation needs of our customers. With their assistance and continued production of new products, our task of providing technical assistance to landowners can be accomplished.

NEW PRODUCTS AND SERVICES

Alternative Enterprises and Agritourism Tool Kit Available

The *Alternative Enterprises and Agritourism: Farming for Profit and Sustainability* tool kit, developed by the Resource Economics and Social Sciences Division and the Resource Conservation and Development (RC&D) Division, will be distributed to RC&D offices this month. The tool kit contains a list of publications, books, videos, resource experts, and other information for alternative enterprise and agritourism opportunities. Information about family goal planning, business planning, liability concerns, tourism development, and marketing alternatives are included. It was designed for use by RC&D coordinators, field office staff, farmers, ranchers, entrepreneurs, community based

organizations, and rural community leaders. The tool kit is a source of fact sheets, success stories, and alternative enterprise natural resources assessment ideas.

Others interested may obtain the tool kit, or individual portions of it, by contacting James Maetzold.

For more information, contact:

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TECHNOLOGICAL ADVANCES

Cropflex Program Being Evaluated

The National Water Management Center (NWMC) and the University of Arkansas at Pine Bluff are continuing their partnering effort with an evaluation of CropFlex in 2000 and 2001.

CropFlex is a management system for irrigated crops. The goal of CropFlex is to provide irrigation and fertility management advice to assist farmers in maintaining or increasing yields while minimizing the potential of leaching nitrates.

This year the CropFlex program is being evaluated on corn and soybeans. The fertilizer scheduler module was used to determine required fertilizer rates. Climatic data from the adjacent Soil Climate Analysis Network (SCAN) site is being entered into CropFlex daily to determine irrigation timings. At the end of the season, CropFlex will provide a brief leaching analysis. Yield results from the CropFlex plots will be compared to the yield results of plots managed by a human expert. A webpage documenting the progress of the CropFlex evaluation can be viewed at <http://wmc.ar.nrcs.usda.gov/cropflex.dir>.

To download CropFlex:

<http://www.wcc.nrcs.usda.gov/water/quality/common/wqmod.html>

For more information, contact:

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TECHNOLOGY TRANSFER

Keys to Soil Taxonomy Translated

Keys to Soil Taxonomy was recently translated into Indonesian. Soil taxonomy is an international standard used for classifying soils for the purpose of making and interpreting soil surveys. The National Soil Survey Center (NSSC) is responsible for maintaining *Keys to Soil Taxonomy*, and it is available in 12 different languages. Because it is used around the world, NSSC anticipates the need to translate the document into more languages in the future.

For more information, contact:

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WEB BASED TECHNOLOGY

Alternative Enterprise and Agritourism Web Site Under Development

An alternative enterprise and agritourism web site developed by the Resource Economics and Social Sciences Division will be available this month. The web site address is <http://www.nhq.nrcs.usda.gov/RESS/econ/ressd.htm>. The new site will include materials from the *Alternative Enterprises and Agritourism: Farming for Profit and Sustainability* tool kit. (See related story in New Products and Services). Links to other web sites will also be available.

For more information, contact:

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Field Office Workload Reduction Tools Web Site Created

A new web site, Field Office Workload Reduction (FOWR) Tools, has been developed. Forty-five software packages have been posted on the web site. Most of the field office tools are simple spreadsheet programs developed by field office personnel for use within

their work area. The objective is to make the tools available for evaluation and discretionary use at all field offices.

The new web site will soon be displayed on the Science and Technology Homepage. You can access the web site at: <http://www.info.usda.gov/NRCS/SandT/>.

Although each item is Common Computing Environment (CCE) compliant, users should be cautious and not assume the software is technically correct for their location. The tools, designed by field staffs, reduce paperwork and improve efficiency in program administration.

If you have a tool to contribute, or know of one that will benefit your peers, please e-mail a message using the feedback function of the web site. You will receive a reply that includes instructions for submission of candidate software packages. Software contributors are not expected to provide support unless the program is science based and requires technical support and maintenance. FOWR was developed in response to the Chief's Workload Reduction, Issue #8.

For more information, contact:

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New Version of PLANTS Available

PLANTS 3.1 has been updated with the addition of new capabilities. There is a new server, making response time faster. The National Plant Data Center and the plant materials discipline have cooperated to bring you a Plant Fact Sheet and Plant Guide module that provides direct access to Word and PDF documents for all of the species covered. Later this fall 100 new plant guides will be uploaded.

An advanced search capability permits users to query the entire PLANTS data set of 33,000 species and the plant characteristic data for the 2,000 principal conservation species in PLANTS. For example, users can request a list of all U.S. native trees in Utah, or a list of conservation grasses grown in Kansas that tolerate saline soils. Users are encouraged to provide feedback to the center about how they utilized the site and how it might be improved.

Other improvements coming this fall include revised and expanded links, a hierarchy report, and additional images. Check out PLANTS for what is new:
www.plants.usda.gov.

For more information, contact:

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GLTIFORUM List Server Open

The GLTIFORUM list server is a quick and easy way to distribute information, ask questions, provide answers, and discuss current issues. The GLTIFORUM is open, and subscribers are welcome.

The Grazing Lands Technology Institute's list server, GLTIFORUM, includes 190 grazing land specialists named in the Grazing Lands Personnel Directory, as well as other interested parties.

Anyone on the list may send a message by addressing his or her e-mail message to the GLTIFORUM. List members can reply by addressing their message back to the GLTIFORUM.

To subscribe to the GLTIFORUM, e-mail: majordomo@ftw.nrcs.usda.gov. Leave the subject line blank. In the body of the message type:
subscribe gltiforum <your e-mail address>

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TRAINING

National Emergency Watershed Protection Program Training Available

The NRCS National Emergency Watershed Protection Program (EWP), which provides public support by alleviating sudden watershed impairments that threaten life or property, is being expanded and improved. Program activities are activated after natural disasters that leave destruction in their wake.

Six regional workshops were held for NRCS personnel and partners to provide awareness of program changes. Ron Page, national EWP program coordinator, and the Disaster Assistance Recovery Teams (DART) led the sessions. Training topics covered such changes as the new *urgent and compelling* designation, flood plain easement purchases, application of green engineering, new cost share rates, and other important factors.

DART members are on call to states that require EWP training, consultation on development of Emergency Recovery Plans, and setting up an EWP center. Concurrent with this activity is the ongoing development of the EWP Programmatic Environmental Impact Statement, new Codified Rules, an EWP policy manual, and an EWP handbook.

For more information, contact:

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Fluvial Geomorphology Workshops Held

Lyle Steffen, geologist at the National Soil Survey Center, was the principle instructor at fluvial geomorphology workshops conducted in Nevada and South Dakota. Participants learned stream dynamics, stream classification, and problems and solutions related to stream classification. The classes were well attended by representatives of the Bureau of Indian Affairs, NRCS, the Paiute and Washoe Tribes in Nevada, and members of three Native American tribes in South Dakota.

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