THE MAP LEGEND

NMGIC, Inc. PO Box 9445 Albuquerque, NM 87119-9445

http://www.state.nm.us/nmgic

# Displaying Data Spatially Without Major Expense

The world is becoming smaller and people are expecting information faster. The Regulatory Branch of the U.S. Army Corps of Engineers reviews activities that occur in U.S. waters. The public is interested in ensuring that projects in their community have gone through necessry review processes. To help meet these needs, the Albuquerque District Office has developed a web page that displays the locations of actions on a map produced by the TIGER Map Server (TMS). An input form gives users the option of obtaining additional information about a given action.

***How it works:*** The web user is presented with a split screen. The right 80% of the screen displays the map produced by the TMS and its associated zoom-in and zoom-out capability. The user interface provides the ability to not only zoom-in to the view, but also to change the location or remove features from the view. The Army Corps of Engineers provides a front-end page to automatically select a view that includes the county of interest and a list of actions that occured in that county. The left 20% of the screen has a form where the user can enter the 9-digit number of the selected action item. A Common Gateway Interface (CGI), created using a perl script, is used to accept information from the Internet user and query a dozen fields of extracted data from the Corps' Informix database. The results are displayed in the same window. This allows the Corps to provide information from their database without accessing their main database.

***How it was constructed:*** The TIGER Map Server is used to create the spatial representation of the data. It can be given a view area and the name of an ASCII file that contains decimal degree point locations with an attribute, such as the Corps' action number. The TMS uses Census data to produce a map within the view dimensions and plots the action locations with the action number. Each county has a separate ASCII file that contains point locations for that county. These point locations are not static so, using a *C* progam, the data are extracted from the Informix database. Since the data are displayed on a county basis, the view is adjusted to a given county level by defining a point centrally located in the county and the x,y view in decimal degree units.

The URL for TMS is (it must be typed in one long string): *http://tiger.census.gov/cgi-bin/mapbrowse-tbl?lon=-106.643&lat=35.143&wid=1.1&ht=.5&murl=http://www.spa.usace.army.mil/reg/mappts/Bernalillo-NM.* The latitude and longitude values identify a central point in Bernalillo County, and the width and height values identify the entire view, centered on the latitude and longitude points. The *murl* is the URL of the file that contains the list (ASCII file) of points to plot on the view. TMS retrieves this file from the Corps' server. The file format contains the latitude and longitude which are separated by a

*(Continued on page 4)*

# NMGIC Has a New Mailing Address!

The NMGIC Board of Directors recently voted to obtain a permanent mailing address for the Council. A post office box has been rented at the U.S. Post Office near the Albuquerque International Airport. The new address is:

New Mexico Geographic Information Council, Inc.
P.O. Box 9445
Albuquerque, NM 87119-9445

Please direct all correspondence, including membership dues, to this address.

## Inside This Issue

# From the President

It's summer, the time when most of us think of vacations and "fun in the sun." I have also thought ...and thought ....and thought about the words of wisdom that I would like to share with the membership. My mind seems to have gone on summer vacation too (of course those of you who know me well, are not expecting any words of wisdom). On a more serious note, the year 2000 is rapidly approaching. For many of us the *Year 2000 Issue*, also known as *Y2K*, is becoming one of our primary concerns. It seems that everywhere you turn, Y2K is there. You hear about it in the news in terms of the stock market and banking. You see it in magazines such as *Aviation Week and Space Technology*, where articles are talking about possible consequences in the airline industry. And, you certainly have heard about Y2K if your work involves using computers, such as in GIS, GPS, and image processing.

Just when you think you have all your Y2K problems well in hand, something else comes up. Assuring that your GIS is Y2K compliant may be the easiet issue to take care of. Then of course there is the small problem with the GPS receivers that will occur at midnight August 21-22, 1999. More information on the GPS receiver Y2K issue can be found at the following website: *http://www.laafb.af.mil/SMC/CZ/homepage/y2000/ysk/*.

Oh, and do you have one of those vehicles that won't start on the magic day? Or, maybe a phone system that will go haywire? Or, perhaps a pager or FAX machine that will die a silent death on January 1, 2000? I could go on and on....catch the right person and they *will*....trust me. What about your VCR?...sorry, I just had to throw in one last thing! It seems as if the potential for Y2K problems is everywhere.

Denise Bleakly has assembled some website references on the Y2K problem in her *Cool Internet Sites* column (see page 11 of this issue of *The Map Legend*).

Well, so much for my words of wisdom to help guide you through the summer. But, I bet you will have to check on your VCR now. Don't sweat the Y2K thing too much...after all, your alarm probably won't wake you up for all the fun anyway! I hope everyone is having a great summer (now that I have given you some things to worry about). See you at the Fall meeting.

*Rich Friedman, President*

## ESRI Training Classes in New Mexico (Albuquerque)

| | |
|---|---|
| Sept 14-18 | ARC Network/ARC TIN/ ArcStorm/ ARC COGO/ArcScan |
| Sept 21-25 | Introduction to ARC/INFO |

All training is given by ESRI-certified instructors. For information on cost and registration, contact ESRI-Denver at 303-449-7779, or see their website at *http://www.esri.com/base/training/training.html*

## Texas Historical Commission Goes Interactive

Tracking the locations of 267,000 historical and archeological sites throughout Texas is a monumental chore, even in a state known for thinking BIG. Yet the Texas Historical Commission (THC) faces this task every day as we strive to preserve the heritage of Texas' early inhabitants.

Information about our cultural resources is scattered across the state. Each museum, university, and agency maintains information about its own particular resources. THC's task is to compile the information from these widely dispersed sites into a single, easily accessible database.

THC's Department of Antiquities Protection is developing the Texas Historical Sites Atlas to inform other state and federal agencies and the public about where the sites are and how to protect them. The Atlas will provide a map-based interface to these data and make selected information widely available over the Internet. Planners, historians, archeologists, educators, and ordinary citizens will have easy access to this historical information.

Construction projects, for example, represent a double-edged sword to the THC. These projects may reveal previously unknown sites, but they can also destroy those sites without careful planning for preservation. State land-use planners will use the Atlas to identify historic or prehistoric site locations early in the infrastructure development process, and modify their projects accordingly.

THC selected Intergraph's GIs product suite to compile the information because it has long been available on Windows NT and fully supports Microsoft's SQL Server database. Each site has a record in the database giving location and identification information. Each record is read directly into MGE, and symbols are generated for different types of sites. Related tables hold more detailed information.

*(Continued on page 6)*

## New Director of USGS is Named

President Clinton announced his intent on July 30, 1998 to nominate Dr. Charles G. Groat to serve as Director of the U.S. Geological Survey.

Dr. Groat, El Paso, Texas, has more than 25 years of experience in the geological field. He is currently Associate Vice President for Research and Sponsored Projects at the University of Texas, El Paso. Since 1995, he has been Professor of Geological Sciences and Director of the Environmental Science and Engineering Ph.D. Program at UTEP. From 1991 to 1995, Dr. Groat was Executive Director of the Center for Coastal, Energy, and Environmental Resources at Louisiana State University. Immediately prior, he served as Executive Director of the American Geological Institute. From 1978 to 1990, he was a Professor at the Department of Geology and Geophysics, Louisiana State University, and Director and State Geologist of the Louisiana Geological Survey, Department of Natural Resources. From 1983 to 1988, he also served as Assistant to the Secretary at the Louisiana DNR. Dr. Groat is a Fellow of the American Association for the Advancement of Science and the Geological Society of America. He is also a member of the National Research Council Board on Earth Science and Resources and the Joint U.S. - Mexico Advisory Committee on Air Quality Improvement.

Dr. Groat received his B.A. in geology at the University of Rochester, an M.S. in geology from the University of Massachusetts, and a Ph.D. in geology from the University of Texas at Austin.

*From U.S. Department of Interior Press Release*

## New Resource Data CDs Available from RGIS

The RGIS *Resource Data* CD ROM has been revised and is being released as Version 2. Some data have been updated and others are new, expanding the CD to two volumes. One of the notable changes is the conversion to decimal degrees (instead of Lambert Conformal Conic). The *General Geology* dataset has been replaced with new data generated for the USGS by the NM Bureau of Mines and Mineral Resources. Other new files include: National Park boundaries, National Forest boundaries for NM and Arizona, school districts, GPS roads for NM, EPA River Reach 3 files by hydrologic units, and 7.5' quad grids for neighboring states. The 1:100,000 scale DLGs have been completed to include the strip of New Mexico between 109° and the state line. The CD set is available from the RGIS Clearinghouse for $60. Check the RGIS website at *http://rgis.unm.edu* for details.

## USGS Middle Rio Grande Basin Study Develops Terrain Data

As part of the USGS Middle Rio Grande Basin (MRGB) Study land surface analysis activities, Rocky Mountain Mapping Center (RMMC) has created five ARC/INFO raster terrain datasets. The reclassified slope raster datasets are intended to be used for identifying lands constrained from future development, as well as lands that are suitable for future urbanization.

The five ARC/INFO grids created from 1:24,000 scale, 30 meter DEM data are:

- MRGBEL (elevation integer grid; 28MB)
- MRGBSR (shaded relief integer grid; 23MB)
- MRGBSL (raw percent slope floating point grid; 191MB)
- MRGBSL5 (reclassified integer grid with five slope ranges; 7MB)
- MRBGSL8 (reclassified integer grid with eight slope ranges, 10MB)

RMMC documented each ARC/INFO grid according to FGDC metadata standards. An associated ASCII file summarizes the metadata in the four INFO metadata tables.

The files *slope_per.cl* and *slope_per.lu* were used to reclassify the raw slope percent values into slope range categories. The *slope_per.cl* remap table documents the MRGBSL5 dataset slope ranges, whereas, the *slope_per.lu* file applies to the MRGBSL8 grid.

Datasets were created under the Data General AViiON DGUX version 5.4R3.10 operating system using ARC/INFO version 7.0.4. However, the geospatial metadata were generated using the DOCUMENT tool in ARC/INFO 7.1.1.

The geographic extent of these data is the entire Middle Rio Grande Basin study area.

All five ARC/INFO grids use the following coordinate system:

PROJECTION UTM
UNITS METERS
ZUNITS METERS
ZONE 13
DATUM NAD83
SPHEROID GRS1980
YSHIFT -3000000

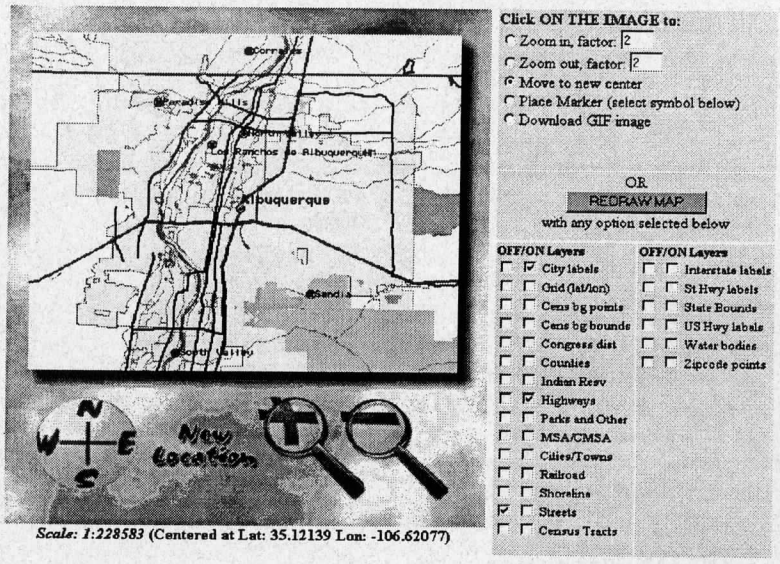
The original 30-meter DEM resolution has been retained by using a 30-meter grid cell size for all five raster datasets.

*Submitted by David Hester*
*USGS, Rocky Mountain Mapping Center*

The Middle Rio Grande Basin Study Terrain Data are available from the RGIS Clearinghouse. Contact the RGIS Clearinghouse at 505-277-3622, ext 231 for details.

comma; followed by a colon and symbol identifier; which is followed by another colon and the attribute (or action number). The Corps uses a black symbol to indicate normal actions and a red symbol to display actions reviewed after construction. TMS has several different symbol designs, colors, and sizes from which to select. The file format looks like this:

-106.64656967, 35.14347814:black5:199400062




TMS displaying a portion of the Albuquerque area.

Information contained in the Corps' database on actions regarding activities occurring in U.S. waters is accessible through a form that is displayed in a frame next to the TMS map (not shown in the above illustration). This frame contains a form that invokes a CGI perl script that checks the accuracy of the user-supplied information and retrieves relevant information. The extracted information is put into files with fixed length records. The CGI script looks for the action number, which is a unique string. The retrieved record is parsed and put in an *html* format and passed back to the browser. Two *C* programs were written to perform the extraction of data from the Corps' Informix database.

When a user selects a county in the Albuquerque District, the *html* file that is read sets the two frames and the percentage of the screen devoted to these frames. The form (on the left part of the screen) is generated by an *html* file that calls the CGI script using the "POST" method. The CGI script and the extracted database information are located on the web server. The right part of the screen contains actions that are occurring at the TMS. The TMS requests a copy of the ASCII file of action numbers from the Albuquerque District web server and generates a map containing the plotted action numbers.

This procedure allows distribution of site specific information to a worldwide audience. The interface to this information is spatially based. Agencies needing to provide information to the public may want to consider an approach similar to the Corps of Engineers. Costs are minimal, if an agency already has a web server that allows CGI processes. The perl interpreter is free.

*Submitted by Louis Clarke*
*U.S. Army Corps of Engineers*

# Ranting and Raving About Commemorative Naming

Commemorative names. You know, the ones we created to honor someone. From Wheeler Peak to Lincoln County to Martin Luther King Jr. Boulevard, New Mexico is filled with commemorative names. I hate them!

Most people who work a lot with names, especially the evaluation of proposed new names and name changes, also hate commemorative names. At any meeting of the U.S. Board on Geographic Names (USBGN), its members try valiantly to exhibit detached objectivity when a commemorative name issue is brought forward, but they don't always succeed. Subtle signs often reveal that they regard commemorative names in the same way cops regard domestic dispute calls.

Make no mistake: disliking commemorative names doesn't mean disliking the persons they're intended to honor. Fray Angelico Chavez long and deservedly will be remembered as one of New Mexico's most distinguished writers and scholars. But I cringed when I received a phone call from a prominent politician seeking, soon after Fray Angelico's death, to name a feature in his honor. "Maybe something in the Pena Blanca area...he did some work there." Fortunately, two things bailed me out. First, it would be hard to find a feature of even modest significance in the Pena Blanca area that didn't already have a local name. Hispanic villagers have lived there a long time, but the Pueblo Indians nearby have lived there even longer and Pueblo Indians tend to name everything. Second, the USBGN recently extended its commemorative name waiting period from one year following the person's death to five years. I had no doubt that five years hence Fray Angelico would be long forgotten by the politician.

No, the dislike for commemorative names has to do with the contrast

*(Continued on page 6)*

# NASA Funds 5-Year Project

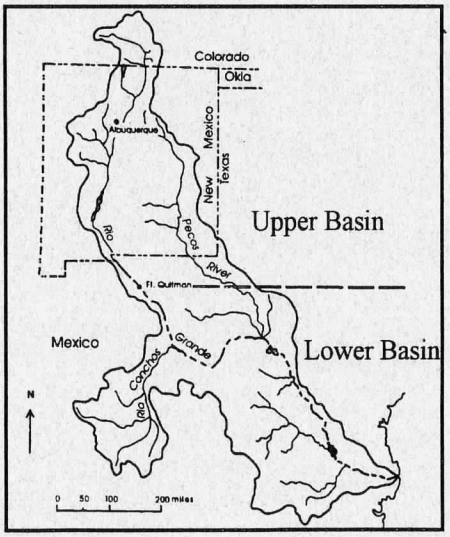
On March 1, NASA began a 5-year cooperative agreement with Earth Data Analysis Center to undertake a regional assessment of the Upper Rio Grande Basin. The aim of *this Earth Science Information Partnership (ESIP)* project is to extend uses of Earth Observing Satellite (EOS-AM1) data to public agencies in the region. Unlike earlier NASA programs, however, the data and image products are to be driven by user-defined needs instead of by what the science and technology communities want to develop. This represents such a major change in outlook for NASA that the program is described as a "working prototype." In addition to EDAC, 23 other organizations around the United States were also awarded ESIP projects. These, together with eight Distributed Active Archive Centers (DAACs) have been organized into a "Working Prototype" Federation whose aim is to link all 32 organizations into an interoperable network to develop and distribute satellite data products over the Internet.

The WP-Federation consists of ESIP-1s, 2s, and 3s. ESIP-1s are the DAACs. They consist mostly of government, or quasi-government agencies that have been operating for several years and have evolved into what NASA refers to as the EOS Distributed Information System (EOSDIS). Their responsibility is to archive and distribute *science* data and information. The ESIP-2s are mainly research universities and government agencies responsible for creating image products that address the U.S. Global Change Research Program (USGCRP). Most of the beautiful images of the globe that show such features as marine productivity, land cover, and ozone holes are developed by this group. The ESIP-3s (of which EDAC is one) consists of universities, *local and regional* government agencies, and private firms. They are responsible for developing innovative, practical applications of Earth science data for multiple users. By linking these organizations into a Federation, NASA is responding to congressional mandates to make the EOS program relevant to everyone, not just the science community.

The abstract for EDAC's involvement in the Federation is reprinted below. NMGIC readers will be kept abreast of developments over the coming years through presentations at technical meetings, updates at NMGIC meetings, and through our ESIP web page (the URL is *http://edacesip.unm.edu*).

**ABSTRACT**

This ESIP-3 will inaugurate a regional assessment of the Upper Rio Grande Basin to determine where EOS-AM1 image and data products can be extended to broader user communities. The approach is to create a regional advisory board from participants in resource management projects that focus on land economics, regional hydrology, and air quality. A prototype application for each focus topic will be demonstrated. The land economics module will address land surface information needs in an area where mandated management responsibilities and ground data collection methods are highly fragmented, and often conflicting. The regional hydrology module will address surface water fluxes and their relationship to ground water recharge in context of EOS and other remote sensor data products; and the air quality module will address mechanisms for integrating ground measurements with a variety of NASA-generated measurements. Earth Data Analysis Center will serve as a bridge between its advisory board and the WP-Federation to define EOS-AM1 products, and then design the delivery systems required to make products functional in customized applications. Tasks in the five-year Cooperative Agreement will culminate in working prototypes for GIS/LIS applications that have EOS-AM1 products designed into them. Access to these products will be through the EOSDIS V0 Gateway, the NSDI clearinghouse node at EDAC, and Internet browsers. Design of the graphical user interfaces that will drive online search and query sessions on the Internet will incorporate a data structure by which climate change research can also be pursued using local and regional data sets. The 5-year goal of the ESIP-3 is to establish a sustainable, university-based outreach program that will extend use of NASA-generated data sets and products in the region. By incorporating EOS technology into its programs, EDAC hopes to expand its established role as a data analyst and information provider in the Southwest.




*Submitted by Stan Morain*
*Earth Data Analysis Center*

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between commemorative enthusiasm being transient and names being permanent. Anyone remember Francis Folsom? Not likely, but everyone in America new her name when she married President Grover Cleveland. That's why a town in northeastern New Mexico bears her name. Actually, New Mexico has relatively few such names compared to most states.

It's different if the person honored was somehow connected with the feature bearing their name. When the Navajos proposed renaming Washington Pass to Narbona, the person they chose to honor was a Navajo leader that lived and died at the pass. Similarly, towns like Grants and Roy, and scores of others in New Mexico, bear the names of local residents. But, I could recite a long list of famous eponyms who never saw the feature named for them. President Zachary Taylor, whose name appears on Mt. Taylor, comes to mind.

Furthermore, commemorative names often replace longstanding local names. When Georgia O'Keefe died, the NMGIC Geographic Names Committee received persistent proposals to rename Cerro Pedernal in her honor. *Pedernal?!* A 1776 map shows the peak with that name! To change the name would be to rewrite history! As well as to affront all the local people who, for generations, have used that name. What's more, Georgia O'Keefe, who respected the local culture, would have opposed the proposal. Happily, the proposal eventually died.

Moreover, commemorative name proposals as often as not divide communities rather than unite them. When a member of the illustrious Barker family proposed renaming a feature in the Sangre de Cristo Mountains to honor Elliott Barker, the GNC received letters complaining that women weren't honored; that other Barker family members weren't honored; that local Hispanics weren't honored, etc. I can imagine how Elliott Barker would have reacted to the *brouhaha* stirred up in his name.

Which leads me to conclude by returning to Fray Angelico. His nephew, the historian Tom Chavez, tells the story about approaching his uncle with a proposal to name something for him (a library, I believe). Fray Angelico was adamantly opposed. "I'm a Franciscan priest. I took vows of poverty and humility. It's against the principles of my order to accept such an honor. I don't want it, and while I'm alive, I won't have it."

*Bob Julyan*
*Chair, Geographic Names Committee*

# Election Results for the NMGIC Board

NMGIC is governed by a nine-member Board of Directors. Each year an election is held to fill either four or five Board positions. This year the election was for five. From a field of 12 candidates, the following people were elected to serve two-year terms:

- Robert Bewley (re-elected)
- Denise Bleakly (re-elected)
- Amy Budge (re-elected)
- Dave McCraw
- Rick Watson (re-elected)


NMGIC's Board of Directors and Committee Chairs. From left to right are: Rick Watson, Dave McCraw, Rich Friedman, Neal Weinberg, Bobby Creel, Denise Bleakly, Bob Bewley, Amy Budge, Bill Stone, Mike Inglis, and Bob Julyan. Not pictured are Committee Chairs Bill Baillargeon and Gar Clarke.

*(Continued from page 2)*
The Atlas will be available for public use in January 1999. Users will connect to the atlas world wide web site and complete a brief online login procedure. Then they will have immediate access to the public data.

The map-based system interface will help people define their search topics. The system will generate a new map of the selected region, plot the locations of all historic sites related to the keywords, and transfer the map to the user's computer for viewing or printing.

THC selected Intergraph's GeoMedia and ActiveCGMTM products to provide geographic queries and dynamic mapping. With ActiveCGM plug-ins for popular web browsers, users will be able to zoom and scroll the retrieved map. A simple mouse click on any of the map sites will display descriptive text and photos of the property.

*By Kevin Jolly*
*Texas Historical Commission*

*Submitted by Shanthi Lindsey*
*Intergraph Corporation*

# NAPA Study Report is Available

The National Academy of Public Administration (NAPA) released a report in January 1998 that must be read by anyone involved in producing or using geographic information. The report, *Geographic Information for the 21st Century: Building a Strategy for the Nation*, was developed by NAPA at the request of BLM, USGS, Forest Service, and the National Ocean Service. A group of panelists including Academy Fellows and experts in the geographic information field began work on the report in late 1996.

The panel was asked to address a variety of issues related to geographic information, including defining the role of geographic information in keeping the U.S. competitive in a global economy; examining the appropriate role of the federal government in civilian surveying, mapping, and other geographic information; examining the effectiveness and possible economic impact of transferring suitable functions to the private sector; and identifying possible opportunities for consolidating and restructuring surveying, mapping, and other geographic information functions for greater economy.

The panel agreed that the National Spatial Data Infrastructure (NSDI) vision should be wholeheartedly supported, and their major finding is that any structural or organization changes which might come about within the federal government should be undertaken with that end in mind. The NSDI vision, as represented in a recent FGDC strategy document, is that current and accurate data will be readily available to contribute locally, nationally, and globally to economic growth, environmental quality and stability, and social progress.

While the NAPA report does include recommendations about restructuring and consolidating federal agencies' mapping functions, the most important recommendations for geographic information professionals are those that advance the development of the NSDI. These included the call to establish, through legislation, a national goal to create and maintain a robust NSDI, and to create a private, nonprofit National Spatial Data Council (NSDC), modelled on the current FGDC and NSDI charters, with appropirate representation by all levels of government and the private sector.

The report compliments the FGDC's progress in bringing NSDI goals to fruition, and suggests that the new NSDC would work in tandem with the FGDC to move NSDI initiatives forward.

The NAPA report was discussed by FGDC stakeholders at their January 13th partnership meeting. According to a memorandum from John Moeller, FGDC staff director, inviting public review and comment on the report, "The general feeling of the group was that the report offered many recommendations and opportunities for furthering the implementation of the NSDI." It also was the feeling of the group that the community should give careful review and consideration to the report and then reach consensus on those recommendations on which they could move forward together. Moeller also cautioned that the type of legislation that may be required to establish the NSDC is difficult to obtain.

At the January partnership meeting, Secretary of the Interior Bruce Babbitt asked the group to look for opportunities to work on areas of agreement and set aside those recommendations dealing with Federal agency reorganization.

The full NAPA report is available from NAPA headquarters for $30. In addition, an informative executive summary can be viewed at NAPA's website (*www.napawash.org/napa/index.html*). Moeller's invitation to review the study, and a template for providing review and comment, are available at FGDC's website at *www.fgdc.gov/NSDI/webversion.html*

*From FGDC Newsletter*
*Spring 1998*

# State Mapping Advisory Committee

The State Mapping Advisory Committee (SMAC) is pleased to report that New Mexico's request for "High Priority Digital Data" from the U.S. Geological Survey was a success. The SMAC coordinated a Federal agency response to a request from the USGS for high priority sites in the state. The Federal agencies, led by Bob Bewley of the BLM, submitted a response in February of this year which incorporated many of the expressed needs of state agencies. The request resulted in $430,000 for mapping projects. Submitting a coordinated response proved to be very successful for the state and will be tried again in the 1999 data request opportunity. More information will be reported about the specific locations and data to be acquired as it is received.

USGS has recently released base cartographic products for the Middle Rio Grande Basin study. These data are the 10 meter digital elevation model (DEMs) for all of the 126 7.5' quadrangles composing the study area. These will be made available through the RGIS Program Clearinghouse as well as the USGS. Look for more information on the RGIS homepage.

*Mike Inglis, Chair*
*State Mapping Advisory Committee*

# Corporate Profiles

| **Environmental Systems Research Institute, Inc.**<br>**4875 Pearl East Circle, Suite 200**<br>**Boulder, CO 80301-6103** | **303-449-7779 (v); 303-449-8830 (f)**<br>***mtaetz@esri.com***<br>***http://www.esri.com*** |
|---|---|

ESRI has been providing Geographic Information System (GIS) software technology and related implementation services to organizations for more than 25 years. Since our pioneering efforts in 1969, ESRI has become the world leader in GIS. The people at ESRI strongly believe that geography connects our world; it fundamentally influences and connects our many cultures, societies, and ways of life. We are fully dedicated to GIS and the numerous applications of GIS technology to help imporve quality of life through analytical decision making and real-world problem solving based on geographically referenced information (i.e., intelligent maps). Simply stated, we believe that ***Geography Matters***.

ESRI has the largest and most diverse GIS user base in New Mexico and worldwide. ESRI offers an evolving family of advanced GIS software products including: ARC/INFO, Spatial Database Engine (SDE), SDE CAD Client, ArcView GIS, MapObjects, Internet Map Server (IMS), ArcExplorer, NetEngine, RouteXpert, PC ARC/INFO, Data Automation Kit (DAK), ArcCAD, Atlas GIS, and BusinessMap. We also offer comprehensive GIS implementation services including training, consulting, and on-going support services. The ESRI Denver Regional Office (Boulder, CO) provides GIS sales and implementation services to local clients in New Mexico, Colorado, Arizona, Utah, and Wyoming. Mark Taetz is the ESRI marketing representative for New Mexico.

ESRI - We are the GIS people with the GIS solutions for your world. ESRI is honored to be the only GIS vendor on New Mexico state contract, and we look forward to the continued opportunity to serve the various needs of the GIS user community in New Mexico. Please contact Mark Taetz and access the ESRI web site at *http://www.esri.com* for more information about ESRI and our GIS products, services, and solutions.

| **Bohannan Huston, Inc.**<br>**Courtyard One**<br>**7500 Jefferson NE** | **1-800-877-5332 (v); 505-823-0892 (f)**<br>***mail@bhinc.com*** |
|---|---|

Bohannan Huston is a multi-discipline consulting surveying, mapping, and engineering firm founded in 1959. Our commitment to leading edge technology and implementing current developments in the mapping sciences keeps us at the forefront of the industry. Inhouse, multi-vendor interactive graphics and CAD systems, along with a comprehensive translator library, allow us to provide digital graphics and attribute data for use on a variety of systems.

In response to the growing need for geographic information among municipalities and Federal and state agencies, we have merged our Photogrammetric and Automated Mapping Technologies Group, specializing in digital photogrammetric services, with our Surveying Technologies Group, to form Spatial Data Technologies. Our Spatial Data Technologies Group provides the following services, plus many others, throughout the United States and Western Europe:

- Large and small LIS/GIS and facility databases
- Digital orthophotography
- Digital mosaicking
- Digital terrain data
- Engineering site and corridor design data
- Graphical and attribute data translations
- GPS real time kinematic and static surveys

Diginetics, our applications software group, supports Spatial Data Technologies with 18 years of focussed computer applications experience in a production environment. This extensive experience led to the development of a comprehensive interactive graphics system, called DIGIMAP, capable of handling very large continuous and contiguous geographic and facilities databases. As a registered Independent Softwawre Developer with Bentley Systems, Inc. for MDL™ applications and with Intergraph Corporation for its civil products, Diginetics develops customized software for a variety of inhouse, private, and government clients. The close relationship between Diginetics and its clients enables rapid prototyping and development of customized applications.

In addition, Bohannan Huston's standing as an Intergraph Solutions Center and Elite Business Partner allows us to offer our clients complete hardware, software, and training solutions.

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Thomas R. Mann & Associates, Inc. is a professional photogrammetric engineering company incorporated within the State of New Mexico operating throughout the southwest and neighboring countries since June 20, 1977. Our staff consists of 20 highly experienced professionals and technicians in the fields of aerial photography, field surveys, stereocompilation of digital data (DTM, String Contours, Planimetric, DEM), computer-aided editing and mapping, digital orthophoto rectifications, photographic reproductions, and scribe and ink drafting.

Thomas R. Mann, President and Chief Executive Officer of the company, is a Registered Professional Engineer within the States of New Mexico, Arizona, Texas, Colorado, Utah, and Wyoming.

It should be noted that Thomas R. Mann & Associates, Inc. enjoys one of the strongest reputations in the southwest for producing not only accurate and complete field surveys, aerial photography, and photogrammetric data, but also for delivering these data either on or ahead of a stipulated time frame. We definitely welcome and encourage our potential clients to check our references thoroughly.

Our basic current in-house capabilities that we offer to our clients are:

- Aerial Photography /GPS Navigation
- Field Surveys, including GPS Dual Frequency Receivers with RTK Capability
- Aerotriangulation / Albany Software
- Stereocompilation / DTM, Contours, Planimetric, DEM
- Cad Digital Editing and Mapping
- Digital Orthophoto Rectification Capabilities
- Photo Reproductions, including Mosaicking, Ratio- Rectifications, and Color Proofing
- Final Drafting by Negative Scribe/Inking Procedures

New Mexico Aerial Surveys, our aerial photography division, is dedicated to acquiring precision aerial photography for clients in the private sector, as well as for city, state, and federal govenment agencies. Photography is acquired using our Turbo-Charged Cessna 206 which carries a Zeiss RMK A 15/23 Precision Aerial Mapping Camera. NMAS uses the Zeiss T-Flight Navigation software in conjunction with a Trimble 4000SSI Dual Frequency Receiver and a Trimble S67-1575-14 Dual Band L1/L2 GPS antenna interfaced with an onboard laptop computer. For details on any of our services, contact Thomas Mann, President.

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**Earth Touch Solutions, LLC**
**8401 Monitor Drive NE**
**Albuquerque, NM 87109-5058**

**505-450-5533 (v); 505-797-2410 (f)**
***earthtouch@earthlink.net***

Earth Touch Solutions, LLC was established to meet growing GIS and GPS needs of businesses throughout New Mexico and the U.S. Our goal is to educate and serve our clients using the latest technology in GIS and GPS.

Our staff have over 15 years combined experience in GIS related services, including:

- Needs Assessment
- Database Integration
- Authorized ESRI Reseller of ArcView GIS, Network Analyst, Spatial Analyst, 3D Analyst, IMS, Business Analyst, PC ArcInfo and MapObjects
- ESRI Software Product Development
- Software Training for ArcView GIS
- DMSC Inc. Mapping Operations Manager (MOM) & BaseInfo Reseller
- PC and UNIX Programming in Multiple Languages
- GPS data collection
- E-911 software and Database Integration
- Internet Map Display and GeoCoding

Earth Touch Solutions, LLC is committed to the successful implementation of New Mexico's E-911 Rural Addressing Grant program. Over the past six months we have been aggressively counselling grant applicants in how they can perform the duties of rural addressing using their employees. We provided free information seminars demonstrating proven rural addressing solutions.

We also offer GIS consulting and software programming We provide services on a task order basis to meet quick turn around requirements in today's fast moving environment.

Earth Touch Solutions is an authorized ESRI software reseller of most desktop software products and the only reseller of Internet mapping software in the state. We provide software quotations for private and federal contractors for items on state contract.

We are proud of our knowledge in the latest software, hardware, training techniques and database packages in today's GIS market. Our work experiences with local and national firms allows us to provide your business with the foresight to be a leader in GIS technology for the next millennium.

Please contact Tim O'Brien at 505-450-5533 or 505-797-2410 for more information.

## FGDC Partnerships and Steering Committee Meeting

On June 18 and 19, 1998 the FGDC held its semi-annual *Partnerships and Steering Committee Meetings*. Nineteen states, including New Mexico, were represented at the meeting. The FGDC Partners, which include FGDC-recognized cooperating state councils (such as NMGIC), the National States Geographic Information Council (NSGIC), the National Association of Counties (NACo), and the National League of Cities, met on Thursday June 18th to discuss issues and organize presentations that would be made the next day at the FGDC Steering Committee meeting, Chaired by Secretary of Interior Bruce Babbitt. Some of the recommendations to the Steering Committee included adoption of the *Content Standard for Digital Geospatial Metadata Version 2*, adoption of the *Geospatial Positioning Accuracy Standards*, support for the *FY2000 Initiative*, and development of an NSDI *Coordination Handbook*. At the Steering Committee meeting on June 19th, Secretary Babbitt officially acknowledged adoption of the two standards.

Mark Schaefer, Department of Interior, brought attention to a bill recently passed by the House of Representatives. The bill, entitled *Collections of Information Antipiracy Act* and known as H.R. 2562, presents issues related to free and open access to information. Comments concerning this bill should be directed to Larry Pettinger at USGS, Reston, VA (email: *lpetting@usgs.gov*). More information on this bill can be found at *ftp://ftp.loc.gov/pub/thomas/cp105/hr525.txt*. A "pro" perspective is presented at *http://www.infoindustry.org/ppgrc/doclib/grdoc017.htm*. A "con" perspective can be found at *http://www.itaa.org/database.htm* and at *http://www.dfc.org/issues/database/database.html*. Full minutes of the Steering Committee meeting can be accessed at FGDC website: *http://www.fgdc.gov/Org/Steer/steer061998.html*

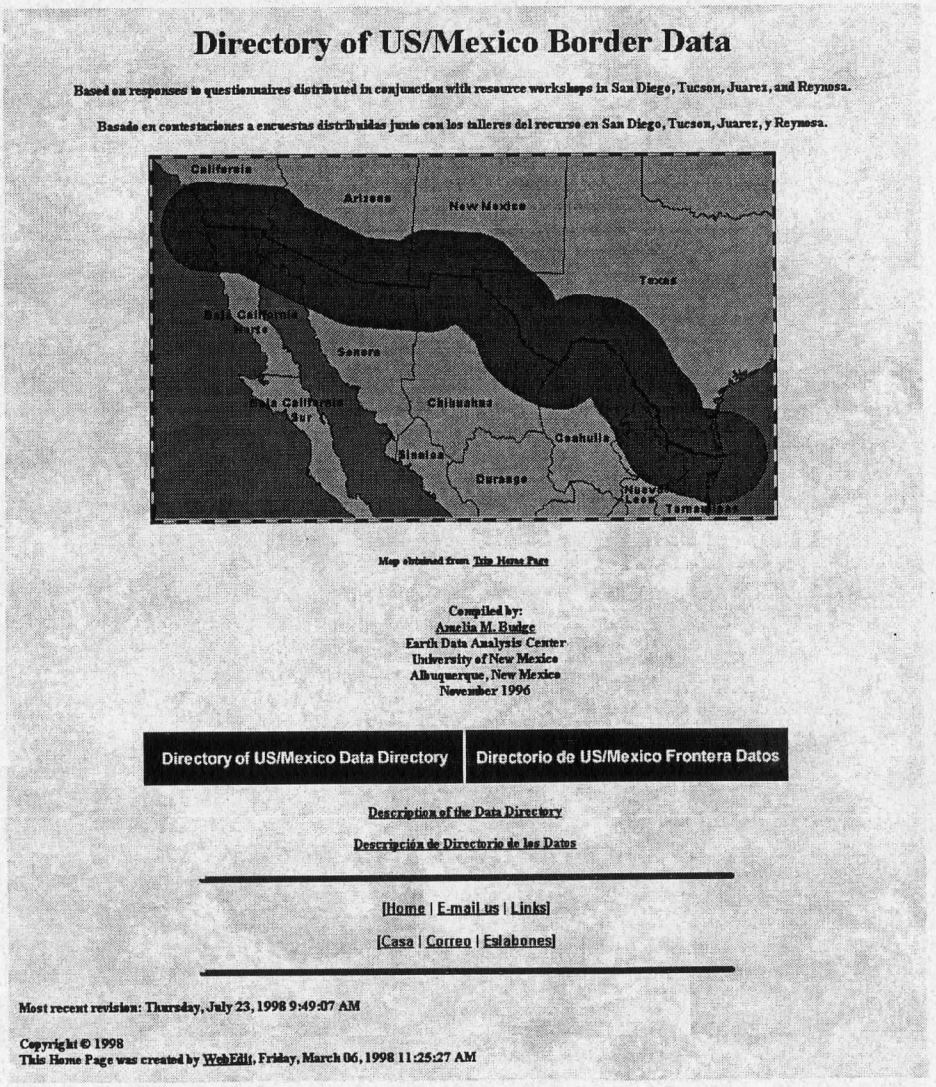
*Submitted by Amy Budge*

## Directory of US/Mexico Border Data Now Available Online

Under a grant from the Environmental Protection Agency (EPA) the Earth Data Analysis Center has completed a project to serve an online directory of geospatial data along both sides of the US/Mexico border. The directory provides contact information for sources of these data, including a brief description of the data. Complete metadata records and digital data are not accessible online through this directory.

The bilingual directory is a compilation of information gathered in 1996 in conjunction with four border workshops conducted by the Transboundary Resource Inventory Program (TRIP) and sponsored by the Federal Geographic Data Committee.

The directory can be accessed via the Internet at *http://epa-dir.unm.edu*



# Cool Internet Web Sites for The Year 2000 Problem

To continue the series of mapping and GPS related web sites, we have found the following sites that may be of interest to the NMGIC membership. As always, if you find a site you think is useful to the membership, please contact Denise Bleakly at 505-284-2535 or email to *drbleak@sandia.gov* to add it to our list. Denise will be compiling a list of NMGIC corporate sponsors for a future issue of *The Map Legend*.....please contact her.

This issue we are focusing on web sites related to the Year 2000 issue and its impacts on spatial data. The following sites were compiled from various Internet links based on Denise's research on the Year 2000 issue for Sandia National Labs.

**What is the Year 2000 problem?** Many computer systems we depend on today could malfunction or produce incorrect results at the turn of the century simply because the date has changed. Problems arise from the way dates are recorded. For the past several decades, systems have typically used two digits to represent the year to conserve electronic data storage space and reduce operating costs. After 1999, this creates an ambiguity for hardware, software, and operating systems that use dates to perform calculations, comparisons, and sorting, and that rely on the date for audit trails, control systems or communciations. The year 1900 becomes indistingishable from 2000, 1901 from 2001, etc.

**Where can I go for more generic information about the Year 2000 issue?** *Year 2000: What's the Real Cost?* by Capers Jones (published in *Datamation*, March 1997) explains the issue and provides web site links for more information. The article can be found at *http://www.datamation.com/PlugIn/workbench/yr2000/stories/realc.htm*

**Is there a problem for GIS and GPS systems?** Possibly. Not all GIS/GPS systems have been tested. Depending on whether or not individuals have modified the core software with macros and tie-in software, there could be a problem. Also, depending on the system configuration, there may be a problem with the operating system. The best advice...*check and verify with your vendors!!!* More information can be found in *Will GIS Face a Year 2000 Problem?* (*GIS World*, July 1997).

**What can I do for my system?** A guidebook, *GAO Year 2000 Computing Crisis: An Assessment Guide*, has been published that "presents a structured approach and a checklist to aid Federal agencies in planning, managing, and evaluating their Year 2000 programs. The guide draws on the work of the CIO Council Subcommittee on Year 2000 and incorporates guidance and practices identified by leading organizations in the information technology industry. The guide describes five phases (supported by program and project management) with each phase representing a major Year 2000 program activity or segment." The guide is available online at *http://www.gao.gov/y2kr.htm*

**Is there a database of information about Software that has been tested?** The Federal Year 2000 Commercial Off-the-Shelf (COTS) Product Database is a searchable database built jointly by the Social Security Administration and the General Services Administration. "It contains agencies' experiences and notation regarding specific products, vendor information, and details of Year 2000 code compliance." The database can be accessed at *http://y2k.policyworks.gov/index.cfm*

GIS and GPS vendors are also providing information on the Year 2000 problem at the following web sites:

- Silicon Graphics *http://www.sgi.com/Technology/year2000/*
- Intergraph *http://www.intergraph.com/year2000/*
- ESRI *http://www.esri.com/y2000/*
- Trimble *http://www.trimble.com*

## *The Map Legend* 1998/99 Publication Schedule and Deadlines

Fall IssueDeadline for articles: September 15, 1998
Publication date: October 15, 1998

Winter IssueDeadline for articles: January 15, 1999
Publication date: February 15, 1999

Spring/Summer IssueDeadline for articles: May 15, 1999
Publication date: June 15, 1999

Editors of *The Map Legend* are looking for articles describing ongoing, recently completed, or recently awarded projects. "Newsy" items on your organziations, accomplishments of your personnel, event/meeting announcements.....are all welcome. Your contributions should be sent to Amy Budge either by fax (505-277-3614) or by email to *abudge@spock.unm.edu* by the deadlines.

# ISO Metadata Standard Review

On April 11, 1994, President Clinton signed into effect Executive Order 12906 "Coordinating Geographic Data Acquisition and Access: The National Spatial Data Infrastructure." Executive Order 12906 (EO12906) describes the National Spatial Data Infrastructure (NSDI) as the technologies, policies, standards, and human resources necessary to acquire, process, store, distribute, and improve the utilization of geospatial data. EO12906 passed the responsibility for coordinating the Federal Governments' development of the NSDI to the Federal Geographic Data Committee (FGDC). The NSDI is a coordinated activity among all sectors. One critical aspect of the NSDI is the creation and availability of a standardized suite of documentation and information which captures and describes the key characteristics of, and information about, the geospatial data. This suite of information is referred to as metadata. In 1994, the FGDC approved the Content Standard for Digital Geospatial Metadata (CSDGM).

Since 1996, the International Organization for Standardization (ISO) Technical Committee 211, project item 15046-15, has been drafting an International Metadata Standard. The FGDC, thru the United States ANSI L1 committee, has actively participated in this project and has had a significant impact on the working drafts of the ISO Metadata Standard. Much of the draft ISO Metadata Standard is closely aligned with the CSDGM. In June 1998, the status of the ISO Metadata Standard progressed from that of a working draft to a committee draft. With the status changed to that of a committee draft, the proposed ISO Metadata Standard can now be reviewed by a select larger geospatial data community.

Numerous organizations plan to use the ISO Metadata Standard once it has been approved by the ISO Standards Committee. To protect the existing metadata investment, it is important to assure that the proposed ISO Metadata Standard allows the maximum compatibility with existing FGDC compliant metadata records. To establish a FGDC position on the ISO Metadata Standard, the FGDC plans to conduct a registered review of the ISO Metadata Standard Committee Draft. If you are interested in helping to establish the FGDC position by reviewing and commenting on the ISO Metadata Standard and/or by helping to adjudicate the comments, the FGDC is interested in hearing from you. **The registered review will close on September 11, 1998.**

To receive a copy of the ISO Metadata Standard, you must register* by contacting the FGDC (mail: FGDC/ISO, USGS, 12201 Sunrise Valley Drive, Mail stop 590, Reston, VA 20192; fax: 703-648-4270) or by registering at the FGDC web site ( see "Register for Review" button above ). For further information on the registered review, please contact the FGDC.

*From FGDC Web Site (http://www.fgdc.gov)*

# Job Board

## *Postings....*

**GIS Administrator**: Dona Ana County is looking for a GIS Administrator in the Planning Department ($24,963 - $32,500 depending on qualifications). Responsibilities include administering, developing, and implementing Dona Ana County's GIS, as well as managing and supervising the rural addressing project and mapping personnel.

Qualifications required: Bachelor's degree in Geography, Cartography, Computer Science, or related field. Minimum of two years experience in developing a GIS database using Oracle or Novell networking. Must have knowledge of supervision and administration. Must have knowledge of GIS principles and techniques; IBM compatible computer systems; and networking using Oracle and Novell. ARC/INFO, GEO/SQL, and AutoCad software applications experience is preferred.

Qualified persons should apply at: Dona Ana County Human Resources Department; 180 W. Amador, Las Cruces, NM 88001. Send resume and request an application form. 505-647-7200.

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**GIS Analyst**: A GIS Analyst is wanted for ARC/INFO mapping production and development. A four-year degree and two years ARC/INFO experience and AML proficiency is required. Avenue and Visual Basic experience is preferred. Excellent benefits, EOE. Contact Michael Wright, Pacific Western Technologices, 8338A Comanche NE, Albuquerque, NM 87110. 505-294-5051, ext 15. Fax: 505-296-2672. Email: mjwright@pwtal.com

## *Seeking Employment.....*

Recent UNM Graduate in Geography (Cum Laude) with additional Masters studies seeks employment in GIS. Experience includes ArcView 3.0a with additional ESRI Training. Has "on-the-job" experience with ARC/INFO 7.1.2 . Interest is in designing and developing GIS databases. Resume and references available upon request. Contact Cliff LeQuieu at *lequieu@Rt66.com*

# 1998 Corporate Sponsors

# Calendar

**NSGIC 8th Annual Conference: Partnerships...Pulling Together**, Wyndham Garden Hotel, Annapolis, MD, September 12-17, 1998. Contact: NSGIC Conference Registrar, 45 Lyme Road, Suite 304, Hanover, NH 03755-1223. Telephone: 603-643-1600. Fax: 603-643-1444. Email: nsgic@aol.com

**GIS for the Oil & Gas Industry Conference**, The Westin Galleria Hotel, Houston, TX, September 28-30, 1998. Contact: Geospatial Information and Technology Association, 14456 East Evans Ave., Aurora, CO 80014. Telephone: 303-337-0513. Fax: 303-337-1001. Email: staff@gita.org Website: *http://www.gita.org*

**NACIS XVIII: The Eighteenth Annual Meeting of the North American Cartographic Information Society**, Hyatt Hotel, Milwaukee, WI, October 7-10, 1998. Contact NACIS, AGS Collection, PO Box 399, Milwaukee, WI 53201. Telephone: 1-800-558-8993. Website: *http://www.nacis.org*

**SWUG '98: Geography Matters**, Southwest Users Group 1998 Annual Conference, Snow King Resort, Jackson, WY, October 12-14, 1998. Contact: Connie Skoetsch, State Engineers Office, Herschler Building 4E, Cheyenne, WY 82002. Telephone: 307-777-5957. Fax: 307-777-5451. Email: cskoet@missc.state.wy.us Website: *http://wgiac.state.wy.us/wgiac/swug.html*

**Health and Welfare Policy in an Age of New Federalism: Opportunities and Challenges for Native Americans**, Doubletree Guest Suites Hotel, Tucson, AZ, October 22-24, 1998. Contact: Udall Center for Studies in Public Policy. Telephone: 520-621-7189. Website: *http://vpr2.admin.arizona.edu/udall_center/*

**Border Solutions: A Partnership for the 21st Century**, The Camino Real Hotel, El Paso, TX, October 28-30, 1998. Contact: Southwest Center for Environmental Research and Policy, PO Box 68662, University of Texas at El Paso, El Paso, TX 79968-9991. Telephone: 915-747-8663.

**GIS/LIS '98 Annual Conference and Exposition**, Fort Worth Convention Center, Ft. Worth TX, November 8-12, 1998. Contact: GIS/LIS '98, 5410 Grosvenor Lane, Suite 100, Bethesda, MD 20814-2122. Telephone: 301-493-0200. Fax: 301-493-8245. Website: *http://www.gislis.org*

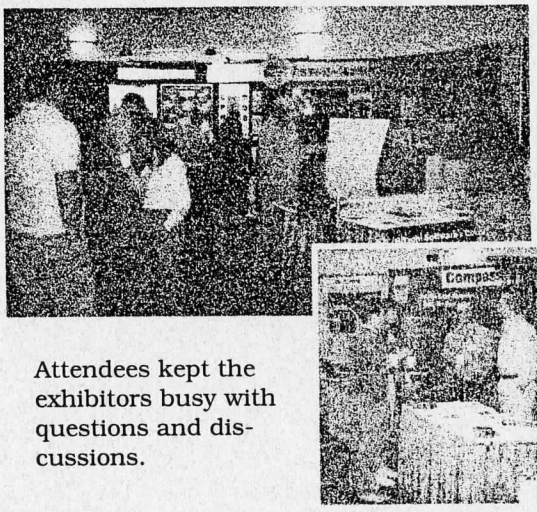
**'98 UGIC Conference**, St. George Holiday Inn, St. George, UT, November 8-10, 1998. Contact: Kevin Sato, Murray City, 4646 S. 500 W., Murray, UT 84123. Telephone: 801-270-2460. Fax: 801-270-2450. Email: ksato@ci.murray.ut.us

**NMGIC Fall Meeting**, UNM Science and Technology Park, 801 University Blvd SE, Albuquerque, NM, November 16, 1998. Contact: Rick Watson, Meetings Coordinator, NMGIC, PO Box 9445, Albuquerque, NM 87119-9445.

**Border Energy Forum V**, Chihuahua, Chih., Mexico, November 16-17, 1998. Contact: Texas General Land Office, Stephen F. Austin Bldg, Rm 620, 1700 N. Congress Ave., Austin, TX 78701-1495. Telephone: 512-463-5039.

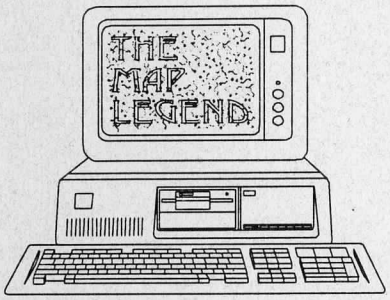
## 1998 Spring Meeting Highlights

NMGIC's Spring meeting on *Online GIS* was a tremendous success, attracting over 100 people. The featured speaker Brandon Plewe, author of *GIS Online: Information Retrieval, Mapping, and the Internet*, introduced the audience to new and exciting prospects for using and accessing GISs through the Internet. Presentations were given also by John Bennett from Intergraph and Mark Taetz from ESRI, describing their tools and techniques for "online GIS users." Seven exhibitors, including Intergraph, ESRI, CompassCom, EarthData International, Bohannan-Huston, Global Systems Modeling, and Earth Touch Solutions, provided information on state-of-the-art technology in GIS and GPS.




Attendees kept the exhibitors busy with questions and discussions.

# THE MAP LEGEND




Editor: Amy Budge

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