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The Map Legend

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

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Digital Geologic Maps and Databases of the New Mexico Bureau of Mines

The New Mexico Bureau of Mines and Mineral Resources was established by the state legislature in 1927 to serve as the state's geological survey. It is a non-regulatory agency charged with conducting applied research and disseminating information on New Mexico's geology, mineral and energy resources, water resources, geologic hazards, environmental problems, and extractive metallurgy. In support of its principal mission for acting as a clearinghouse for geologic information, the Bureau has published over 450 reports, bulletins memoirs, and circulars, as well as some 100 geologic maps. In addition to formal publications, numerous open-file reports and maps are also available to the public at either the Bureau's main office on the campus of *New Mexico Tech (801 Leroy Place, Socorro, NM 87801-4796, 505-835-5420)* or at its Albuquerque branch office, across from UNM (*2808 Central Avenue SE, Albuquerque, NM 87106, 505-255-8005*).

In the late 1990s, the Bureau entered the digital age. Modern digital geologic mapping in the Rio Grande corridor accelerated through the STATEMAP program, a component of the National Cooperative Geologic Mapping Program (NCGMP) administered by the US Geological Survey for state surveys. Congress passed the National Cooperative Geologic Mapping Act in 1992 and reauthorized it in 1997, charging the NCGMP to map the geology of the United States, open-filing at a scale of 1:24,000 and compiling at 1:100,000. Including the 2001-2002 budget, New Mexico now leads the nation in total STATEMAP grant proceeds since the program's initiation at $1,153,040. The Bureau matches the award each year with its own funds. To date, the Bureau has mapped about 50 7.5-minute quads along the Rio Grande from the Taos area to the Socorro area, approximately 3000 square miles. Quads are prioritized based upon their overall importance to society at large; most cover areas undergoing rapid urbanization with known problems in water resources and/or geologic hazards. Each year they are selected by the New Mexico Geologic Mapping Advisory Board, which consists of representatives of state and federal agencies, Indian tribes, universities, and private industry. Many of these geologic quadrangles can be downloaded in PDF format from the Bureau's website (*http://geoinfo.nmt.edu/statemap*). An effort is currently underway to generate ARC/INFO coverages of these quads. The STATEMAP website will indicate when these become available.

Geologic map of the Alameda 1:24,000 quadrangle, Bernalillo and Sandoval Counties, New Mexico (NMBMMR OF-GM-10)

In addition to STATEMAP 7.5-minute geologic quadrangles, other digital geologic data also are available. ARC/INFO coverages of The Geologic Map of New Mexico, the Roswell Resource area, and digital aeromagnetic data north and west of Albuquerque can be downloaded from *http://geoinfo.nmt.edu/publications/maps.* This site links to the Bureau's Internet Map Server as well, which makes available interactive GIS maps with themes in mining districts, subsurface samples, geochronology, and producing oil and gas pools. Digital geologic databases are also available on multi-platform CD-ROM from the Bureau's digital data series. The series currently consists of DDS-DB1, the New Mexico geochronological database and DDS-DB2, the New Mexico petroleum source rock database. For additional information on New Mexico's geology and the Bureau, please visit our website, *http://geoinfo.nmt.edu*.

Inside This Issue

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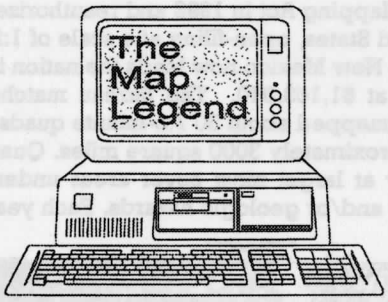

Editor: Amy Budge
Public Relations

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

Fax: 505 277-3614
Email: *abudge@spock.unm.edu*

NMGIC Web Site:

http://nmgic.unm.edu

NMGIC Board of Directors

Dave McCraw, President
NM Bureau of Mines & Mineral Resources
801 Leroy Place
Socorro, NM 87801
Telephone: 505-835-5487
Fax: 505-835-6333
Email: djmc@nmt.edu

Neal Weinberg, Vice-President
Planning/AGIS
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87102
Telephone: 505-924-3807
Fax: 505-924-3339
Email: nweinberg@cabq.gov

Dolores Anderson, Secretary
Architectural Research Consultants, Inc.
220 Gold Ave SW
Albuquerque, NM 87102
Phone: 505-842-1254
Fax: 505-766-9269
Email: dolores_anderson@arcrc.com

Denise Bleakly, Treasurer
Sandia National Laboratories
PO Box 5800, MS 1147
Albuquerque, NM 87185-1147
Phone: 505-284-2535
Fax: 505-284-2616
Email: drbleak@sandia.gov

Bob Bewley, Meetings Coordinator
Bureau of Land Management
P. O. Box 27115
Santa Fe, NM 87502
Telephone: 505-438-7481
Fax: 505-438-7524
Email: bbewley@nm.blm.gov

Amy Budge, Public Relations
Earth Data Analysis Center
University of New Mexico
Bandelier West, Room 111
Albuquerque, NM 87131-6031
Telephone: 505-277-3622, ext 231
Fax: 505-277-3614
Email: abudge@spock.unm.edu

Bobby Creel, Workshop Coordinator
NM Water Resources Research Institute
NM State University
Box 30001, MSC 3167
Las Cruces, NM 88003-8001
Telephone: 505-646-4337
Fax: 505-646-6418
Email: bcreel@wrri.nmsu.edu

Rich Friedman, Elections Coordinator
McKinley County GIS Center
P. O. Box 70
Gallup, NM 87305
Telephone: 505-863-9517
Fax: 505-863-6362
Email: gismc@cia-g.com

Denise Chavez, Speaker Coordinator
6305 Cuesta Pl. NW
Albuquerque, NM 87120
Telephone: 505-362-0011 (mobile)
Email: dgisqueen@yahoo.com

NMGIC Standing Committees

Geographic Names Committee
Bob Julyan, Chair

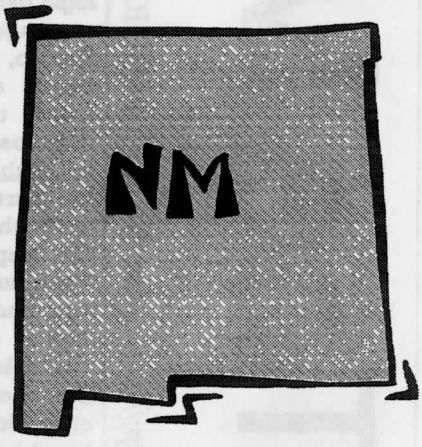
31 Avenida Almendro NE
Albuquerque, NM 87123-9648
Telephone: 505-298-8420
Email: rjulyan@swcp.com

Global Positioning Systems Committee
Bill Stone, Chair

National Geodetic Survey
% Albuquerque Public Works/Survey Section
400 Marquette NW, Room 401
Albuquerque, NM 87102
Telephone: 505-768-3606
Fax: 505-768-3629
Email: stone-ngs@cabq.gov

State Mapping Advisory Committee
Mike Inglis, Chair

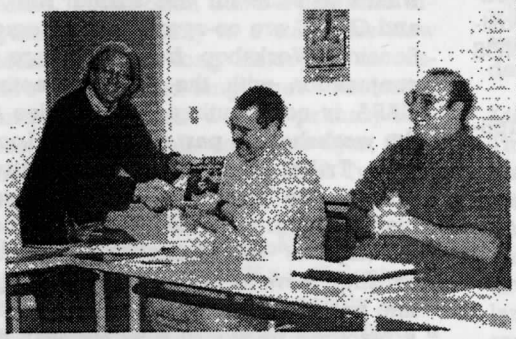
Earth Data Analysis Center
University of New Mexico
Bandelier West, Room 111
Albuquerque, NM 87131-6031
Telephone: 505-277-3622, ext 235
Fax: 505-277-3614
Email: minglis@spock.unm.edu



From the President

Although this winter has been wonderfully wet and white for most of us here in New Mexico, it seems to me at least that we've been so busy we can hardly enjoy it! I mean, wow, my head just spins to think at all we've accomplished or are in the middle of since the last *Map Legend*! At the fascinating Fall Meeting on the Cerro Grande fire we were saddened by the news of Jessie Rossbach's passing. Jessie was a former NMGIC Board Member and a good friend to many of us. Thanks to the efforts of Candace Bogart, we have created the Jessie Rossbach Memorial Scholarship to honor her. As always, I encourage students working with geographical information to apply for the scholarship. In other matters taken up by the NMGIC Board, changes were made to a few of NMGIC's committees. The GIS committee was dissolved. This reflects the continuing evolution of NMGIC, I feel. While it was important in the early years, it is no longer necessary to have a committee promoting GIS in New Mexico—GIS in New Mexico is alive and kicking! Just take a look at what's up with GISAC if you don't believe me. In addition, the Local Government Land Records and the Framework Data committees were formally given a dormant status.

Speaking of GISAC, I've just got to put my two cents in right here. We've established a "GISAC News" column in the *Map Legend* and I don't want to steal Gar Clarke's thunder so I won't bother with the details of the meetings, etc. I just want to provide you with an insider's view of what's up. GISAC was reincarnated in the summer of 1999. A Task Force Committee called by EMNRD Secretary, Jennifer Salisbury, and the Governor's Science Advisor, Paul Cunningham, met twice and made a formal recommendation to the state's Information Technology Commission (ITC) that GISAC be re-established to address state government's growing GIS needs. Rick Koehler of EMNRD stepped up as the first GISAC chair and really got things rolling! In its first year GISAC established an online GIS Inventory of who has what, a committee for developing a Strategic Plan, a joint subcommittee with NMGIC to study GIS Certification, and held monthly informative meetings with presentations. Well as I've said, Rick did a great job and we were in the middle of the "passing of the torch ceremony" last December, handing the reins of chairpersonship over to Gar when in walked Bob Stafford, the state's Chief Information Officer (CIO). He charged GISAC to make recommendations to the ITC for establishing an enterprise GIS (E-GIS) for the state of New Mexico and to formally present these recommendations to the CIO and the ITC at their January meeting. After he left, we all shared a common gulp (!), and realized that our first step was to establish the GIS Strategic Plan before making any E-GIS recommendations. We met 2 more times in December in the thick of the holiday bustle and once in early January, hammering out both the strategic plan, an all-inclusive 3-year plan of action and a list of recommendations to the ITC. Gar presented these to the ITC on January 10th and they were very impressed. As well they should be! Now its up to that able-bodied dynamo of a chairperson to see that GISAC lives up to its self-appointed course of action. As always, GISAC is open to everyone with an interest in GIS, not just state employees. Come check it out (2nd Tuesday of every month in Santa Fe)!



One of the cornerstones of GISAC's plan and recommendations is to establish RGIS (with adequate funding) as the lead Program responsible for project management of GIS for the state. In addition, RGIS should serve as an online statewide GIS clearinghouse, thereby increasing the availability and use of standardized, shared data-

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The Map Legend 2000 Publication Schedule and Deadlines

Spring/ Summer	Deadline for articles: May 15, 2001 Publication date: June 15, 2001
Fall Issue	Deadline for articles: September 15, 2001 Publication date: October 15, 2001
Winter Issue	Deadline for articles: January 15, 2002 Publication date: February 15, 2002

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.

Do you have information about a project, new techniques, GIS and related issues, announcements, news, etc. that you would like published in the Map Legend?

Nationwide Differential GPS Network Update

I have previously written in the *Map Legend* about the development of the Nationwide Differential GPS (NDGPS) network. This network, which is an expansion of the US Coast Guard's (USCG) array of coastal-area GPS broadcast facilities, will provide real-time DGPS corrections supporting few-meter accuracy positioning and navigation capability throughout the nation. NDGPS plans call for the installation of a broadcast beacon at Kirtland Air Force Base in Albuquerque. This facility should provide differential correction coverage throughout most of New Mexico. Although the Kirtland beacon installation schedule has slipped a couple of times during recent months, the latest word from the USCG indicates that we can expect the station to be installed during March.

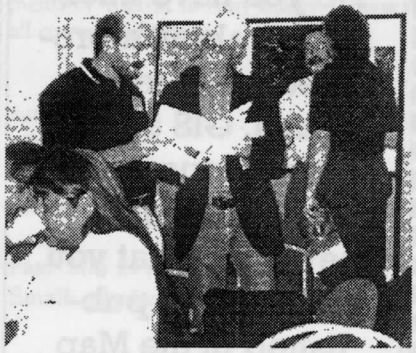
In the meantime, if you have the proper equipment (a differential-capable GPS receiver and a DGPS beacon receiver working in consort - or an integrated, self-contained GPS/beacon unit) and are interested in doing some DGPS positioning, there's no need to wait for the Kirtland beacon installation. Real-time signals are currently being broadcast from nearby stations located in Flagstaff, AZ; Whitney, NE; and Summerfield, TX. I have heard reports of the Whitney signal being received in northeastern NM. Flagstaff provides coverage for most of the western portion of the state and Summerfield (located southwest of Amarillo) serves most of the eastern part of NM. Once Kirtland comes on-line, we should experience statewide dual beacon coverage, as specified in the NDGPS plan. All NDGPS stations also contribute to the National Geodetic Survey's (NGS) nationwide network of Continuously Operating Reference Stations (CORS) that support centimeter-level, post-processed positioning applications. These data can be accessed through the NGS Web site (*www.ngs.noaa.gov*). The GPS picture keeps betting better all the time.

For additional information, contact Bill Stone, National Geodetic Survey, 505-768-3606 or *stone-ngs@cabq.gov*.

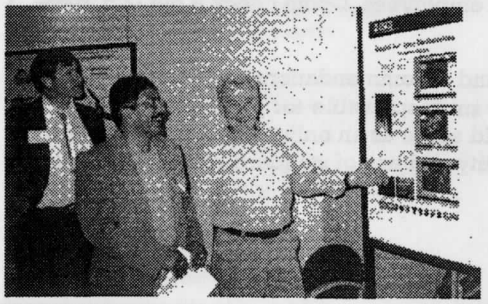
William Stone
Chair, GPS Committee

Moments from NMGIC's Fall 2000 Meeting on the Cerro Grande Fire

Complimentary lunches.... always a big hit!



Sharing ideas and acquiring new information during the poster session.



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sets. Well, Mike Inglis, Amy Budge, and the folks at RGIS have been busy. They now have a clearinghouse prototype on the web. All kinds of digital geospatial data, including DOQQs, now can be accessed with more and more to come. I tell you, this is exciting stuff!

I mentioned the NMGIC/GISAC Joint Subcommittee on GIS Certification above. The subcommittee met several times in the year 2000 and ultimately published a position paper concerning GIS certification, for both GIS data and GIS personnel. Basically there is a national movement afoot leading to certification and it would be a waste of our time to establish a New Mexican certification bureaucracy. The Position Paper is included in this issue of the *Map Legend* on page 8.

Finally, let me give you a heads-up on what's in store for this spring. NMGIC and GISAC are co-sponsoring a Remote Sensing Workshop free of charge in conjunction with the Spring Meeting. NASA is contributing seed monies for the workshop as part of its State, Local, and Tribal Governments Initiative, through the Western Governor's Association Geographic Information Council. Participants will learn about remote sensing, how to integrate and manipulate images in GIS, and come away with a resource packet of New Mexican and other remote sensing data and examples to further examine. As I said, the workshop is being held in conjunction with the Spring Meeting, which will continue with the remote sensing theme. The workshop will be an all day event on Thursday, April 5, the day prior to the Spring Meeting (to be held on April 6th). Like the NMGIC Meetings, lunch will be provided free of charge. To attend the workshop, you must register online at the NMGIC website ahead of time. NO ON-SITE REGISTRATION WILL BE ACCEPTED. The program committee is really working hard to ensure that the workshop will be a big success. Although I shouldn't have to, I do encourage everyone to participate, so go register! Until April then!

David J. McCraw
President

Highlights of the Western States Geographic Names Conference

What could be more appropriate than a names group changing its name? The Western States Geographic Names Conference, which I have attended for many years, now has become the Council of Geographic Names Authorities (COGNA), because membership is now open to all states, not just those in the West (though as of this writing, the eastern states are still sparsely represented).

And at the September 2000 COGNA meeting in St. Louis, the State-Federal Roundtable as always was a hopper for the most difficult and controversial issues, such as:

Restoring historical names. Often a proponent of a name-change cites as a reason, "It was the original, historical name." And often that's a powerful argument, especially in a state like New Mexico, with a long history of successive cultures and languages. Restoring an historical name was the primary reason Fairview returned to Los Ojos, Central became Santa Clara, and Turn reverted to Casa Colorada.

But important as historical authenticity may be, it's not by itself a sufficient reason to change a name, especially as local usage and preference might favor a later name. It's unlikely the residents of Tucumcari would want to return to Six-shooter Siding. Each proposal is considered on its own merits, but because names are dynamic and some names do indeed become outmoded or obsolete, current local usage outweighs historical precedence.

GNIS and digital names. For a geographic name to be included in the national Geographic Names Information System (GNIS) database, which determines which names may to appear on federal maps, the name must have appeared in print somewhere, either in a text or on a map, though provision does exist for recognizing names, such as Native American names, known only in an oral tradition. But what about the World Wide Web, which didn't exist when GNIS was conceived?

COGNA participants agreed that WWW names are indeed legitimate, though the provenance and source material must be credible and verifiable to be included in GNIS. Geographic names are not presently listed as a component or layer of Framework data nor are they recognized as a component of NSDI, as they are in other countries having such a program, though it is hoped this will change soon.

Geologic names. Are these under the USBGN's purview? Geological formations usually take their names from geographic features, but because geographic names are for surface features and geologic names are exclusively for subsurface features, the USBGN does not adjudicate geologic names. As usual, there are exceptions. One is the San Andreas Fault, which is mostly subsurface but is exposed in parts of California. Also, mines and caves, while underground, nonetheless have surface entrances and thus come under the BGN.

Liaison with tribal governments. The BGN is required by Executive Order to communicate with *all* interested parties in a names case, and certainly if the case involves a feature wholly or partially within tribal lands. (Not addressed was how to define tribal lands; present reservation boundaries rarely reflect traditional tribal territories, which often were an overlay of several tribal territories.) State names authorities, such as the NMGIC's Geographic Names Committee, regularly seek input from tribal groups where appropriate, with mixed results, but only the Washington State names authority has a Native American member on the board.

Why does resolution of a names case often take so long? Usually, it's because the BGN is awaiting a response from a party whose opinion is required before the BGN can take action. Sometimes the dilatory body is a government agency, or a tribal council, or a county commission. The BGN by statute *must* receive such input, and has little choice but to pester the slow-responding body—and then wait, and wait. Sometimes the Board feels it needs more information before making a decision.

What about changing a name for commercial reasons? It could be argued that Truth or Consequences did this when the town changed its name from Hot Spring at the behest of a TV game show, thereby garnering more publicity and tourism. The BGN considers each case on its merits, but it will not establish or change a name solely for commercial reasons. But if the proposal is for a non-commercially related name, such as proposing to change Nasty Swamp to Pleasant Meadow because a housing development is imminent, then the Board's local use and acceptance policy likely would prevail.

Should a name proponent be required to provide a reason for naming or changing a name? Not just yes, but hell yes! Everyone agreed that stating the reason for a proposal is essential for making a sound decision, as well as being important historical information.

New or altered features—what is the state's responsibility? Shifting winds create a dune area where none had existed before. Or a declining water table means a former spring now is dry. Or a new volcano erupts on Albuquerque's West Mesa. Clearly, anyone with knowledge that a feature has been created, destroyed, or altered should report it to GNIS—in New Mexico that's Bob Julyan—to keep the GNIS database accurate and current. This is especially important as GNIS is used as a GIS data layer.

Special appeal: If you know of anyone connected with one of New Mexico's Native American groups who has an interest in geographic names and would be willing to serve on or assist the GNC, please contact me.

Another appeal: If you know of a name not in GNIS that should be, or if you are aware of a new feature, whether natural or human constructed, as well as names that only have appeared digitally, please contact me (phone 505-298-8420, email *rjulyan@swcp.com*).

Bob Julyan
Chair, Geographic Names Committee

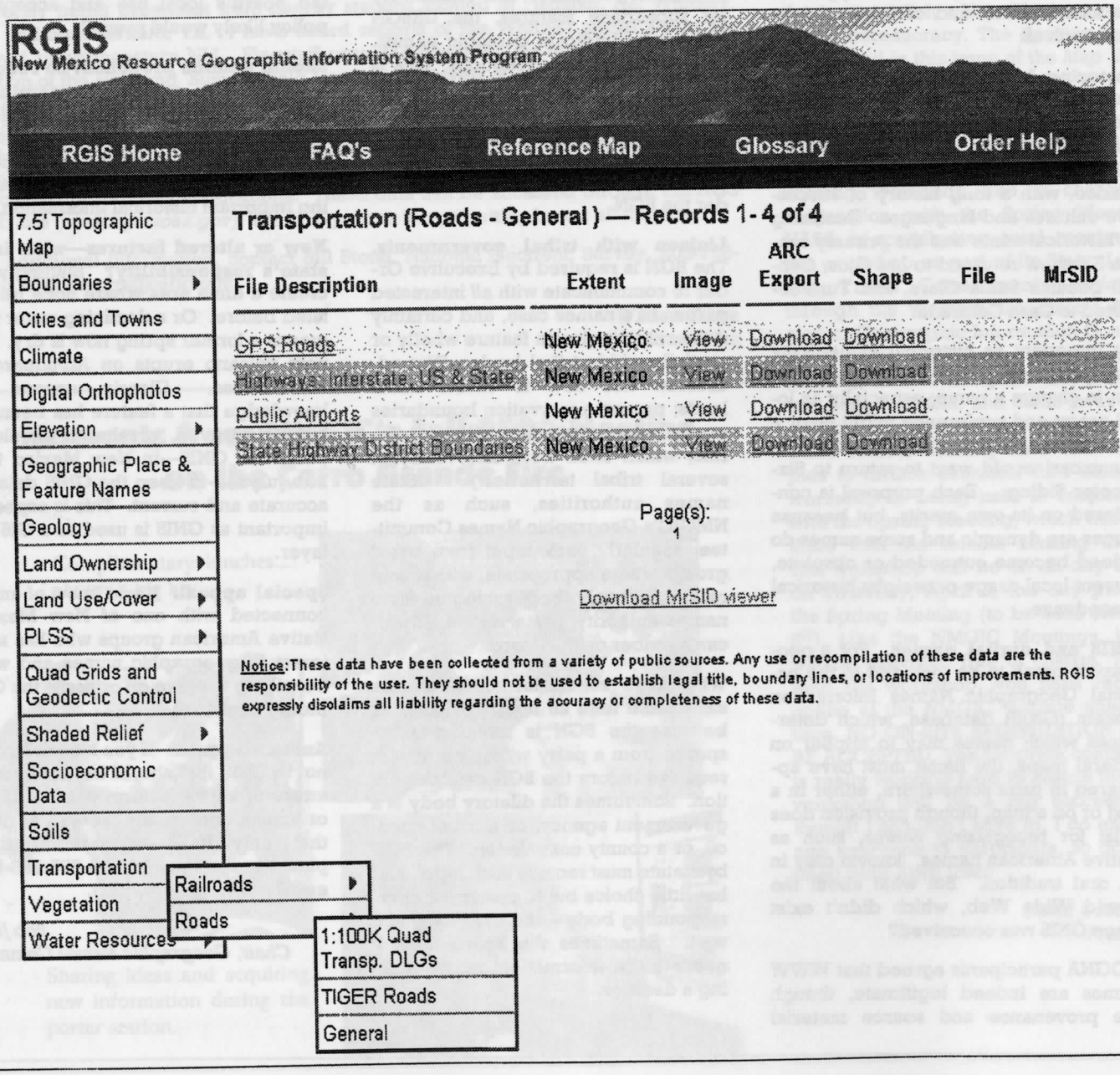
RGIS Unveils its New Web Site

Clearinghouse Data Now Available Online!

The RGIS Program recently has released its newly designed web page. The sexiest feature of the new page is the ability to download digital data from the Clearinghouse. Users will delight in the simplicity of the site. A navigation bar on the left side of the page allows users to select options, one of which is the "Data" button. This link reveals a new navigation bar that lists the general categories of data in the Clearinghouse. Themes with multiple files are flagged with an arrow that leads users deeper into the structure. By clicking on any one of the themes, a table is displayed that lists all files relevant to that theme. From the table, users have the option to view the metadata, view a "quick look" thumbnail of the data set, or to download the file in either an ARC Export or Shape format. Users also may download the MrSID viewer for files that have been compressed with MrSID. The page is powered by ColdFusion and the data reside in a Microsoft Sequel Server 7 database.

The RGIS Program invites you to explore the features of the site. Comments can be sent to Amy Budge via email at *abudge@spock.unm.edu*. Enjoy!

http://rgis.unm.edu



Effectively Distributing Online Documents

Organizations worldwide now are using the Internet as a means to communicate vital community information. Technologies like Geographic Information Systems (GIS) have evolved recently to where they can effectively distribute data quickly over the Internet.

Much of the continuing bandwidth bottleneck has to do with effectively sending raster or scanned data over limited Internet "pipes." This has kept many organizations from delivering scanned public documents over the Internet, preferring to keep such records in stacks and available only to the public by mail delivery or if one makes a trip to the agency to view the original document.

Now there are technologies that can reduce the file size of scanned documents drastically (often as small as vector data) while keeping the clarity of the original. DjVu technology by LizardTech was specifically developed to address this challenge. DjVu is a wavelet-based technology originally developed by AT&T Labs and acquired by LizardTech in March 2000. With DjVu, one can scan pages of books, magazines, catalogs, CAD drawings and legacy documents and make them available for archiving or placement on the Web.

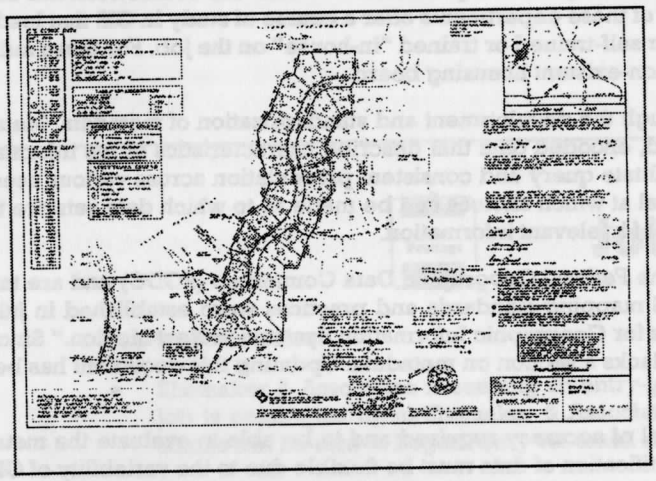
DjVu files are a fraction of the size of other formats, resulting in file sizes up to 1000 times smaller than the original scan and 10-20 times smaller than the Adobe PDF format – a widely used format for document distribution. DjVu is able to achieve its incredible file size reduction ratios by segmenting a document into two layers: one layer containing high-contrast text and line drawings, the other containing photographs, graphics and color backgrounds. It then uses different encoding methods for the two layers resulting in an efficient reduction of file size with preserved quality.

Local agencies are starting to use DjVu to deliver public documents over the Internet. In Cobb County Georgia, (pop. 500,000), they are providing much of their public and legal information in this online method. By accessing the county's Web site, (*www.cobbgasupctclk.com*) visitors can view documents of all types including legal deeds, plans, zoning information and more. One can search on plats and download large 24x36" records quickly for viewing (Figure 1). Most of these documents are well under 300KB – thus easily accessible anywhere through a standard 56Kb modem connection.

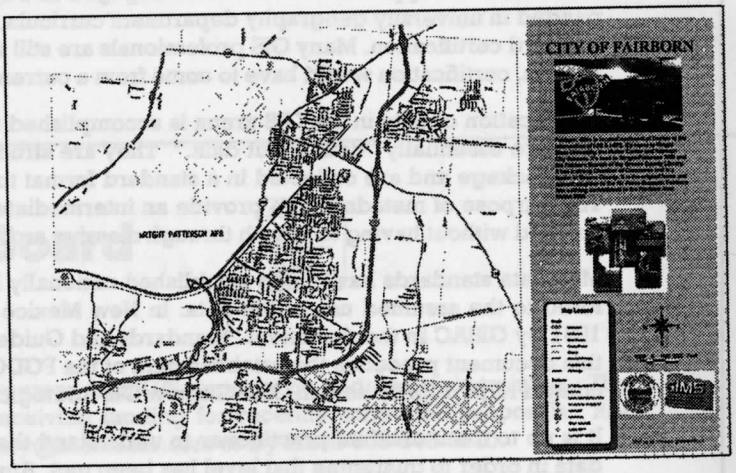
Another good example is Greene County, Ohio (*www.co.greene.oh.us*) that is integrating the 9000 property survey records in DjVu format via an ESRI MapObjects GIS application. Since most of the survey records are less than 60KB in size, they are linked to each property in the GIS and can be accessed online quickly for analysis. The county also is planning to deliver several other document types online. Examples include their popular 16-page full color annual report, parks brochures, and full color county maps (Figure 2).

Both Cobb and Greene Counties have been quite successful in reducing staff time, printing, and distribution costs by placing much of their public information online. By using newer technologies that take advantage of online distribution, organizations have become far more efficient distributing public document information, a trend that is bound to continue.

Submitted by
John Peterson
LizardTech



(Figure 1): Above is an example of a legal property drawing from Cobb County. The high-resolution scan was reduced with DjVu by a ratio of over 1400:1, resulting in a 311KB DjVu image. At this file size, the large-sized drawing now can be quickly viewed and printed over the Internet



(Figure 2): Above is an example of a highly detailed 11x17" map from Greene County. This was originally developed in ESRI's ArcView and available online as a PDF document at a bulky 4.3MB. This has been converted to a 400dpi DjVu document and now is easily available from the county Web site at just 366KB

Statement Concerning Certification or Licensure

Position Paper

New Mexico Geographic Information Council and the
New Mexico Geographic Information Systems Advisory Committee

March 2001

Purpose of this Document

The purpose of this document is to explain and document the position of both the New Mexico Geographic Information Council (NMGIC) and the New Mexico Geographic Information Systems Advisory Committee (GISAC) on the issue of Geographic Information Systems (GIS) Certification. In the 1990s, we have witnessed an unprecedented development of GIS technology and expansion of its applications into many different fields. Cadastral data are commonly used as a basic or underlying data layer in many Geographic Information Systems. This is a focal point where the disciplines of surveying and GIS directly interface. It is not surprising then that both the professional surveying community and the GIS community have a common interest in assuring that underlying base map accuracy is maintained. Clearly some form of checks and balances is needed to ensure that both users of GIS data and end users of the GIS products are working with quality datasets.

Because of this, the definition of standards and guidelines is paramount. In addition to ensuring quality products, standards should be developed with the intent of promoting the compatibility and interchange of digital spatial data among all public and private users of GIS technology throughout New Mexico. But, it is essential that GIS professionals themselves define both the data standards and the activities and skills required of a GIS professional. There is a growing concern among GIS professionals that there may be an attempt to regulate general aspects of GIS based on an interpretation of the *Definition of Surveying or Land Surveying* section of the National Council of Examiners for Engineering and Surveying (NCEES) Model Law. Although a precise reading of this section of the Model Law reveals that the wording is directed "relative to the performance of the activities" which appears to be very specific to the surveying profession, it does raise the issue of which aspects of the GIS field require a level of control and who should evaluate or design the level of control that is needed.

Definition of Certification

There are two basic types of certification: 1) certification of an individual, and 2) certification of data. The Urban and Information Systems Association (URISA) has defined certification of an individual as "career recognition through the evaluation and approval of individuals engaged in a specific occupation or profession." While GIS coursework has expanded in university geography department curricula, few of these departments offer a course of study in GIS that leads to board certification. Many GIS professionals are still either self-trained or trained "in-house" on the job. For these individuals, certification would have to come from a currently non-existent licensing board.

Certification of data in the GIS arena is accomplished through the development and standardization of metadata. Metadata are essentially "data about data." They are structured, encoded data that describe characteristics of the information package and are collected in a standard format to facilitate query and consistent presentation across various uses. The purpose of metadata is to provide an intermediate level at which choices can be made as to which data sets are to be used without having to search through massive amounts of irrelevant information.

Metadata standards have been established nationally by the Federal Geographic Data Committee (FGDC) and are tailored to the assumed use of the data. In New Mexico, GIS mapping standards and practices were established in July 1991 by GISAC in the document "Standards and Guidelines for Geographic Information Systems in New Mexico." Since this document precedes the establishment of the FGDC, it lacks a section on metadata. Updating this document has become a high priority item in GISAC's new GIS Strategic Plan.

It is up to the individual practitioner to understand the level of accuracy required and to be able to evaluate the metadata in order to guarantee that level has been met. Any certification of data must be flexible due to the variability of GIS use across several technical and non-technical fields. The very nature of GIS use, i.e., as a tool, is procedural based. There is variability in data requirements for different applications. Because of this, accuracy at a certain level may not always be required and certification of those data unnecessary.

(Continued on page 9)

(Continued from page 8)

NMGIC's and GISAC's Position on Certification

The development of a certification program for individuals in New Mexico would likely entail an enormous expense. This could easily result in a huge licensing bureaucracy for official certification, imposing extensive fees on individuals, agencies, and businesses. Furthermore, there is already initial progress occurring on a national level to put in place a system for professional certification. It is assumed that this will be in place within the next two to five years. For these reasons, NMGIC and GISAC recommend that the State of New Mexico not pursue certification of individuals independently.

Instead of GIS data certification, GIS professionals should establish a data verification process commensurate with the standardization goals of GISAC outlined in its Strategic Plan, and be responsible for diligently following data verification on any new dataset. This should involve checking both the data and the metadata for compliance to local, state, and federal standards. The metadata become instrumental in the verification process. If the data and metadata specifications do not match, then the data should be considered suspect.

Conclusions

In conclusion, the position of NMGIC and GISAC on the issue of certification is two-fold. GIS is a tool, not a professional practice. It is up to each profession to independently decide the level of certification required for each GIS product. Different practices will require differing levels of precision reflecting the need of that profession. Secondly, there is a need for data verification and standardization. GIS practitioners should be responsible for knowing the accuracy and quality of their data that are used to generate a product, and should supply compliant metadata to users of the product . In addition, it is hoped that data standards will promote compatibility and interchange of digital geospatial data among all public and private users of GIS technology throughout the State of New Mexico.

NMGIC and GISAC Certification Committee Members:

Robert Bewley	bbewley@blm.gov
Denise Bleakly	drbleak@sandia.gov
Gar Clarke	gclarke@ose.state.nm.us
Margie Krebs-Jespersen	krebs@nmeri.unm.edu
David King	landlink@thuntek.net
David McCraw	djmc@nmt.edu

Job Board

Job Opportunities.....

- Shomaker & Associates is seeking an entry-level person with GIS experience and geologic training. The job is contingent upon Shomaker & Associates receiving funding for recently submitted proposals. Resumes can be sent to Roger Peery via email at *rpeery@shomaker.com* or by fax to 505-345-9920.

- National Park Service has several positions open. See the USAJOBS at their website at http://www.usajobs.opm.gov/a1.htm to view the Fire GIS jobs, permanent position, GS-07/11. These are listed under the Cartographer (1370), Geographer (0150), Physical Scientist (1301), Biologist (0401) series. With nearly 10 positions being advertised in the Pacific West and Intermountain Regions, this is a great opportunity for interested GIS Specialists.

Surveyors & GIS Professionals Reach Accord

The following article appeared in the November/December 2000 Issue of the URISA News. It is used with permission of the author.

After 13 months of negotiation, representatives from five Surveyor professional organizations and two GIS organizations have reached agreement on changing the NCEES Model Law that defines the practice of surveying for which licensure is required. The NCEES (National Council of Examiners for Engineering and Surveying) is comprised of representatives from each state's Board of Registration, and provides guidelines for state laws concerning professional licensure.

The GIS-related concerns included a general perception that the language of the current NCEES Model Law on Surveying can be interpreted to over-reach the legitimate professional jurisdiction of the practice of surveying with regard to the creation and maintenance of maps and databases in Geographic Information Systems. In addition, there was recognition that GIS/LIS tools are potentially being used by non-registered practitioners in areas of practice that clearly fall within the long-established responsibility of the licensed surveyor.

The goal was to recommend modifications to the Model Law that would remove potential ambiguities and clearly identify those activities requiring the services of a registered professional, while continuing to safeguard the public health, safety, and welfare.

URISA members are encouraged to download the entire report in Word format from ASPRS' website at *http://www.asprs.org/asprs/news/ncees_frame.html*. The file name is "GIS Addendum to the Report of the Task Force on the NCEES Model Law for Surveying."

In order to implement these recommendations, NCEES should modify its current Model Law, and then each state could modify its laws regulating professional licensure of surveyors and civil engineers. Such action will require a concerted political advocacy effort by both individuals and professional organizations.

If you have comments, please use URISA's *eForum* at *http://www.URISA.org/gispolicy.htm* (item #11). If you want to help the advocacy effort, please contact Bruce Joffe at *GIS.Consultants@joffes.com*.

Bruce Joffe

Attention Students in GIT Classes.....

NMGIC offers a scholarship worth up to $1000 to students majoring in geographic information technologies (GIT).

See the NMGIC web site at http://nmgic.unm.edu for details and application form.

GISAC Ramblings

Just some notes and ramblings from our March meeting:

- VIRTUAL CAMPUS: We have over 150, and maybe as many as 200, seats committed for the Virtual GIS Campus. I'll put together the process, and so all the participants can initiate purchase orders. If anybody else wants to play, let me know pronto!

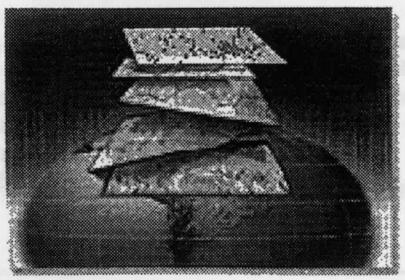
- NMGIC SCHOLARSHIP: The Jessie Rossback Memorial Scholarship for $1000 is available to students interested in funding for a GIS project. Details are found at *http://nmgic.unm.edu/nmgcscho.html*. If you know an interested student, turn them on.

- ARC/INFO 8.1 TRAINING: Those of you who wanted an alternative to the $2000 five-day course may be a little gratified by a $1350 cost. This price is if we buy the ESRI Trainer for the week. I'm working on some other alternatives. However, this is the best to date. More later.

- PROJECTION STANDARD: We will be contacting you all regarding adoption of a projection standard/guideline for the state. Don't worry, this does not mean you will have to follow it, just means when putting a lot of data together for group consumptive use that we have an agreed upon projection. We want to gather your input in the form of a survey.

The next GISAC meeting will be Tuesday May 8, 2001 in Room 2027 at the State Records Center and Archives, 1209 Camino Carlos Rey, Santa Fe, NM. The meeting will start at 9:30 am and conclude by 11:30 am. Questions can be directed to me at 505-827-6192 or by email at *gclarke@ose.state.nm.us*.

Gar Clarke
GISAC Chair

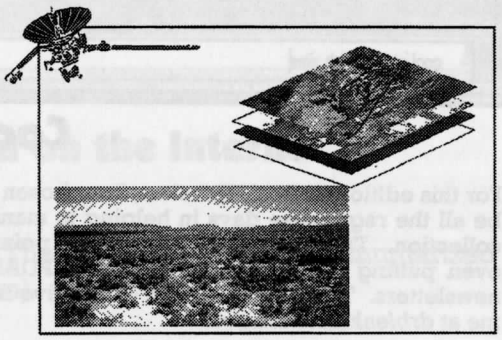


Announcing the NMGIC 2001 Spring Meeting

"Remote Sensing Applications in the New Millennium"

Or

"How Does Remote Sensing Fit Into My GIS?"



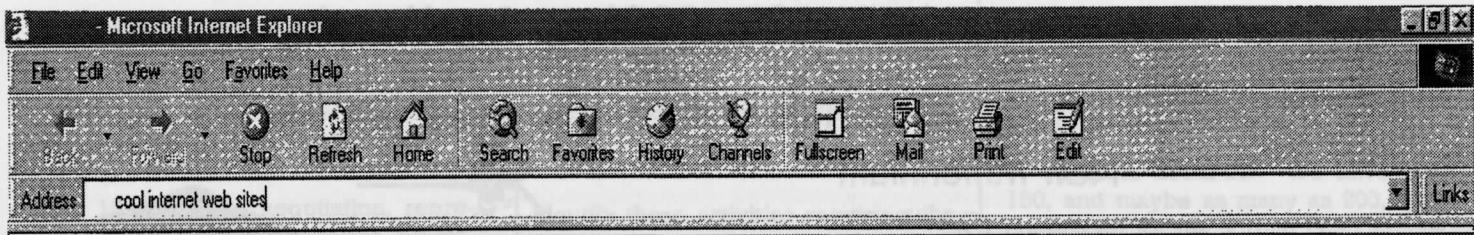
When: Friday April 6, 2001
Where: UNM Science & Technology Park
801 University Blvd SE
Albuquerque, NM

The theme of the NMGIC 2001 Spring meeting carries through the remote sensing workshop theme from the previous day (Thursday April 5th). The workshop presents an introduction to, and concepts of, fundamental remote sensing technology and its use in state, local, and tribal government applications. The Spring meeting focuses on the future of remote sensing technology, including information on some of the new sensors. Dr. Mike Thomas, NASA, is the keynote speaker, addressing "where remote sensing is heading in the near future." Vendors in the technology, including data providers and software vendors, will talk about how their products fit the needs of users today and tomorrow.

Spring Meeting Agenda

8:00	Check-in, Coffee, Visit Exhibits
9:00	Welcome and Announcements
9:30	Keynote Address (Dr. Mike Thomas, NASA)
10:15	Break, Visit Exhibits
10:45	3D...The Next GIS Dimension (Jerry Stephens, SGI)
11:15	Vendor Presentations ERDAS (Matt Falter) Bohannan-Huston (Bart Matthews)
11:45	Lunch, Visit Exhibits
1:00	Vendor Presentations (continued) Space Imaging (Nathan King) PCI (Alison Malis)
1:30	Exhibits, visit with presenters

The meeting is free to NMGIC members whose dues are current for 2001. There will be a $10 charge for non-members; $5 for non-member students. The lunch is provided at no cost.



Cool Internet Web Sites

For this edition of Cool Websites, I've chosen to focus on those ever present Personal Data Assistants or PDAs. They seem to be all the rage these days in helping to manage day-to-day task and time management to very sophisticated tools for data collection. This Cool Websites column points you to some sources of hardware/software and data for mobile computing, even putting maps on your very own PDA! These are culled from a variety of trade journals, newsletters, and email newsletters. This may not be an exhaustive list and as always, if you have any additions to this list, please feel free to contact me at *drbleak@sandia.gov*.

Articles:

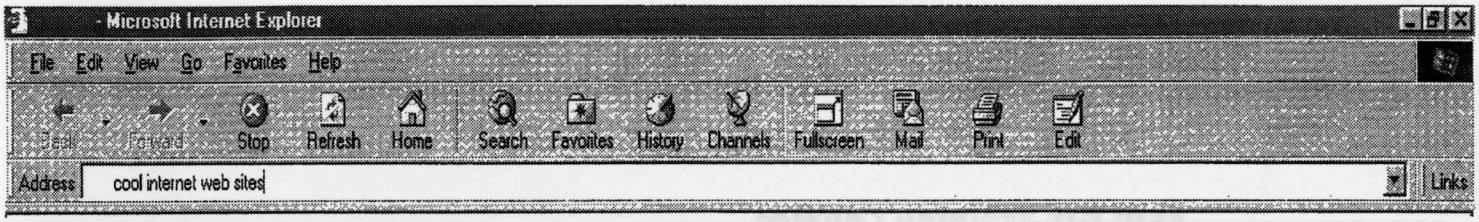
- Field Data Collection: Technology is moving rapidly in the world Of PDA/handheld/pen-based field data collection. Author is Lee A. Graham, Senior GIS/Remote Sensing Specialist. — http://www.geoplace.com/gw/2000/0700/0700lif.asp
- Pocket PC Passion: A general catch-all site for the Pocket PC format and its devices. Software and hardware reviews, technical tips, and how-to projects. — http://www.pocketpcpassion.com

GPS Pilot:

- GPS Pilot is a leading start-up offering innovative and exciting solutions to handheld computers in the Mobile Information, Global Positioning Systems, and Mapping technologies. The company's current focus is to bring technology provided by GPS into your palm. — http://www.gpspilot.com/
- Delorme Street Atlas USA 6.0 can be used on Palm Pilots. — http://www.delorme.com
- Etak Sky Map Pro and Sky Map Traveler are for laptop computers, but the company was working on versions for smaller systems in 1999. — http://etak.com
- HandMap by Evolutionary Systems, is a vector based map view for Palm Pilots and Windows CE devices. — http://www.evolutionary .net
- Vicinity's Pocket Map Blast! is an Internet-based system that provided Palm Pilot and Palm III users with data for the US and Canada. — http://www.mapblast.com

Wireless Bar Hopping:

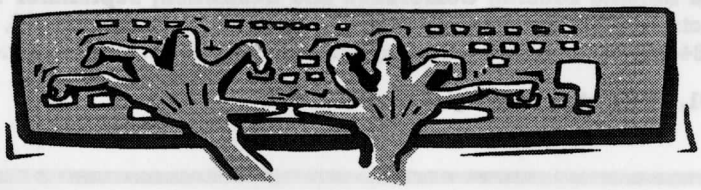
- Heineken has developed a website that will allow Palm Pilot users to look up the location of the closest bar. The BarTrek website uses Global Positioning Systems to enable drinkers In 15 cities worldwide to find bars and get personalized directions through their wireless handheld devices. BarTrek is a GPS Pilot application, developed in partnership with Heineken, IBM and MapQuest. — http://www.heineken.com/modules/navigation/global_nav_frame.cfm?module=bartrek



GeoPortals: Gateways to Spatial Data on the Internet

GeoPortals provide convenient ways to access other web sites. The following links are summarized from the January 2001 issue of *GeoWorld* (*http://www.geoplace.com*).

- **CeoNet** - Access component of the Canadian GeoSpatial Data Infrastructure. This site offers maps, satellite images, publications and other geospatial data provided by Canadian and international organizations. http://ceonet.ccrs.nrcan.gc.ca
- **Core Software** - One of the earliest companies to offer online viewing of spatial imagery. One of the largest sources on the Internet to search, browse, and retrieve Earth images and related geospatial information. http://www.coresw.com
- **The Geography Network** - Initiated by ESRI, the Geography Network is a global network of GIS users and providers. Important goals of the Geography Network are to support and build on the Global Spatial Data Infrastructure and the U.S. National Spatial Data Infrastructure. Most of the data are free and in the public domain. http://www.geographynetwork.com
- **GlobeXplorer** - A subscription service where clients can extract images and present them on websites. GlobeXplorer's image content spans the globe. http://www.globexplorer.com
- **Kodak** - A business-focused e-commerce site for high resolution Earth imagery. Aerial imagery is available online from more than 30 North American metropolitan areas, and imagery from around the world. http://www.kodak.com/go/earthimaging
- **Landinfo** - Landinfo is a leading producer of geospatial data and related services for the worldwide engineering and GIS marketplace. Landinfo markets digital georeferenced topographic maps, digital elevation models, parcel tax maps, satellite imagery, aerial imagery, FEMA flood maps, and vector map layers. http://www.landinfo.com
- **MapQuest** - MapQuest offers a myriad of maps, driving directions, city and travel guides, and more. http://www.mapquest.com
- **Pixxures** - The company specializes in updating existing digital orthophotos with newly collected aerial and/or satellite imagery. http://www.pixxures.com
- **TerraServer** - One of the world's largest online atlases of high resolution satellite imagery and aerial photography. Started as a joint research project between Aerial Images, Inc., Microsoft, the U.S. Geological Survey, and Compaq. http://www.terraserver.com



News and Announcements From Our Corporate Sponsors

From ESRI....

ESRI GIS Training Courses

Instructor-led ESRI GIS Training Courses are available in Albuquerque, New Mexico. Courses scheduled for this year are listed below. For more information, please visit ESRI's web site (www.esri.com/training) or contact Paige Hayes at ESRI-Denver (phone# 303-449-7779). Please register ASAP; training course size is limited.

April 16-17. Introduction to ArcGIS I (for ArcView 8, ArcEditor 8, and ArcInfo 8)

April 18-20. Introduction to ArcGIS II (for ArcView 8, ArcEditor 8, and ArcInfor 8)

May 16-17. Migrating from ArcView GIS 3.x to ArcView 8.

June 12-14. Working with ArcView Spatial Analyst (for ArcView GIS 3.x)

June 18-20. Advanced ArcView GIS (3.x)

June 21-22. Introduction to Avenue (for ArcView GIS 3.x)

Web-based ESRI GIS Training Courses are also available through the ESRI Virtual Campus. The courses offered via the Virtual Campus are very popular – check it out! For more information, visit the ESRI Virtual Campus (campus.esri.com).

Calendar

ASPRS 2001: Gateway to the New Millennium, April 23-27, 2001. America's Center/Adam's Mark Hotel, St. Louis, MO. Contact: ASPRS 2001 Annual Conference Registration, 6220 Montrose Road, Rockville, MD 20852. Fax 301-984-9441. Web: http://www.asprs.org/stl01.

Upper Rio Grande Water Operations Model (URGWOM) Technical Review Committee Meeting, April 26, 2001. US Army Corps of Engineers, Room 119, 4101 Jefferson Plaza NE, Albuquerque, NM. Contact: Gail Stockton, USACE. Phone 505-342-3348. Or Contact: Leann Towne, Bureau of Reclamation. Phone 505-248-5321. Web: http://www.spa.usace.army.mil/urgwom/. Observers are welcome.

GeoSpatial World 2001: The Intergraph GeoSpatial Users Community International Conference, June 18-20, 2001. Renaissance Waverly Hotel, Atlanta, GA. Contact: GeoSpatial World 2001, c/o Intergraph Mapping and GIS, 1 Madison Industrial Park, MS 1W17B2, Huntsville, AL 35894. Phone 256-730-7191; Fax 256-730-2080. Web: http://www.intergraph.com/geospatialworld.

8th Annual Intertribal GIS Council Conference, June 25-29, 2001. Sheraton Billings Hotel, Billings, MT. Contact: IGC, 231 SE Byers Ave., PO Box 1937, Pendleton, OR 97801. Phone 541-966-9097; Fax 541-966-6010. Email: igc@itgisc.org.

Twenty-First Annual ESRI International User Conference, July 9-13,2001. San Diego Convention Center, San Diego, CA. Contact: ESRI, 380 New York Street, Redland, CA 92373-8100. Phone 909-793-2853 ext 1-1363. Email: uc2001@esri.com. Web: http://www.esri.com/events/uc/index.html.

Fifth International Airborne Remote Sensing Conference and Exhibition, September 17-20, 2001. San Francisco Marriott Hotel, San Francisco. Contact: Veridian Systems/Airborne Conferences, P.O. Box 134008, Ann Arbor, MI 48113-4008. Phone 734-994-1200 ext 3234; Fax 734-994-5123. Email: wallman@erim-int.com. Web: http://www.erim-int.com/CONF/IARSC.html.

GIS Day, November 14, 2001. Web: http://www.gisday.com

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