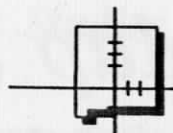


The Map Legend

New Mexico Geographic Information Council, Inc.

...reporting on geographic information for and about the Land of Enchantment...



Volume 5, Number 2

Winter 1994

National States Geographic Information Council Holds Annual Meeting

The third annual meeting of the National States Geographic Information Council (NSGIC) was held in Williamsburg, Virginia on September 26-29, 1993. Representatives from 36 states and several federal agencies were there. The meeting was hosted by the State of Virginia Council on Information Management. Corporate sponsors who helped to underwrite the meeting were Intergraph Corporation, Photo Science, Inc., American Cadastre, Inc., and Computer Science Corporation. The meeting was highlighted with keynote speakers Dr. Shelley Metzenbaum, Associate Administrator with the regional operations and State/Local Relations of the Environmental Protection Agency and Ms. Deborah Knopman, Deputy Assistant Secretary for Water and Science, U.S. Department of the Interior.

A roll call of states begins the meeting each year which provides the participants an overview of past and current GIS activities. Subsequent meeting sessions were devoted to extensive discussions on geographic information standards, geographic information policy issues and intergovernmental relations. Panel discussion and their participants provided insight into issues related to administration and legal aspects of data sharing, formal recognition of one GIS coordinating body within the states, establishment of a GIS resource/data center for each state, documentation of databases, standards and funding strategies.

One full day of the meeting was devoted to discussions of intergovernmental relations. The panel consisted of Nancy Tosta, USGS; Dr. John Bossler, Chair of the Mapping Science Committee, National Research Council; William Holland, Executive Director Wisconsin Land Information Board; the Honorable Richard J. Varn, Iowa Senate; Randall Murphy, Manager of Administrative Services Lake County, Illinois; and Charles Dingman, U.S. Bureau of the Census. NSGIC's Intergovernmental Relations Committee set action items for the following year to

enhance communications about GIS among states and among federal, local government and private sector parties.

NSGIC will take a lead role in formulation and implementation of the National Spatial Data Infrastructure (NSDI), creating a formal mechanism to provide state input and communication linkages to the federal government on NSDI.

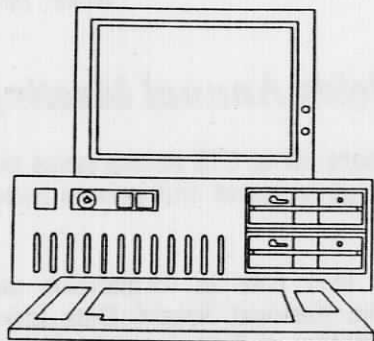
Elections for President-Elect and four new board members were held. Ted L. Talmon (CO) was installed as President of NSGIC for the coming year with Richard Taupier (MA) taking over the reins of Past-President. William S. Holland (WI) was elected President-Elect and the following board members were elected to fill two-year terms: Phil Thiel (KY), Lori Peterson-Dando (MN), Hank Garie (NJ). Dave Stage (FL) will fill the remaining one-year term vacated by William S. Holland.

For more information about NSGIC, Contact Ted L. Talmon at 303/247-7662 or Nancy McCann (WY), NSGIC Secretary at 303/777-5958.

GIS/LIS '94

The annual GIS/LIS meeting will be held in Phoenix, Arizona, September 25-27, 1994. This is a great opportunity for NMGIC to participate in a national conference. Perhaps the Council could co-sponsor a session or work with the Arizona Geographic Information Committee on issues unique to the Southwest. If anyone has any ideas or interest in participating, please contact Amy Budge, Earth Data Analysis Center, University of New Mexico, Albuquerque, NM 87131-6031 or telephone 505 277-3622. There are deadlines to meet for submission of ideas to the GIS/LIS steering committee.

The Map Legend

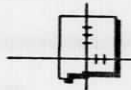


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Assembly: Amy Budge
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The Map Legend is published quarterly by the New Mexico Geographic Information Council and is a benefit of membership in NMGIC. The opinions expressed are those of the contributors and do not necessarily represent the views of the New Mexico Geographic Information Council, except where specifically noted. The mention of trade names or products does not constitute an endorsement of the NMGIC. Members are invited to send articles and announcements of interest to the editor by the following deadlines: September 1, December 1, March 1, June 1. Please direct all correspondence to:

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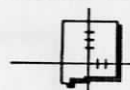
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From the President Richard Friedman

January 1994

During the past few years Geographic Information Systems technology has begun to mature in a very dramatic fashion. One of the very useful new developments of this maturing process is the integration of raster and vector data within a single GIS environment. These technologies that were at one time two very distinct disciplines, are now beginning to be very closely related. The cost of the hardware required to effectively use geographic imagery has become much more affordable. As a result of this improved software functionality, coupled with the reduction in the associated hardware costs, geographic imagery will soon be an integral part of most GIS applications.

Software packages that allow this integration of technologies are available on virtually all of the major computer platforms. Some very capable image processing packages with vector GIS support can be purchased for as little as \$300 for the personal computer platform. Scanners with compatible file formats can be purchased for around \$120. With a total investment of under \$2,500 you can have an integrated raster/vector GIS on your desktop.

Our spring meeting will focus on the various uses of geographic imagery. For the morning session we will have a nationally recognized speaker talk to us on the subject of geographic imagery. During the afternoon session we will have a panel of speakers from New Mexico that are currently using geographic imagery in their applications. The presentations should be very timely and useful to all the members of NMGIC. Along with these presentations we will have a vendor exhibit that will allow you to see this new technology and talk to representatives from some of the companies that are providing it.

The high cost in the capture and storage of geographic imagery has traditionally kept it from being widely used in GIS applications. The continuing reduction in the associated costs in using geographic imagery will soon make it a very cost effective way to enhance GIS data capture and display. It will give us the ability to have a realistic backdrop for maps that we create. Integrating vector data with image data will give us a tool to enhance our ability to effectively communicate through our data. This emerging technology gives new meaning to the saying one picture (or one map) is worth a thousand words.

*A special round of applause to the following people who contributed some of the articles in this issue of **The Map Legend**:*

Ted L. Talmon Bob Julyan
Heather Rex John H. Ganter

Their efforts are much appreciated!

Center of Southwest Studies to Start a GIS Program

Fort Lewis College's Center of Southwest Studies is developing a comprehensive geographic information systems program that will provide a clearinghouse for geographic information, GIS training, and support services. Ted L. Talmon, GIS Administrator, is spearheading the effort. The program is supported by the Colorado Excellence Program in Higher Education that was awarded to the Center of Southwest Studies. The Center will also provide class instruction in the fundamentals of geographic information systems. Talmon hopes to build a clearinghouse and support services for geographic data and applications in the Four Corners area. If you are interested in the Center's GIS program, contact Ted at Fort Lewis College, Center of Southwest Studies, 1000 Rim Drive, Durango, CO 81301. Telephone: 303 247-7662 or 303 259-1774. Internet address: talmon_t@flc.colorado.edu

NMGIC Establishes Scholarship

The NMGIC Executive Board has established an annual scholarship in the amount of \$500 to be awarded each spring to a student of geography at a college or university in New Mexico. The application deadline this year is February 15, 1994. Application forms are being sent to appropriate schools around the state for distribution to interested students.

The award will be made annually at the spring meeting of NMGIC.

For more information about the NMGIC Scholarship or to request an application, contact Heather Rex at the New Mexico State Highway and Transportation Department Library (827-5534) or write her at P.O. Box 1149, Santa Fe, NM 87504-1149.

Reminder

If you have not already renewed your 1994 NMGIC membership, dues are now payable. Membership to NMGIC allows you to attend two general meetings (spring and fall); to participate in committees; to receive announcements on workshops and meetings; and to receive a copy of *The Map Legend* quarterly. The semi-annual general meetings provide an opportunity to meet with your colleagues and exchange information on geographic data and issues in New Mexico. Programs for these meetings are planned to bring recognized speakers on important GIS, GPS, and Remote Sensing topics, as well as to sponsor vendor and user exhibits in these technologies.

DON'T DELAY...RENEW TODAY!

Use the enclosed form for renewal.

Generalization in Digital Cartography

Robert B. McMaster and K. Stuart Shea. Resource publication, Association of American Geographers, Washington DC. 1992. xi + 134. Available from AAG, 1710 16th St. NW, Washington DC 20009. \$5.00 ISBN 8-89291-209-X

Generalization of maps, traditionally a skilled, subjective art that results in 'correct-looking' maps, has taken on a new interest as digital data become the dominant source. GIS users often find that abundant data coalesce into an indecipherable mass as scale is reduced. After all the trouble of assembling source data, it must now be eliminated and re-arranged at the display stage. This monograph explains and summarizes research in map generalization, from theoretical background to an explanation and comparison of the major algorithms.

McMaster and Shea, respectively a University of Minnesota professor and a manager/scientist at The Analytical Sciences Corporation, have been working in the area of generalization for about 10 years. Their progression is evident from the references, and in this book they attempt to place their own work and others into a coherent structure. They begin by providing some examples of nautical charts at different scales; few readers will pass through this chapter without the conclusion that generalization is a tough problem. The next chapter deals with previous attempts at automated generalization; I felt that a few more details would have helped to explain this work and how it related.

The authors proceed through their classification of digital generalization. There are three branches to this tree, which is helpfully printed on the back cover to aid the reader in following the discussion. The first branch considers philosophical objections (why to generalize), the second, cartometric evaluation (when to generalize), and the third, spatial and attribute transformation (how to generalize).

The why reasons (reducing complexity, maintaining spatial and attribute accuracy, maintaining aesthetic quality, etc.) are discussed, with attempts to bring forward the insights of both classical and cognitively-oriented cartographers. The when section describes the symptoms of generalization deficiency, namely congestion, coalescence, conflict, complication, inconsistency, and imperceptibility. This section also contains a branch dealing with measures of distance, density, and form. Finally, the how section discusses the options in simplification, smoothing, aggregation, collapse, exaggeration, etc. Two chapters then deal with the algorithms for these tasks in the vector and raster domains, respectively. There are some nice illustrations of how the algorithms operate on sample lines.

With a remarkable price, this book is recommended as a quick overview of the field that can satisfy basic curiosity about generalization, and/or point the reader to detailed research that bears on their own generalization needs.

John H. Ganter

Southwest ARC/INFO User Group Meets in Wyoming

The annual conference of the Southwest ARC/INFO User Group was held in Jackson Hole, Wyoming, October 20-22, 1993. Representatives from the five state ESRI-Denver region were present: Arizona, Colorado, New Mexico, Utah and Wyoming. Representatives from Nevada, Idaho and Montana were also in attendance. Approximately 150 individuals attended the conference, hosted by the Wyoming State Engineers Office.

The meeting was highlighted with one-day workshops on AMLs, database design, and GIS for managers. Several presentations were made by ARC/INFO users in the region. Allan Cox, Director, Natural Resources Information System (NRIS) was an invited guest who spoke on Montana's effort to disseminate geographic data and to assist GIS users through the State Library system. Bruce Keating from BLM and Lee Aggers from USGS spoke about the federal government's role in developing and disseminating geographic information as well as its research efforts.

Clint Brown from ESRI spoke about the ARC/INFO 7.0 enhancements, ARC/CAD and ARC/VIEW II. Poster sessions and vendor exhibit were part of the conference.

Next year's Southwest ARC/INFO User Group conference will be hosted by the State of Colorado. For more information, contact Ted L. Talmon at 303/247-7662.

Mark Your Calendars Today!

You won't want to miss this year's

1994 Spring NMGIC Meeting

The 1994 Spring NMGIC meeting is scheduled for Friday, April 15, 1994 at the Continuing Education Conference Center, 1634 University Blvd. NE, in Albuquerque. The program theme is *Geographic Imagery* and will feature a noted authority on *Soft-Copy Photogrammetry* sponsored by the American Society for Photogrammetry and Remote Sensing (ASPRS), and a panel of speakers from New Mexico currently using these data. Geographic imagery provides invaluable base information and is becoming an important asset in GIS and GPS.

The Spring meeting also features our annual vendor show with exhibits by GIS, GPS, and Remote Sensing hardware and software vendors. A box lunch is planned in the exhibit area.

Watch your mail for future announcements about the meeting.

News from the Names Committee

Bob Julyan, Chair Geographic Names Committee

New GNIS CD-ROM to be Released Soon

Geographical records by the hundreds of thousands, for all fifty states, are stored on the new GNIS Phase II CD-ROM, which is to be released soon by the USGS.

The CD-ROMs have been available for some time, but producing documentation has resulted in the release's delay. That's too bad, as the program comes with help screens and is easy and intuitive.

When finally released, the GNIS CD-ROMs will be available through USGS Earth Science Information Centers (ESIC); New Mexico's ESIC is at the UNM Earth Data Analysis Center (EDAC), headed by Amy Budge.

I recently had a chance to play around with...er, review a demo that had been sent to Amy. We were able to learn about five places in the U.S. that had Budge in their names (none with Julyan). Frivolous as that may sound, in fact genealogists and astrologers are among the numerous requestors of GNIS data from the main ESIC in Reston, Virginia.

I was also able to learn that 274 places have Catfish in their names, Maine has 82 places with Moose in their names, Kansas has three named waterfalls, twenty named places are at 60 feet below sea level, and Washington was the most popular eponymous president, with 2,066 names, as opposed to 1,766 for Lincoln and 1,097 for Jefferson.

More seriously, the GNIS CD-ROM is a treasure trove of useful geographic information. Each record includes not only the name of the feature, but also its feature class (stream, lake, summit, populated place, hospital, etc.), the USGS 7.5-minute quad where the feature appears, the county, latitude-longitude (including both head and mouth for linear features such as canyons), elevations for summits and populated places, and bibliographical references.

What's more, the data are exportable, which can be useful when building a GIS.

When the CD-ROMs are released they will cost \$57. (For comparison, printouts of GNIS for a single state cost \$34).

Mount Barker Advances

At its meeting November 15, the NMGIC Geographic Names Committee recommended to the U.S. Board on Geographic Names (USBGN) that the name Mount Barker be placed upon a previously unnamed 11,455-foot summit one mile south of Elk Mountain in the Carson National Forest in the southern Sangre de Cristo Mountains.

The naming has been proposed in 1992 by Dr. Wiley Barker, a descendant of the illustrious Barker family whose members included the conservationist Elliot Barker and the writer S. Omar Barker. Dr. Barker had proposed renaming Spring Mountain, but that proved unfeasible as the name

was long-established. Also, the feature was in a wilderness area; both the U.S. Forest Service and the USBGN have policies against creating names in wilderness areas.

Thus began a lengthy and difficult search for an alternative as public opinion in New Mexico overwhelmingly favored naming a mountain honoring the Barkers.

The proposal ran into difficulty when residents of the Pecks area feared that the name "Mount Barker" would displace a name—Valle Alto—long used by local people but never recorded on maps. Eventually, the GNC determined, however, that the name Valle Alto referred not to the summit but to the meadows nearby. Because of this issue, the GNC will attempt to meet with Pecks residents to collect other unrecorded local names and record them in GNIS, so that future conflicts can be avoided.

The Mount Barker proposal now is with the USBGN, which will make the final determination.

Sandia Mountains Name Change

USGS, as part of its Albuquerque mapping project, has discovered several discrepancies in names between its maps and those of the Cibola National Forest. Thus, USGS is proposing changing the application of three canyon names in the north Sandias: Las Hairdos Canyon, Canon Media, and Cueva Canyon.

In addition, USGS is proposing that the summit shown on USGS maps as Sandia Peak be labeled North Sandia Peak, as it appears on Cibola National Forest maps and in most local guide books. Persons with knowledge or opinions about these features should contact Bob Julyan.

Miscellaneous

Drive toward Socorro from Albuquerque on I-25, and you'll see an exit sign for the village of San Acacia. But even a nodding acquaintance with Spanish will alert you to the gender of the saint's name being incorrect; the saint being a male, his name should be San Acacio. Furthermore, that's how the name is pronounced by residents of the village itself.

The error, it seems resulted when the railroad arrived in the community around 1880, and the english-speaking map-makers created an error that has been perpetuated for over a century.

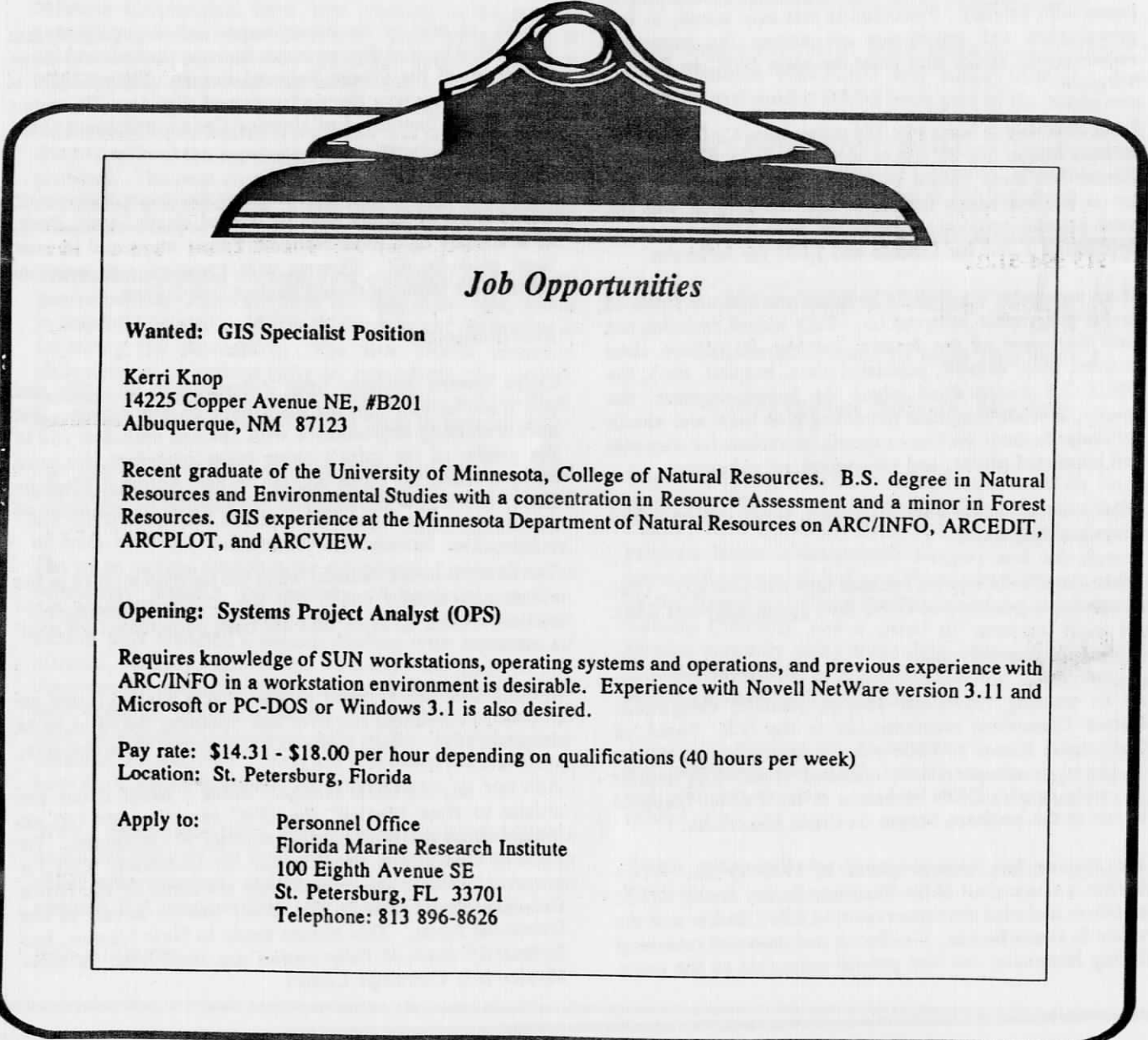
Now at least one resident of San Acacia has expressed an interest in correcting the error and returning the name to its original form. Watch this space for further developments.

And lest anyone think intensely debated name issues are unique to New Mexico, the GNC recently received an inquiry from the state names authority in Oklahoma. To promote downtown development in Oklahoma City, a proposal has been made to change the name of the North Canadian River (also known as the Beaver River) to the Oklahoma River. This stream heads in New Mexico, but fortunately none of these names are used here; in New Mexico it is Corrupa Creek!

A SPECIAL THANKS . . . TO THE 1994 CORPORATE MEMBERS

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Job Opportunities

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Recent graduate of the University of Minnesota, College of Natural Resources. B.S. degree in Natural Resources and Environmental Studies with a concentration in Resource Assessment and a minor in Forest Resources. GIS experience at the Minnesota Department of Natural Resources on ARC/INFO, ARCEDIT, ARC/PLOT, and ARCVIEW.

Opening: Systems Project Analyst (OPS)

Requires knowledge of SUN workstations, operating systems and operations, and previous experience with ARC/INFO in a workstation environment is desirable. Experience with Novell NetWare version 3.11 and Microsoft or PC-DOS or Windows 3.1 is also desired.

Pay rate: \$14.31 - \$18.00 per hour depending on qualifications (40 hours per week)
Location: St. Petersburg, Florida

Apply to: Personnel Office
Florida Marine Research Institute
100 Eighth Avenue SE
St. Petersburg, FL 33701
Telephone: 813 896-8626

Calendar

- January 31-February 2, 1994. *Second Thematic Conference on Remote Sensing for Marine and Coastal Environments, New Orleans, Louisiana.* Contact: ERIM, P. O. Box 134001, Ann Arbor, MI 48113-4001. Telephone: 313 994-1200 ext. 3234. Fax: 313 994-5123.
- February 3, 1994. *Practical Surveying with GPS Seminar, Albuquerque.* Contact: Holman's Inc., 401 Wyoming NE, Albuquerque, NM 87123. Telephone: 505 265-7981.
- February 18, 1994. *Rio Grande/Rio Bravo GIS Consortium, Austin, Texas.* Contact: Angela Miller, Texas Natural Resource Conservation Commission, Environmental Assessment Division, GIS Coordinator, P. O. Box 13087, Austin, TX 78711-3087.
- February 21-24, 1994. *GIS '94, Eighth Annual Symposium on Geographic Information Systems, Vancouver, British Columbia, Canada.* Contact: GIS '94 Symposium Office, Suite 207, 1102 Homer Street, Vancouver, BC, Canada V6B 2X6. Telephone: 604 688-0188. Fax: 604 688-1573.
- March 16-17, 1994. *ERDAS 1994 Western Regional User's Group Meeting, Logan, Utah.* Contact: Karla Stubbs, 2801 Buford Highway NE, Suite 300, Atlanta, GA 30329-2137. Telephone: 404 248-9000. Fax: 404 248-9400.
- April 15, 1994. *NMGIC Spring Meeting, UNM Continuing Ed Conference Center, 1634 University NE, Albuquerque.* Contact Amy Budge, EDAC, Albuquerque, New Mexico. 505 277-3622.
- April 25-28, 1994. *1994 ASPRS/ACSM Annual Convention and Exposition, Reno, Nevada.* Contact: ASPRS/ACSM Convention, 5410 Grosvenor Lane, Suite 100, Bethesda, MD 20814. Telephone: 301 493-0200.
- May 9-12, 1994. *Tenth Thematic Conference on Geologic Remote Sensing, San Antonio, Texas.* Contact: ERIM, P. O. Box 134001, Ann Arbor, MI 48113-4001. Telephone: 313 994-1200 ext. 3234. Fax: 313 994-5123.
- May 23-27, 1994. *Fourteenth Annual ESRI User Conference, Palm Springs, California.* Contact: ESRI User Conference '94, 380 New York Street, Redlands, CA 92373-8100. Telephone: 909 793-2853. Fax: 909 793-5953.
- May 31-June 3, 1994. *ISPRS Commission IV Symposium: Mapping and Geographic Information Systems, Athens, Georgia.* Contact: Norma Reed, Georgia Center for Continuing Education, The University of Georgia, Athens, GA 30602-3603. Fax: 706 542-5990.
- June 5-8, 1994. *GIS in Business '94, San Francisco, California.* Contact: GIS World, 155 E. Boardwalk Drive, Suite 250, Ft. Collins, CO 80525. Telephone: 303 223-4848. Fax: 303 223-5700.
- July 10-15, 1994. *International Symposium on Spectral Sensing Research '94, San Diego, California.* Contact: Dr. Richard Gomez, U. S. Army Topographic Engineering Center, Ft. Belvoir, VA 22060-5546. Telephone: 703 355-2600. Fax: 703 355-3154.
- August 7-11, 1994. *URISA-94, Milwaukee, Wisconsin.* Contact: URISA, 900 Second Street NE, Suite 304, Washington, DC 20002. Telephone: 202 289-1685. Fax: 202 842-1850.
- September 12-16, 1994. *International Geographic Information and Resource Technology Seminar, Toronto, Canada.* Contact: J. Michael Power, Natural Resources Canada, Petawawa National Forestry Institute, P. O. Box 2000, Chalk River, Ontario, Canada K0J 1J0. Telephone: 613 589-2880. Fax: 613 589-2275.
- October 25-27, 1994. *GIS/LIS '94 Annual Conference and Exposition, Phoenix, Arizona.* Contact: GIS/LIS, 5410 Grosvenor Lane, Suite 100, Bethesda, MD 20814. Telephone: 301 493-0200.