

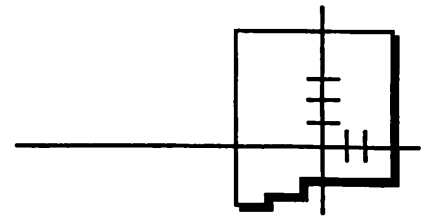
# The MAP LEGEND

New Mexico Geographic Information Council

Volume 1

Number 1

Fall 1988



## Welcome to *THE MAP LEGEND*



**WELCOME** to the first issue of *The MAP LEGEND*, the quarterly newsletter of the New Mexico Geographic Information Council (NMGIC). Several people must be thanked for their help in launching this newsletter on its maiden voyage. Members of the Public Awareness Committee, whose responsibilities include publications for the Council, are: Sue Adams of McKinley County's Rural Addressing Program, Amy Budge of UNM's Technology Applications Center, and Susie Turner of U.S. West. Bob Julyan lent his editing expertise and, in fact, named the newsletter. Mike Dwyer of the Bureau of Land Management did the desktop publishing, Lee Aggers and the U.S. Geological Survey in Denver did the reproduction of *The MAP LEGEND*, and Dave Love of the New Mexico Bureau of Mines and Mineral Resource mailed it. Many thanks to these generous people for their excellent ideas and their numerous hours.

The membership of the New Mexico Geographic Informa-

tion Council is diverse, coming from various government agencies, the private business sector, and academia. The Council's commonality is its interest in geographic information, who is producing it, how to use it, and how to share it. Sharing not only results in avoiding duplication of effort on an individual level, it also results in the enhancement and enrichment of the overall knowledge base of geographic information for New Mexico, an enhancement that benefits everyone. The contents of the *MAP LEGEND* will likewise be diverse, but with the same interests in the generation and dissemination of geographic information for our state. Besides keeping the readership informed of the current work and projects of NMGIC, *The MAP LEGEND* will strive to inform and share geographic information in New Mexico. In its effort to share information, *The MAP LEGEND* needs articles, announcements, and press releases from any office, agency, or company in the state which uses or generates maps or geographic products of any kind. All such articles, announcements, or

suggestions are not only welcome, they are vital to the mission of knowledge sharing. Tell us about your work, your geographic information needs, current projects, or what you would like to see as regular features in *The MAP LEGEND*. Send your comments and articles to Heather Rex, Map and Geographic Information Center, Centennial Library, University of New Mexico, Albuquerque, NM 87131.

### *Scoping Effort for a Statewide GIS in New Mexico*

The University of New Mexico is performing a survey of New Mexico state government organizations as part of a Resource Geographic Information System (RGIS) assessment authorized during the last legislative session. The project is an assessment for the possible development and implementation of a statewide computer mapping and geographic information system. Survey teams from the New Mexico Engineering Research Institute (NMERI), Division of Government Research (DGR),

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## GIS Survey

*continued from page 1*

Bureau of Business and Economic Research (BBER) and the Technology Application Center (TAC) are contacting selected state agencies to determine current practices and costs for acquiring, updat-

***"The results of this survey will aid in developing a plan for a possible statewide computer mapping and geographic information system"***

ing, handling and managing geographic information. The results of this survey will aid in developing a plan for a possible statewide computer mapping and geographic information system. There are many other states which have or are developing statewide GIS's and survey teams are being sent to several of them to learn of their experiences in an effort to propose the most useful and cost effective system for New Mexico.

### The Map Legend

Editor: **Heather Rex**  
 Desktop Publishing: **Mike Dwyer**  
 Copying: **Lee Aggers**  
 Assembly: **Amy Budge**  
 Mailing: **Dave Lowe**

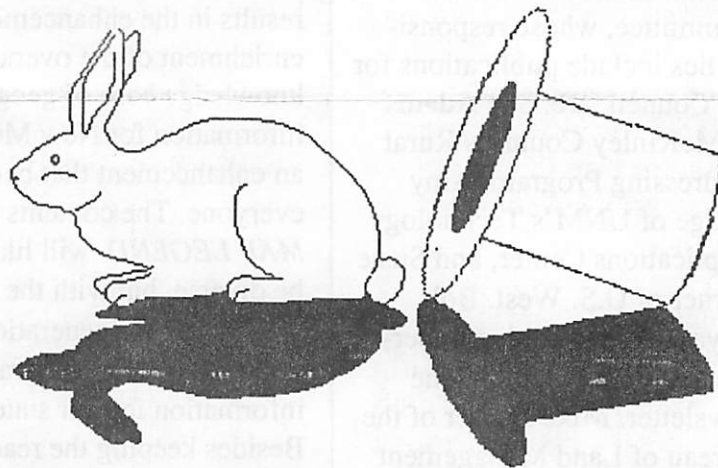
The articles published in THE MAP LEGEND are accepted from members of the NMGIC and the public in general. The articles are screened for general interest and edited for grammar only. The content is solely the expression of the authors opinion and does not represent any position or endorsement by NMGIC except where specifically noted. All correspondence should be directed to Heather Rex, Editor, THE MAP LEGEND, MAGIC Centennial Library, University of New Mexico, Albuquerque, NM 87131

## UNM Library's Map Room Becomes MAGIC

In January of 1988 the Map Room, which has long been a part of old Zimmerman Library at the University of New Mexico, moved to the brand new Centennial Science and Engineering Library on the Southwest part of the main campus.

With the move came a name change to the Map and Geographic Information Center (MAGIC). The new name reflects more accurately the products and services available for the patrons of the library. It also denotes an aspect of maps many people attribute to them.

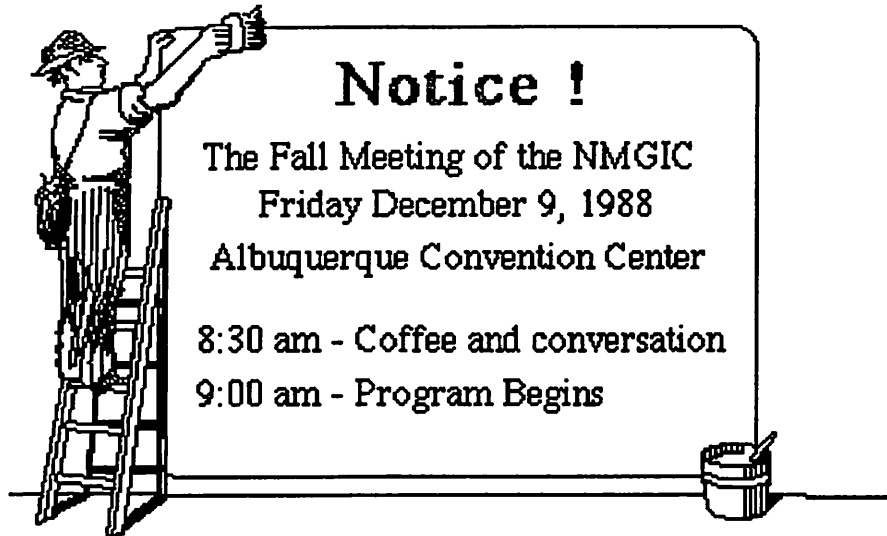
MAGIC is located on the Lower Level 2 of the subterranean new library in a space specifically designed for a cartographic materials collection. There are large tables for viewing the maps as well as a drafting table and a light table for the technical processing of maps before they are added to the collection and there are 1,500 drawers of horizontal storage space to house maps. The collection contains nearly 150,000 maps, approximately 7,000 aerial photo-



graphs and about 100 satellite images. Between 7,000 and 9,000 maps are added each year. There are also several thousand atlases, gazetteers, and other books related to geographic information.

The most comprehensive area coverage is of New Mexico and the Southwest. The United States and Latin America, especially Mexico, have excellent coverage, too. The entire world is represented on maps by hundreds of subjects and on many scales as well. Even mapping of the moon, solar system and several planets is in MAGIC. But the greatest coverage is that closest to home.

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## Notice !

The Fall Meeting of the NMGIC

Friday December 9, 1988

Albuquerque Convention Center

8:30 am - Coffee and conversation

9:00 am - Program Begins

## UNM's MAGIC

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The collection is mostly a current one with a significant historical component. As a full Regional Depository Library of the U.S. Government, MAGIC receives new maps free at the time of publication from several government agencies such as the U.S. Geological Survey, the Forest Service, The National Ocean Service, the Bureau of Land Management and the Central Intelligence Agency. This means there is always an up-to-date current collection of U.S. Government mapping. Besides the current maps, there are significant holdings of older, historical maps for many places, especially for New Mexico and the Southwest. What is not distributed free in current mapping is purchased from other governments, agencies or vendors to insure that the collection meets the research needs of its

patrons. Gifts from agencies, companies and private collectors are another means of acquisition. MAGIC encourages and invites agencies to donate their maps to the collection where they will be preserved and made available to the 11,000 plus researchers who use the facility each year.

Although the primary mission of the Map and Geographic Information Center is to support the academic programs at the University of New Mexico, MAGIC has a strong public service stance and the public uses its resources too. Reference service and research assistance is extended to all patrons. The library has excellent copy facilities for maps. Students, faculty, and staff of UNM may check maps out for a week, with a one week renewal. The public wishing to check out maps (or any library materials) may do so with a Borrower's Card, available for \$15 from

Zimmerman Library's circulation desk. Any materials may be used on the premises and/or copied without a Borrower's Card, however.

Maps, unlike books, are not automatically cataloged when they arrive in the library. Maps receive call numbers and are filed in order. The map collection is undergoing cataloging now. Maps as well as books will appear in the library's catalog of holdings within a few years and the collection will be linked with other map collections around the country via that catalog. Until that time, it is simpler for patrons to go directly to MAGIC, request what they need, and it will be retrieved for them. The staff is well-trained and knowledgeable and can assist in any cartographic or geographic research. A large file of sources provides help in locating maps and related materials not in the MAGIC collection.

A large part of the collection (approximately 50,000 maps) consists of U.S. Geological Survey topographic mapping of the states on all scales currently used by the USGS. A number of older scales are in the collection, too. Patrons may directly access the topographic collection. They are arranged simply and alphabetically by state name and sheet name within each state. An index of maps avail-

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## More MAGIC

*continued from page 3*



able for each state are filed with that state.

This open access

part of MAGIC is heavily used.

Hours are 8 am to 8 pm Monday through Thursday, 8 am to 5 pm on Friday, 10 am to 4 pm on Saturday and closed on Sunday. Evening and Saturday hours change during University intersessions. If you would like to know more about the cartographic resources available at UNM or if you would like to arrange a tour of the collection, please call Heather Rex at (505) 277-5513.

## NMGIC to Incorporate

The New Mexico Geographic Information Council (NMGIC), established in 1984, has been dedicated to promoting a spirit of cooperation in addressing geographic data concerns in New Mexico.

Through various committees within NMGIC, recommendations have been made to state, federal and local agencies in New Mexico regarding the state's geographic data needs. Currently there are six committees and one sub-committee serving NMGIC. Each committee responds to a specific area of interest identified by NMGIC members. The State Mapping Advisory

Committee (SMAC) has been advising the U.S. Geological Survey on mapping priorities in New Mexico. Similarly, the Geographic Names Committee has been working with the U.S. Board of Geographic Names regarding name issues in the state.

As the Council has grown, the need has arisen to better support the efforts of the committees. The first step was achieved with recognition of the Council by Governor Garrey Carruthers with his issuance of Executive Order 87-19. However, to establish an organizational framework, the NMGIC Steering Committee has decided to incorporate NMGIC as a non-profit organization within New Mexico. Articles of incorporation have been drafted and will be presented at the fall meeting. The articles will formalize the Council and provide the necessary foundation for successfully addressing geographic data and information in New Mexico.

## New Mexico's NCIC Affiliate



The National Cartographic Information Center (NCIC) network was begun in 1976 by the U.S. Geological Survey to more efficiently respond to user requests concerning cartographic data. These data

include aerial photographs, satellite imagery, digital data, and a wide variety of maps. The NCIC network consists of a national office in Reston, VA and regional offices in Rolla, MO, Denver, CO, and Menlo Park, CA, and state affiliate offices across the nation. New Mexico's state affiliate office was established in 1977 at the Technology Application Center (TAC) at the University of New Mexico in Albuquerque. Both microfiche and

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*"There is also a direct on-line link to the data base of photography at the EROS Data Center"*

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hardcopy indexes are available to assist in finding data. There is also a direct online link to the data base of photography at the EROS Data Center in Sioux Falls, SD. Users needing information on cartographic data in New Mexico, as well as nationwide, may contact Amy Budge at TAC, (505)277-3622.

The NCIC's second annual National State Affiliate meeting was held October 10-13, 1988 in Denver. The meeting immediately preceded the eighth annual meeting of the North American Cartographic Information Society (NACIS). Representatives from 48 states attended the numerous sessions, educational seminars and cartographic workshops conducted at the affiliate meeting.

## The TIGER File: 1:100,000 Scale DLG Data . . . and More

The U.S. Geological Survey and the Bureau of the Census have recently completed a cooperative project that will provide the map user community with a significant new product: 1:100,000 scale digital data. The digital data are the roads, hydrography, railroads and miscellaneous transportation features shown on 1:100,000 scale USGS maps. Both agencies will cooperate in the promotion and distribution of the products from the project.

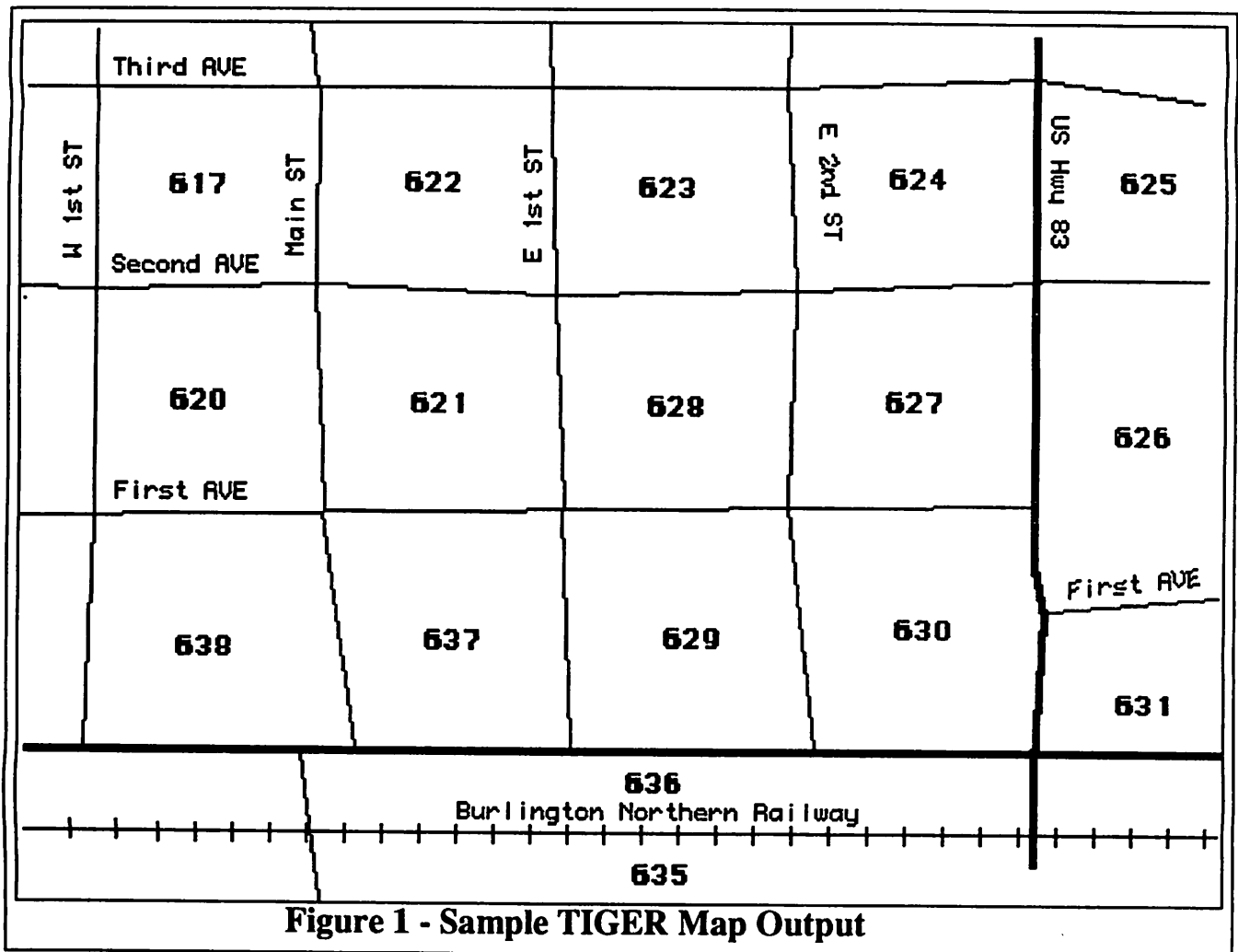
The Bureau of the Census is

using the Digital Line Graph (DLG) data from this project as the heart of a bold new system to modernize its cartographic and geographic processes. This new data base, called the Topologically Integrated Geographic Encoding and Referencing (TIGER) System, will support the Census Bureau's demographic and economic data collection, processing and tabular activities beginning with the 1987 economic and agricultural census of Puerto Rico, followed by the 1990 Decennial Census of the United States.

In October of 1987, the census Bureau began producing map copies for the nearly 1,500 counties and 95,000 separate enumerator assignment areas for which field staffs will list individual housing unit addresses starting in May 1988. (Figure 1 is a sample section form an enumerator assignment map produced from the TIGER file.)

These map products are prepared by using a totally automated production system

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## TIGER Attacks 1990 Census

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that determines the scale of each map based on the average length of the street segments in the file for a particular area. The automated system also determines when to produce inset sheets for areas of congested street pattern. The plotting software places all names, identifying numbers, landmark symbols, and it generates all marginal text. Marginal text includes map identification numbers, state and county names and codes and a bar code presenting the information in machine-readable form.

All of the digital data files produced by the U.S. Geological Survey and the Census Bureau from this cooperative effort will be available to the public. The products—the Census Bureau's TIGER files for each county and the Survey's DLG's for each 30-minute by 30-minute area in the lower 48 states—can be ordered from either agency; both agencies

249,999,996

249,999,997

249,999,998

249,999,998.5



have information regarding the complete set of digital map products available. For further information, contact either one of the following offices:

Customer Service Branch  
Data User Services Division  
Bureau of the Census  
Washington, D.C. 20233  
(301) 763-4100

National Cartographic Information Center  
National Mapping Division  
U.S. Geological Survey  
Reston, VA 22092  
(800) USA-MAPS or (703) 860-6045

## The NMGIC Global Positioning Committee



The Global  
Positioning  
Committee

(GPS) was organized in November, 1986 to provide a focus within NMGIC for addressing this new and powerful technology. GPS is having a fundamental impact in surveying, mapping and

**"GPS is having a fundamental impact on surveying, mapping and navigation"**

navigation. It's ability to provide extremely accurate geographic positions in a

*continued on page 7*

## NMGIC Fall Meeting

The Fall Meeting of the New Mexico Geographic Information Council (NMGIC) will be held on December 9, 1988 in the Taos Room of the Albuquerque Convention Center. The coffee will be on at 8:30 am - come early and visit with others interested in land information in the state! The program begins at 9:00. Among the presentations scheduled are:

-Bureau of Land Management presentation on their LIS and in particular - applications of the Global Positioning Systems (scheduled speakers include John Moeller, Deputy Assistant Director of Support Services, Washington, D.C.);

-an update on products and activities of the U.S. Geological Survey (scheduled speaker is Lee Aggers from the Rocky Mountain Mapping Center in Denver);

-and, a report on the progress of New Mexico's Resource Geographic Information System (scheduled speaker is Lester Henriksen, NMERI, UNM)

As usual, space will be available for displaying products—please bring what ever you would like to display. There is no charge for the meeting.

## GPS Committee



rapid, cost-effective manner will continue to change the way we obtain and use geographic information.

The Committee has two primary objectives:

(1) It serves as an information source on GPS for NMGIC and for any other interested parties in the State. This is accomplished through distribution of a GPS Resource Package every six months. The package contains a conglomeration of GPS theory, papers on recent advances in the technology, reports on significant GPS projects in New Mexico and elsewhere, reports of GPS equipment and software tests, and vendor information. It also contains a Committee Chair's report which updates the committee's activities over the previous six months. The package is distributed at no cost.

(2) It promotes the establishment of a high accuracy GPS reference network. The network will consist of a number of monuments and active GPS base stations which have absolute geographic coordinates measured to a precision of at least one part in one million. The network will insure that a reference is available to GPS users in the State which is commensurate with the accuracy capabilities

of GPS. Monuments have now been set and measured in many urban areas of the State. In addition a very stable monument has been set at the Albuquerque International Airport, which will become the site of New Mexico's first public active GPS base station. The station will collect data from all visible GPS satellites 24 hours a day, 365 days a year. The data will be archived in a central computer data base and will be available to users

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***"The station will collect data from all visible satellites 24 hours a day, 365 days a year"***

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on a dial-up basis. In this way many users will be able to achieve the highest accuracy from GPS positioning, but will need only a single receiver rather than the two that are normally required. The base station becomes a common second receiver for any number of users. If successful, other base stations may be established as need dictates and resources become available.

The Committee, like NMGIC and all its other committees, is sustained through the voluntary efforts of its members. Anyone wishing to know more about the GPS Committee and its activities should contact:

Tom Henderson, Chair  
GPS Committee

New Mexico State Highway and Transportation Dept.  
P.O. Box 1149, Room B-31C  
1120 Cerrillos Road  
Santa Fe, New Mexico 87504  
(505) 827-5185

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## ***New NMGIC Subcommittee Formed to Assist Local Governments***



The Local Government Land Records Committee

(LGLR) is a new subcommittee of the Geographic Information Systems (GIS) Committee of the NMGIC. Its primary purpose is to promote the creation of multipurpose land information systems by local governments in New Mexico. Such systems should provide continuous, readily available, and comprehensive parcel level land related information for all land record users and providers. Several specific activities of the LGLR Subcommittee are planned:

(1) quarterly meetings coordinated with the GIS Committee;

(2) development of a communications network of local government contacts in New Mexico (counties, municipalities) who are interested in land records modernization;

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## Local Government Subcommittee

*continued from page 7*

(3) the circulation of educational materials (books, proceedings, video, etc.), provision of educational services (workshops, seminars, slide lectures, etc) and the exchange of information with national organizations such as the American Congress on Surveying and Mapping (ACSM), the American Society of Photogrammetry and Remote Sensing (ASPRS) and the Urban Regional and Information Systems Association (URISA);

(4) support for and assistance in the drafting of legislation for a New Mexico recordation act which would make plat recordation mandatory and set basic standards for parcel level land records such as parcel identifiers;

(5) interaction with a pilot land information system since several governments in New Mexico are in the preliminary stages of developing land information systems.

For more information, contact Gretchen L. Coles, Chairperson, LGLR, at City of Albuquerque Planning Department days (505) 768-3920 or evenings (505) 471-5442, 1182 Morning Drive, Santa Fe, NM 87501.

## Rural Addressing Programs in New Mexico



Locating a rural residence can be difficult and time consuming. In an emergency the ability to rapidly locate the residence is critical. Many places in New Mexico's rural areas do not have addresses and Emergency Medical Services (EMS) personnel have to rely on directions to locate the person in need. Unfortunately, these directions are not always accurate or easy to follow, especially during the stress of a life-threatening emergency. Valuable time is wasted looking for the victim in a life and death situation.

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***"In an emergency, the ability to rapidly locate the residence is critical"***

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To solve this problem some counties in New Mexico have established (or are in the process of establishing) programs to give house-number-street-name/number addresses to rural residences. As part of the program, the counties produce maps. Counties currently participating in rural addressing programs are: Bernalillo, Chavez, Eddy, Grant, McKinley, Otero, San Juan, Sandoval, Socorro, Taos, Torrance, Roosevelt, Valencia, Rio Arriba, and San Miguel.

The system of addressing is called the "milemarker system". House numbers are the mileage from the beginning of the road to the driveway of the house. For example, a house about 2.25 miles down Main Road will get an address of 225 Main Road. The number 225 is posted at the entrance to the property and is visible from the road. An address of 109 Drake Road we now know is 1.09 miles from the beginning of Drake Road. Roads are named and numbered and house numbers are posted. Utilities are helping counties financially to establish this standard addressing system in rural areas.

Some rural addressing programs in New Mexico are using a computer-based mapping system and are technologically advanced compared to programs in other states. A computer based mapping system is a state-of-the-art process that involves entering data from maps into a computer, using a special piece of hardware called a "digitizing pad". The data are then used to plot, or print maps with the aid of another piece of hardware called a "plotter". With this system, the shortest path to a particular location can be shown. The maps can be updated quickly and accurately as the county grows. The maps and demographic data will allow EMS personnel to devise

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## **Rural Addressing**

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allow EMS personnel to devise service areas and to designate mutual aid second response based on population clusters, road conditions and distance.

Additional benefits of the program include: aiding in the identification of residents in need of basic infrastructure services; the creation of up-to-date road maps of the counties; the identification of resident locations for voter registration, property tax assessment and appraisal; aiding in school districting, road maintenance districting and commissioning redistricting; and, the location of residences for census purposes, services or deliveries.

U.S. West Communications, along with other companies serving rural areas, have been instrumental in promoting and funding rural addressing

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***"Some rural addressing programs in New Mexico are using a computer based mapping system .."***

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programs in New Mexico. If your county does not have a rural addressing program, you might want to tell your county officials about the benefits of the program to emergency services. If your county does have a rural addressing program, offer the program your support. Remember, rural

addressing can save lives and property.

For more information on rural addressing contact Susie Turner of Mountain Bell at (505)765-8737 (collect).

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### **Note:**



**NMGIC Committee Meetings will be held at the Fall Meeting beginning at 1:30 pm in the Taos Room, Convention Center**

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## **NMGIC Geographic Names Committee**

The NMGIC Geographic Names Committee was created to review place-name issues in New Mexico and to interact with the U.S. Board on Geographic Names (USBGN); this Board must approve all names appearing on Federal maps. The Geographic Names Committee meets several times a year to discuss name issues, usually proposals forwarded by the USBGN. To deal with these issues the Committee has adopted guidelines, usually parallel to those of the USBGN, to insure that proposed and disputed names

reflect local usage, history and culture. After studying an issue and discussing it with interested parties, the Committee makes a formal recommendation to the USBGN, which, while not bound to follow the the Committee's recommendation, nonetheless usually does.

At present the Committee is considering two proposals. The first is from several residents of the Las Vegas area asking that the name Arroyo and Pagosa Creek be changed to Arroyo del Vegosa and Vegosa Creek respectively. They argue that *pagosa* is an incorrect rendering of the Spanish word *vegosa*, referring to a meadow area.

The second is from the Bureau of Land Management (BLM) and pertains to New Mexico's highest natural arch, located in the newly created El Malpais National Monument. In 1979 the USBGN approved a proposal from a New Mexico

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***"The Alta Arch proponent, however, is vehemently opposed to his name being dislodged and has vowed to take his case to senior citizen groups, TV stations and the President"***

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man who said he named the feature Alta Arch, but the BLM is asking that this proposal be rescinded, saying that

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## What's In A Name?

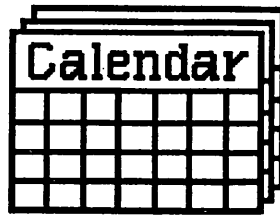
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the name Alta Arch is not recognized generally and that the name accepted by local usage and used in BLM maps and literature is La Ventana. The Alta Arch proponent, however, is vehemently opposed to his name being dislodged and has vowed to take his case to "senior citizen groups, TV stations, and the President". It should be interesting.

In addition to responding to proposals like these, the NMGIC Geographic Names Committee also serves as a clearinghouse for the name activity in New Mexico. For example, the Committee is interested in collecting and recording historical information about all New Mexico place names—Native American names, railroad names, cave names, any names—and the Committee's chair has an ongoing data base of more than 5,200 state names. New information about New Mexico's names is always welcome.

For more information, contact:

Bob Julyan, Chair  
Geographic Names Committee  
Rural Route 5  
31 Avenida Almendro  
Albuquerque, NM 87123  
(505) 298-8420



## Upcoming Events

November 17-19 - New Mexico Association of Surveyors and Mappers Fourteenth Annual State Convention. Keynote Speaker: Bernard Hostrop, Surveyor General of the United States. Ramada Classic, Albuquerque. Contact: Skip Carleton, 897-0000 in Albuquerque for more information.

November 30 - December 2 -GIS/LIS '88, The Third International Conference, exhibitions and workshops, geographic/land information systems management, San Antonio, TX. Contact Don Hemenway, 210 Little Falls St., Falls Church, VA 22046, (505) 241-2446

December 5-9 American Geophysical Union (AGU), Fall Meeting, San Francisco, CA. Contact AGU, 2000 Florida Ave. NW, Washington, D.C. 20009 (202) 462-6903

December 9 - NMGIC Fall Meeting, Taos Room, Convention Center, Albuquerque, 8:30 am - Coffee, 9:00 am program begins.

## NMGIC Steering Committee

Michael Inglis, Chairperson  
Technology Application Center  
Albuquerque 277-3622

Scott Bradshaw  
Bureau of Indian Affairs  
Albuquerque 766-3003

Amy Budge  
Technology Application Center  
Albuquerque 277-3622

Bill Chapel  
NM State Forestry  
Santa Fe 827-5832

Bob Czerniak  
New Mexico State University  
Las Cruces 646-2708

Mike Dwyer  
Bureau of Land Management  
Santa Fe 988-6190

Tom Henderson  
New Mexico State Highway Dept.  
Santa Fe 827-5185

Dave Love  
New Mexico Bureau of Mines  
Socorro 835-5146

Blain Maw  
U.S. Forest Service  
Albuquerque 842-3858

Dan Sutcliffe  
New Mexico Game and Fish  
Santa Fe 827-7885

## Committees

Public Awareness Committee  
Heather Rex, Chairperson

State Mapping Advisory Committee  
Dave Love, Chairperson

Geographic Information Systems Committee  
Michael Zeiler, Chairperson  
Envision Utility Software Corp.  
Santa Fe 471-2170

Local Government Land Records  
(Subcommittee of GIS Committee)  
Gretchen L. Coles, Chairperson  
City of Albuquerque 768-3920

Global Positioning Systems Committee  
Tom Henderson, Chairperson

Geographic Names Committee  
Bob Julyan, Chairperson  
Writer Albuquerque 298-8420