

WISCONSIN MAPPING BULLETIN

Vol. 16 No. 2 March 1990



REPORTING ON LAND INFORMATION AND MAPPING
SCIENCES IN THE STATE OF WISCONSIN

Legislature Approves Funding For Land Records Modernization

In the final week of its Spring floor session, the State Senate passed AB 727, which calls for a user fee to support the modernization of land records. The Governor must now sign the bill in order for it to become law.

The Senate Committee on Housing, Government Operations, and Cultural Affairs unanimously recommended the bill to the Senate as a whole, which voted 27-5 in favor. The State Assembly had earlier given its final approval to the bill by a vote of 72-22.

AB 727 was proposed by the Wisconsin Land Information Board (WLIB) as the fulfillment of one of its statutory obligations---to recommend a method for funding the Program which the WLIB is to oversee. The concepts behind the funding mechanism were the result of work done by a task force established by the Wisconsin Land Information Association (WLIA), and the language was fine-tuned as part of discussions with some of the major groups interested in the Program's mission: statewide associations of specific land records professionals, realtors, and utilities. The bill received strong bipartisan support in both houses of the legislature.

It seems likely that Governor Thompson will sign the bill, since he spoke strongly in support of the WLIB's mission and its funding proposal in his address to the Annual Conference of the WLIA in February (see article on page 2). However, opponents of the program---particularly the Wisconsin Counties Association---will probably attempt to convince the Governor to veto the measure. If AB 727 were to be vetoed, the next opportunity to introduce funding legislation would not be until the next legislature's first session in early 1991.

The language of AB 727 provides for an increase in the fee for recording documents in county Register of Deeds offices. This fee would increase from its current level of \$4 for the first page of each document, to \$8 on July 1, 1990, and then to \$10 one year later. There would be no increase in the current \$2 fee for each page after page 1. The fee increases would all be directed toward land records modernization, under the direction of the WLIB.

Based on statistics of document filings for recent years, the fee increase would be expected to raise \$4 million in the first year, then \$6 million per year for each subsequent year. These monies would be used to leverage compatibility and reduce duplication in the collection and maintenance of land information across the state. It is estimated that \$140 million is already being spent annually by all levels of government plus utilities in the state, to manage land information; however, there has been no mechanism to encourage significant and long-term sharing of this responsibility.

No General Purpose Revenue (GPR) was included in AB 727 as it was passed. As a result, administrative costs in support of WLIB operations will have to be funded out of the \$2/document that comes to the Board primarily for grants. The bill authorized 2.5 Project positions to support the board.

The bill calls for two methods by which local government (through county "land information offices") could access the new funding. \$2 of the 1990 increase, and all of the 1991 increase (a total of \$4 per document) could be retained by the county, provided the county establishes their land information office and writes a countywide modernization plan which meets the

continued on page 2

GOVERNOR'S SPEECH HIGHLIGHTS WLIA ANNUAL CONFERENCE

Governor Tommy Thompson lauded the supporters of programs to modernize Wisconsin's land information systems, in his opening day luncheon address at the Annual Conference of the Wisconsin Land Information Association (WLIA). The conference, held February 19-20 in Stevens Point, was attended by approximately 300, including persons from all parts of the state, and affiliated with a wide variety of agencies, other associations, businesses, and professions. WLIA membership now exceeds 400.

Attendees also heard about the recently completed federal land information study from John Moeller of the Bureau of Land Management, U.S. Dept. of the Interior. Many issues identified in the study are similar to issues being raised within Wisconsin. Contact the State Cartographer's Office if you would like a copy.

In his speech, the Governor had the following to say:

"...I want to thank the members who have volunteered and are so willing to serve on the new Wisconsin Land Information Board. You have worked tirelessly to meet the challenges given you in the 1989 Budget Bill... Our board has been working feverishly to accomplish the initial steps that will lead us to the prize catch; development of a land information system that serves the citizens and makes Wisconsin a better place to live and work and play.

In creating the Land Information Program, our goal was to provide a network to share information between the state and the private sector. By integrating land records we will all be working from the same informational play book... So that (information) can be more readily shared and I can't understand why anybody is in opposition to that.

Technology has enabled government and the private sector to make better decisions because the information before them is more complete, accurate and timely. What can the pursuit of this technology bring? Number one, it's going to bring better and more economic development... By being on the cutting edge of informational technology, Wisconsin will be able to seize and advantage in cultivating, attracting, expanding and keeping business in Wisconsin... It will help create jobs and drive the state's economic competitiveness...

By taking advantage of this powerful tool, Wisconsin becomes even more environmentally pro-active, not simply reactive...

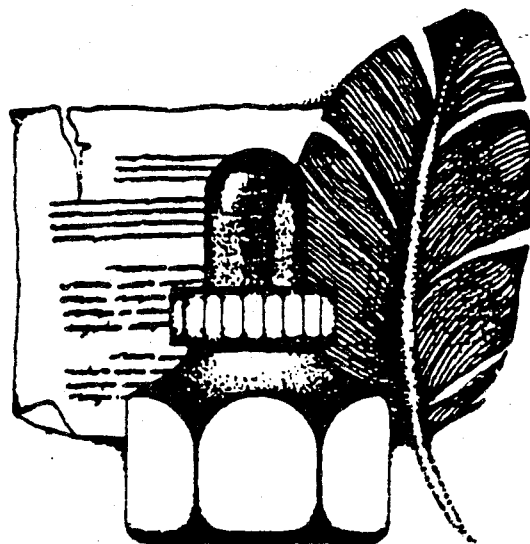
In developing this technology, government at the same time will become more responsive. Much of the wasteful

duplication of efforts at all levels of government will be able to be eliminated...

The concept of the land records modernization program is on which puts local government on the same information plane as state and federal government. The decentralized and independent nature of this infrastructure will better equip local government to confront, evaluate and resolve local and regional problems...

Benefiting from all our efforts will be taxpayers who will no longer have to pay the price for inefficiency as well as redundancy...

If we choose, Wisconsin has the opportunity to seize the future. Our opportunity is at hand to fundamentally change how we handle information in the age of information. Let us set our course in the most thoughtful and sensible way."



Legislature Approves Funding...continued

approval of the WLIB. In addition, a county office could apply for grants from the WLIB, for use by the county or any entity or group of entities within the county (municipalities, other districts, or utilities, for example).

AB 727 contains a "sunset" provision, so that the funding program will lapse after 3 biennia (by June 30, 1997) unless reauthorized by the legislature before that time. The thinking behind this language is that this new type of program---there is nothing similar in the U.S.---should be reviewed after several years of operation, to evaluate its effectiveness.

15 YEARS OF CARTOGRAPHY IN WISCONSIN, PART II

Variability in Wisconsin Cartography

During the last 15 years, the most dependable mark of Wisconsin cartography has been its variability, its sometimes frivolous nature, its unpredictability.

After spending some 26 years working in cartography for the federal establishment, where the overriding by-word was standardization, it was a shock to discover the tremendously wide variety of approaches, techniques, quality levels, and final appearances of cartographic products that existed in all levels of government and industry in the state.

I should have expected it, considering there are probably over 200 separate units, counting state agencies, regional planning commissions, counties and municipalities, performing some type of cartographic production—coupled with the state's historic hesitancy to exert explicit direction due to its historic self-rule tradition.

Through the 15 years, however, I have noted that this has caused a loss of value at the state level. For example, the Farmland Preservation Program of the 1980's caused the entire state's prime farmland to be mapped by county. However due to lack of a requirement to use a standard approach, the capability to combine the portrayal on a total state map was lost.

Report on Activities of the Wisconsin Land Information Board

Since January, the Wisconsin Land Information Board (WLIB) has met twice, on February 12 and 23. A meeting scheduled for March 14 was cancelled. The Board will meet next on April 17 in Madison.

The WLIB has put most of its energy over the recent months into getting a funding package approved by the Legislature and Governor. It has also focussed on the general features of model to be devised to accomplish sharing of land information amongst agencies and levels of government, and some specific elements of that model.

Editor's Note: As announced previously, the current State Cartographer, Art Ziegler, will be retiring at the end of this year. The article below is the second of several commentaries by which Art will offer his retrospective view of mapping in Wisconsin.

I consider one of the most important tasks facing the recently formed Wisconsin Land Information Board (WLIB) is that of achieving some level of standardization to insure state level utilization of mapping resources, yet at the same time accommodating the range of local needs and capabilities in producing this resource.

Another recent development, that of automated mapping hardware/software, has reduced, but not eliminated, this variability. Instead of 72 separate and distinct county mapping programs, the advent of CAD/GIS programs has reduced this to less than a dozen in the automated form. But such considerations as scale, line weights, order of presentation, color designation; are still the choice and option of the producer.

But the more important options—level of accuracy, density of detail, transferability of data—are the most important when it comes to widespread use of the initial data collected. This is the most important area for the WLIB, or the loss of this multi-use resource will occur.

However, as various sources are combined into an automated system, there is a danger of the loss of knowledge of the original quality level, since the computerized output tends standardize the appearance. The need to document the input quality levels of data is one of the most pressing problems facing automated cartography.

As the future of cartography unfolds in Wisconsin, by necessity, many of its "variabilities" will disappear.

Thomas Patterson, of the Southeast Wisconsin Regional Planning Commission staff, has been appointed by the Board to an advisory seat representing a regional planning commission.

Officers of the Board have been particularly active in educating and informing a variety of persons on the need for a funded program to modernize land information management. If the Governor signs the funding legislation (see page 1), the Board will be able to concentrate on putting the program into effect. This would be a major effort over the upcoming months that could benefit from input from a broad spectrum of people who collect, maintain, and utilize land information.

For more information, contact Bill Holland at (608) 267-2707.

MICROCOMPUTER MAPPING SOFTWARE, PART II

In our last issue (January, 1990) we began a series on micro mapping software. The purpose of this series is to provide a brief introduction, aimed primarily at the new or uninitiated mapping software user, to some of the different mapping software products and product-types in the PC and Macintosh market.

Micro Mapping software products were grouped into five product types, differentiated by their mapping functions and capabilities. These groups are: Atlas and Information Programs; Map Creation / Presentation Graphics; Customized Map Creation; Computer Aided Design (CAD) Systems; and Geographic Information Systems (GIS).

A more detailed product and product-type description also began in the last issue, starting with the Atlas and Information Programs group. This issue will cover the Map Creation/Presentation Graphics and Customized Map Creation product groups.

We have received many letters from our readers alerting us to products which we may have categorized improperly, or others which were not included in our listing at all. We appreciate and encourage your continued response, and will make every effort to include as many products as we are aware of and have information on. Please bear in mind, however, that the lines separating these different product-types are somewhat artificial. Our categorization of products is intended only as a general guideline. We encourage you to obtain more detailed information from the software publishers themselves before making a purchasing decision.

Map Creation/Presentation Graphics

Map Creation / Presentation Graphics products are primarily designed for "canned" map creation. Maps made with these products are commonly used in presentations and reports. Boundary files are usually included with the software and map creation is often limited to the boundary files provided. Depending on the particular product, boundary files may include maps of the entire world; world regions by country; the United States; all 50 states by county; and U.S. metropolitan areas. Some products have simple choropleth mapping capabilities (areas categorized by some ratio statistic) as well as text and graphic enhancement capabilities. Other products allow maps to be exported to more general presentation and/or paint applications to be enhanced with graphics and text.

Hardware requirements for Map Creation / Presentation Graphics products vary significantly among the different products. RAM requirements range from 128K to 1MB. EGA or VGA card and color monitor are required for the PC products. A Mac SE is required for many of the Mac-based products. A hard disk may also be required with up to 5MB available disk space. A CD-ROM player is required for Electronic Map Cabinet. Additional presentation and/or paint application software may also be necessary for certain products to be used most effectively. Prices for this software product group range from \$79 to \$199. For more information on these products contact the software publisher directly.

AtlasPC (PC)
MicroMaps Software, Inc.
Box 757
Lambertville, NJ 08530
(800) 334-4291

Desktop Maps (PC)
Electronic Publishing Solutions
980 Shoreline Drive
Foster City, CA 94404
(415) 570-6200

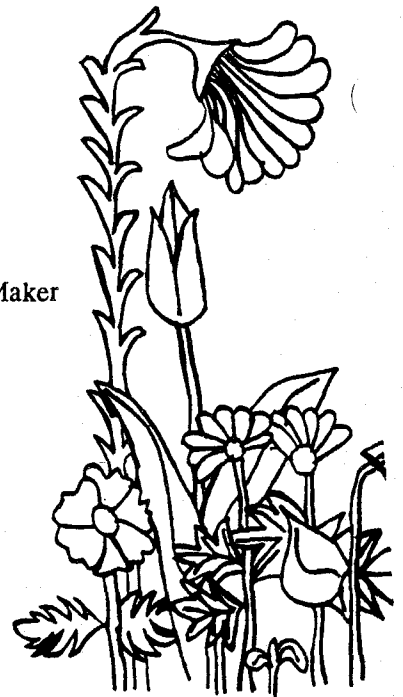
Micrografx Clip Art (PC)
Micrografx
1303 Arapaho
Richardson, TX 75081

Harvard Graphics U.S. MapMaker
Software Publishing Corp.
P.O. Box 7210
1901 Landings Dr.
Mountain View, CA 94039
(415) 335-2000

MacAtlas (Mac)
MicroMaps Software, Inc.
(see AtlasPC)

QuickMap (Mac)
MicroMaps Software, Inc.
(see AtlasPC)

Electronic Map Cabinet (Mac)
Highlighted Data Inc.
P.O. Box 17229
Washington, D.C. 20041
(703) 533-1939



continued on next page...

Microcomputer Mapping, continued...

Customized Map Creation

Mapping software products represented by this category serve a similar overall purpose to the Map Creation / Presentation Graphics group (see above description), but are generally more flexible and sophisticated. With Customized Map Creation products maps can be generated in several different ways, depending on the particular product. Some products utilize (and are limited to) boundary files provided with the program. These boundary files are typically of better quality and show much greater detail than those provided with Map Creation / Presentation Graphics products. A second option for map generation with Customized Map Creation products is importing third party boundary files, which often have related statistical files. This capability provides a greater source of mapping options for the user. A third option for customized map creation provided by some products is the ability to create customized boundary files specific to the user's needs. This capability is commonly known as digitizing, and may require additional software. Most of the software products in the Customized Map Creation product group do not offer all three of these options for map creation, but rather are limited to only one or two of these options.

There are many other mapping-related functions provided by this group of software products. These functions vary by product, but may include: choropleth, contour, or point symbol mapping; geocoding or "pin-mapping" (matching items in a database file to locations on a map); and interactive map-layout capabilities. These products are commonly used as marketing analysis tools and as simple decision support systems (e.g. site location analysis, trade area analysis, resource planning, etc.).

Hardware requirements for these products become more demanding as the level of software sophistication increases. Generally for Customized Map Creation products they are as follows: 384K to 1MB RAM; hard disk with 1MB to 10MB disk space; and EGA or VGA card and color monitor for PC products. Prices range from \$150 to \$500. The following articles provide additional information on several of these Customized Map Creation products.

Sena, Michael L. 1990. "Do it Yourself Mapping". Computer Graphics World, March, 1990.

Young, James. 1989. "Choropleth Mapping With the PC: Communicating Effectively for Under \$1000". URISA Journal of the Urban and Regional Information Systems Association, Vol. 1, Number 1, Fall 1989.

For more information on these products contact the software publisher directly.

Atlas * Graphics (PC)
Strategic Mapping, Inc.
4040 Moorpark Avenue, Suite 123
San Jose, CA 95117
(408) 985-7400

Map-Master (PC)
Decision Resources, Inc.
25 Sylvan Road South
Westport, CT 06880
(203) 222-1974

Multimap (PC)
Planning Data Systems
1616 Walnut Street, Suite 2103
Philadelphia, PA 19103
(215) 732-1300

MapMaker (Mac)
Strategic Mapping, Inc.
(see Atlas * Graphics)

GeoQuery (Mac)
Odesta Corporation
4084 Commercial Avenue
Northbrook, IL 60062
(800) 334-6041



PUBLICATIONS

NEW WG&NHS PUBLICATIONS

For information on the publications listed, contact the Maps and Publications Sales (MAPS) office, of the Wisconsin Geological and Natural History Survey, 3817 Mineral Point Road, Madison, WI 53705, 608/263-7389.

List of Publications of the Wisconsin Geological & Natural History Survey, 1989

MP 89-1. Water Resources of Vilas County, WI. G.L. Patterson, U.S. Geological Survey, 1989, 46 p. with water table map (scale 1:100,000). Price \$5.00.

I-1360-A. Mineral-Resources Map of the Iron River 1° x 2° Quadrangle Michigan and Wisconsin. W.F. Cannon, 1985. Scale 1:250,000. Price \$3.50.

Miscellaneous Map Series #28. Groundwater Quality Investigation of Clark County, Wisconsin. Compiled by G.S. Steinhart and I.D. Lippelt, 1989, 8 plates. Paper diazo print (scale 1:100,000). Entire set, \$6.00.

Miscellaneous Map Series #29. Groundwater Quality Investigation of St. Croix County, Wisconsin. Compiled by I.D. Lippelt, 1989, 7 plates. Paper diazo print (scale 1:100,000). Entire set, \$5.00; single copy, \$1.00.

Pleistocene Geology of Marathon County, WI, John W. Attig and Maureen A. Muldoon, 1989. With full color map of Pleistocene geology, scale 1:100,000 (Information Circular 65, 27 p., \$7.00).

Soils of Eau Claire County, WI, and their ability to attenuate contaminants, K.J. Cates and F.W. Madison, 1989, scale 1:100,000 (Map 89-6, two color, \$2.00).

Groundwater quality investigation of Clark County, WI, compiled by G.S. Steinhart and I.D. Lippelt, 1989, 8 plates. Paper diazo print, scale 1:100,000 (Miscellaneous Map Series, entire set, \$6.00; single copy, \$1.00).

Groundwater quality investigation of St. Croix, WI, compiled by I.D. Lippelt, 1989, 7 plates. Paper diazo print, scale 1:100,000. (Miscellaneous Map Series, entire set, \$5.00; single copy, \$1.00).



COUNTY PLAT BOOKS

The following Wisconsin County Land Atlas and Plat Books are now available for 1990: Buffalo, Rock, Vernon, Vilas, Waukesha, and Waushara Counties. These Plat Books sell for \$25.00 plus tax and shipping. For ordering details contact: Rockford Map Publishers, Inc., P.O. Box 6126, Rockford, IL 61125, phone (orders only) 800/435-0712 or for customer service information call 815/399-4614.

USGS PUBLICATIONS

The following are miscellaneous investigations series maps available from the U.S. Geological Survey, Map Distribution, Federal Center, Box 25286, Denver, CO 80225. When ordering use the reference number given for each map.

I-1360-E. Bouguer gravity anomaly map and geologic interpretation of the Iron River 1° x 2° quadrangle, Michigan and Wisconsin, by J.S. Klasner and W.J. Jones. 1989. Scale is 1:250,000 (1 inch = about 4 miles). Sheet 41 by 57 inches (in color). \$3.10.

(This Bouguer gravity map was compiled from 5,226 stations from various sources. The contour interval is 2 milligals. Bouguer anomalies were calculated for a sea-level datum by using 2.67 g/cm³ for rock density and 1.00 g/cm³ for water density. This report includes geologic interpretation and its implications for the mineral resources of the area.)

I-1903. Geologic map of Proterozoic rocks near Mountain, Oconto County, Wisconsin, by P.K. Sims. 1989. Scale is 1:24,000 (1 inch = 2,000 feet). Sheet 24 by 29 inches (in color). \$3.10.

(Early and middle Proterozoic rocks inside and outside the Mountain shear zone are mapped and described. Three stratigraphic names, the Waupee Volcanics, the Baldwin Conglomerate, and the Hines Quartz Diorite, previously proposed by others, are formally adopted and described.)

I-1924. Geologic map of Precambrian rocks of Rice Lake 1° x 2° quadrangle, northern Wisconsin, compiled by P.K. Sims. 1989. Scale is 1:250,000 (1 inch = about 4 miles). Sheet 31 by 40 inches (in color). \$3.10.

The following intermediate-scale (1:100,000) maps are prepared on a 30 x 60-minute format using feature-separation drawings and symbolization suitable for digitizing. They are printed on sheets that are 24" x 40" to 46" and cost \$4.00.

Decorah quadrangle, 1982-85 (year surveyed)
Delwein quadrangle, 1983-84 (year surveyed)
Appleton quadrangle, 1982-84 (year surveyed)

COUNTY CARTOGRAPHIC CATALOG DEVELOPMENTS

The following is a brief update on County Cartographic Catalog production at the SCO:

CLARK: scheduled for printing April, 1990.

GREEN: scheduled for printing May, 1990.

WINNEBAGO (2nd edition): in process, scheduled for printing mid 1990.

MARATHON, WOOD: in production.

PORTAGE (2nd edition): in initial phase.

REMOTE SENSING NEWS

Landsat Funding

Funding for the launch of Landsat 6 is included in the NOAA budget request for FY 1991. Continued funding for operations of Landsats 4 & 5 is still problematic, although the Office of Management and Budget has reportedly decided to redirect funds to cover the second half of the current fiscal year.

Landsat TM Format; Price Increases

EOSAT, the private contractor for operation of the Landsat system, has announced that "Fast Format" will henceforth be the standard format for delivery of Thematic Mapper (TM) data.

The prices of many Landsat products were raised on March 1. For a copy of the complete price schedule, contact EOSAT at 4300 Forbes Boulevard, Lanham, MD 20706; or call 800-344-9933.

EOSAT Directories of Related Products/Services

EOSAT has produced a directory of almost 100 domestic firms which offer remote sensing value-added services. Directory of Landsat Related Products and Services provides the names and addresses, cross-referenced by state and application specialties. Another document, Landsat & GIS: A Directory of Geographic Information Systems and Related Products and Services, includes information on over 200 companies worldwide involved in development and use of GIS. For more information, contact EOSAT (see above).

Yellowstone Fire Poster Available

The American Forestry Association (AFA) has produced a 24" X 36" color poster of the Yellowstone National Park area, based on data acquired by Landsat 5 on September 5, 1988. The poster is available from AFA's Global ReLeaf Program. Proceeds go to the Greater Yellowstone Area Recovery Fund. Send \$12.95 plus \$2.00 postage and handling to: Global ReLeaf, Box 2000, Washington, D.C. 20013.

(source: EOSAT)

SPOT 2 Successfully Launched

On January 21, the French SPOT 2 satellite was launched. This satellite was planned as a replacement for SPOT 1, to which it is identical in design; but since SPOT 1 is still functioning, the two will be used concurrently.

(source: Computer Graphics World, March 1990)

LANDSAT 7 FUTURE CONSIDERED

Editor's Note: The article below is an edited version of a commentary published in Photogrammetric Engineering and Remote Sensing, the Journal of the American Society for Photogrammetry and Remote Sensing.

Over the past year, the National Space Council (NSC) headed by Vice President Quayle has been working to resolve the policy and funding problems surrounding the Landsat Program. Stop-gap measures have been taken to keep Landsat 4 and 5 in operation and to complete Landsat 6, but key decisions on the future of Landsat 7 remain to be answered.

In mid-December 1989, a plan to turn over the design and operation of Landsat 7 to the Defense Department surfaced but the plan was rescinded by the Vice President. Further action on this matter by the NSC has been delayed until this spring when the Council will once more explore all available guidelines to assign responsibility for the Landsat Program.

It is fair to say that the attempt to commercialize Landsat has not worked as originally envisioned. The professional societies believe that Landsat data should be available to civilian users at a reasonable cost. This is not currently the situation, as prices have risen dramatically during the last few years. Landsat provides fundamental data about the Earth and as such, it belongs in the public domain so it can be widely utilized by all.

The policy decision which the NSC must make this spring is where to place the responsibility for the Landsat Program. This decision will define the direction that the Program will be taking for the foreseeable future.

Persons wishing to direct comments on this issue to decisionmakers should contact:

*Vice President Dan Quayle
The White House
Washington, D.C. 20050*

with copies to key Congressional figures such as:

*The Honorable Ernest F. Hollings
United States Senate
Room 125 Russell Senate Office Building
Washington, D.C. 20510*

*The Honorable Robert A. Roe
U.S. House of Representatives
Room 2243 Rayburn HOB
Washington, D.C. 20515*

*The Honorable James H. Sheuer
U.S. House of Representatives
Room 2466 Rayburn HOB*

CONFERENCES AND TECHNICAL MEETINGS

April 30-May 3, **Mid-America GIS Symposium**, sponsored by the Six State GIS Consortium, at the Marriott Hotel in Overland Park, Kansas. Contact: Vicky Varner, Symposium Publicity Committee, Kansas Applied Remote Sensing, Kansas University, 2291 Irving Hill Road, Lawrence, KS. Call: 913/864-7721.

May 1-4, **U.S. Hydrographic Conference '90**. Omni International Hotel, Norfolk, VA. Contact: U.S. Hydrographic Conference '90, Box 177, Norfolk, VA 23501.

May 14-17, **Introduction to Remote Sensing Using ERDAS** will be held in the Natural Resources Bldg. on the Cook College Campus of Rutgers University. For more information contact the Registration Desk, Office of Continuing Professional Education, Cook College, P.O. Box 231, New Brunswick, NJ 08903, 201/932-9271.

May 16-18, **GIS In Natural Resource Management: A Short Course for Managers**, will be held at the Stapleton Plaza Hotel and Fitness Center located at the Denver Airport, Denver, CO. Contact: Wilma Holsinger, 303/484-1973.

May 16-18, **The Status of Remote Sensing Research and Applications For Use in Agriculture**, will be held at NASA in Greenbelt, Maryland. For more information contact Mrs. M. Blackwell, BARC XV Symposium, Building 1, BARC-West, Beltsville, MD 20705.

May 17, **Wisconsin Chapter of AM/FM, "AM/FM for Public Works"**, 7:30 pm in the Milwaukee area. Non-members welcome. Optional dinner at 6:30 pm. Contact: Jerry Laatsch at 414/291-6927.

May 20-24, **1990 International Geoscience and Remote Sensing Symposium (IGARSS '90)**: Remote Sensing Science for the Nineties will be held at the University of Maryland, College Park, MD. Contact: Dr. James A. Smith, Technical Program Chairman, 301/286-7282.

May 21-23, **Understanding Database Design**, will be held at The Wisconsin Center, 702 Langdon Street, Madison, WI. For program information contact: Engineering Registration, The Wisconsin Center, 702 Langdon Street, Madison, WI 53706 or call: Pat Eagan at 608/263-7429 or Cindy Adams at 608/262-6782.

May 21-23, **GIS-East**, will be held in Washington, D.C.. Contact: Conference manager, U.S. Professional Development, Inc., 1734 Elton Road, Ste. 200, Silver Spring, MD 20903. Call: 301-445-4400.

May 30-June 1, **Geographic Information Systems for City and County Operations and Resource Management**, will be held at The George Washington University, Continuing Engineering Education Program, School of Engineering and Applied Science, Washington, D.C. 20052. Call: 202/994-8519.

May 31, **Wisconsin Land Information Association** membership meeting will be held in Madison, WI. Contact Bob Gurda, WLIA Secretary, at 608/262-3065.

June 4-5, **Minnesota GIS/LIS Conference**, will be held at the Radisson Hotel in St. Paul, MN. The conference is sponsored by the Minnesota GIS/LIS Consortium. Contact: Connie Duresky, Minnesota GIS/LIS Conference, 300 Centennial Bldg., St. Paul, MN 55155. Call: 612/296-1211.

June 4-8, **Modernizing Local Land Records Using pcARC/INFO**, will be held at the Land Information & Computer Graphics Facility, UW-Madison, Madison, WI. Contact Jerry Sullivan at 608/263-5534.

June 5-7, **Third Annual GIS Conference**, will be held at Towson State Univ., Towson, MD. Contact: John Morgan, III, Dept. of Geography and Environmental Planning, Towson State Univ., Linthicum Hall Room 30, Baltimore, MD 21204-7097. Call: 301/661-7291.

June 8-10, **Geographic Information Systems in Higher Education**, a workshop will be given at the Ohio State University. Contact: Prof.

Duane F. Marble, Dept. of Geography, The Ohio State Univ., Columbus, OH 43210, 614/292-2250.

June 10-13, **Canadian Cartographic Association Annual Meeting**, Victoria, British Columbia. Contact: Peter Keller, Geography Department, University of Victoria, Box 1700, Victoria, British Columbia, Canada V8W 2Y2. Call: 604/721-7333.

June 10-19, **19th International FIG Congress of Surveyors**, Helsinki, Finland. Contact: FIG Congress, P.O. Box 184, SF-00101, Helsinki, Finland.

June 11-15, **Modernizing Local Land Records Using pcARC/INFO**, will be held at the Land Information & Computer Graphics Facility, UW-Madison. See June 4-8 listing for details.

June 12-15, **Intelligent Mapping '90 and A/E/C/ Systems '90** will be held at the Georgia World Congress Center, Atlanta, GA. Contact: Sharon Price, A/E/C/ Systems '90, Box 11318, Newington, CT 06111. Call: 800/451-1196 or 203/666-6097.

June 21-22, **International Symposium on Mapping and Geographic Information Systems**, San Francisco. Sponsored by the American Society for Testing and Materials. Contact: Ivan Johnson, 7474 Upham Court, Arvada, CO 80003. Call: 303-425-5610.

June 22, **American Library Association (ALA) Preconference Workshop on Satellite Imagery and Aerial Photography**. Contact: Ellen Caplan at 614/764-6000 or Nancy Vick at 217/333-0827.

June 24-29, **XIIIth North American Surveying Teachers Conference**. Banff Centre, Banff, Alberta, Canada. Contact: Dept. of Surveying Engineering, Univ. of Calgary, 2500 University Dr. NW, Calgary, Alberta, Canada T2N 1N4. Call: 403/220-5834.

June 25-27, **Implementing Automated Mapping and Geographic Information Systems**, will be held at the University of Wisconsin-Madison, Madison, WI. Contact For program information contact: Engineering Registration, The Wisconsin Center, 702 Langdon Street, Madison, WI 53706 or call: Pat Eagan at 608/263-7429 or Cindy Adams at 608/262-6782.

June 25-29, **Local Redistricting with TIGER Using pcARC/INFO**, will be held at the Land Information & Computer Graphics Facility, UW-Madison, Madison, WI. Contact Jerry Sullivan at 608/263-5534.

July 8-11, **AM/FM/GIS Executive Management Symposium: Impacts on Decisions in the 1990's**, will be held in Keystone, Colorado. Contact Bob Samborski, AM/FM International, 14456 E. Evans Ave., Aurora, CO 80014. Call: 303/337-0513.

August 12-16, **URISA's 28th Annual Conference**, Edmonton, Alberta, Canada. Contact: URISA, 900 Second St. NE, Washington, DC 20002. Call: 202/289-1685.

August 26-30, **NCGA Mapping & GIS Conference '90** will be held in Houston, TX. Contact: Michael Weiner, NCGA, 2722 Merrilee Dr., Ste. 200, Fairfax, VA 22031. Call: 703/698-9600.

September 3-7, **2nd International Symposium on Precise Positioning with GPS**. Ottawa, Canada. Contact: Robin R. Steeves, Geodetic Survey of Canada, Surveys and Mapping Branch, 615 Booth St., Ottawa, Ontario, Canada K1A 0E9. Call: 613/995-4009.

September 10-13, **International Symposium on Kinematic Systems in Geodesy, Surveying, and Remote Sensing**. Banff, Alberta, Canada. Contact: KIS 1990, Dept. of Surveying Engineering, Univ. of Calgary, 2500 University Drive, NW, Calgary, Alberta, Canada T2N 1N4.

September 17-21, **ISPRS Commission VII, Global and Environmental Monitoring**, at the Victoria Conference Centre, Victoria, B.C. Contact: Frank Hegyi, President, Commission VII, 1450 Govt. St., Victoria, B.C., Canada V8W 3E7. Call: 604/387-6722.

ACSM CHAPTER DISBANDED

In January of this year, the Southern Lake Michigan Chapter of ACSM (American Congress on Surveying and Mapping) expired after a ten year life. The Chapter returned the balance in its treasury to the Building Fund established by the parent organization.

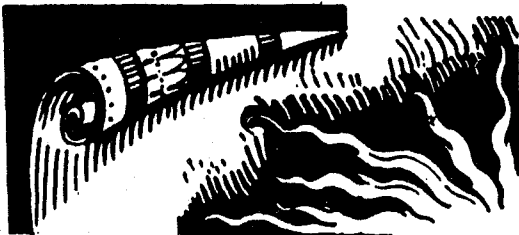
While lack of interest might seem like the reason this chapter could not maintain itself, other groups and events have been competing for people's interest, and members have limited amounts of time and travel budget to attend meetings.

ACSM's sister organization, ASPRS (American Society for Photogrammetry and Remote Sensing) continues to have an operating Western Great Lakes Chapter, which held a meeting on March 9th in Milwaukee. This event happened to be scheduled the afternoon following an evening meeting of the Wisconsin Chapter of AM/FM (Automated Mapping/Facilities Management).

The Wisconsin Chapter of URISA (Urban and Regional Information Systems Association) has been relatively dormant the last two years. The Chapter was formed partly to provide an "umbrella" under which the Wisconsin Land Information Association (WLIA) could become established. WLIA has occupied the time of many of the persons who established WisURISA.

There are increasing interrelationships amongst the various mapping disciplines, evidenced in part by the numbers of people who belong to more than one of the groups mentioned above. In order not to spread the energy and information too thin, it may be more efficient and effective for some chapter meetings to be scheduled together on occasion.

In the past, the regional chapters of ACSM and ASPRS have had some joint meetings. There are precedents for such an arrangement on the national level. ACSM and ASPRS have been holding joint annual conventions for some time (the most recent being in Denver in March). These two groups along with URISA, AM/FM, and AAG (Association of American Geographers) have also co-sponsored the GIS/LIS meetings the last two years (San Antonio, TX; Orlando, FL) and the next such meeting is scheduled for Anaheim, CA in November.



DNR SETS "GIS EXPO" FOR MAY 1

The Wisconsin Department of Natural Resources' Bureau of Information Management (BIM) will host a "GIS EXPO" Open House on May 1. This event will begin at 1:00 pm, in Room 027 of the GEF2 Building (one block off the Capitol Square) in Madison.

BIM will showcase application projects it is conducting for other DNR bureaus. These projects include nonpoint pollution analyses, forest compartment mapping, and statewide digital basemap development.

The afternoon will include a monthly meeting of the Interagency Data Sharing Workgroup. This group hopes to schedule additional agency open houses.

For more info, contact Paul Tessar at (608) 266-3054.



UPCOMING EPD CLASS OFFERINGS --- ON-SITE LIVE VIDEO SET FOR JUNE 25

The UW-Madison Engineering Professional Development Program has scheduled several more courses in its continuing series focussed on AM/FM and GIS. A new offering will debut on May 21: Understanding Database Design. This is an advanced class that addresses the most expensive long-term component of an automated system: the data.

Several hands-on courses for local government users of GIS, based on pcARC/INFO software, will be offered in June in cooperation with the UW-Madison's Land Information and Computer Graphics Facility. See the listings on page 8 for June 4-8, 11-15, and 25-29.

And EPD's longest running GIS course, Developing Geographic Mapping and Analysis Systems, will repeat June 25-27. The first day of this introductory class---an overview---will be a live TV broadcast that can be received at hundreds of equipped sites across the state and country. Participants at remote sites will be able to ask questions of the instructors on a real time basis. This arrangement will allow economical participation, plus travel costs will be greatly reduced or eliminated. For information on video reception, contact Janice Friis at (608) 262-2026.

TIGER COMES TO WISCONSIN

This is not an article about wildlife or baseball. TIGER is an acronym for **Topologically Integrated Geographical Encoded Referencing**---the computer-based system devised by the U.S. Census Bureau to assist in carrying out and reporting the 1990 census.

The census taking place this spring is a rite that the federal government has conducted every ten years since 1790. It has always been a massive undertaking, and the 1990 version is no different in this respect. However, this is the first time that a computerized map of the entire country has been used to support the process. This map---TIGER---is the geographic underpinning for planning, carrying out, and reporting the 1990 census.

The TIGER format was devised by the Census Bureau for its internal production environment. A number of mapping software products have been enhanced to provide the capability to convert from TIGER format into the software's own usable format.

The TIGER digital base map is a file of structured line segments derived primarily from the USGS 1:100,000 scale quadrangle map series. An important point about these files is that they cannot be expected to depict the geometry of road or stream networks, or other features with accuracy sufficient for uses such as tax parcel mapping. (The 1:100,000 scale is the same as 1 inch on the map = 1.6 miles, or 1 inch on the map = 8333 feet.) However, for uses not requiring great spatial accuracy, TIGER will be a very useful product.

There are two primary uses for the TIGER files, including the associated census data that will be released in 1991. The socio-economic data from the census will be invaluable for a number of purposes. A wide range of planning applications will benefit from this use of this information; having it in a form that is tied to areas on the ground will make it much easier to use than similar information reported from previous censuses. There will also be commercial uses such as siting various retail and manufacturing establishments, and marketing.

Another important use of the TIGER files will be in redrawing the boundaries of election districts. In Wisconsin, a group has been preparing for this activity for over a year. This group is a cooperative effort of the Legislature, Governor's office, UW-Madison, the Wis. Dept. of Transportation, and the Wis Dept. of Administration. The group is working on customizing the TIGER files and software necessary to perform the analyses in support of redistricting of the legislature---a 1991 activity. The goal is to have the elected officials who are responsible for redistricting do their work by computer, utilizing the customized interface and capabilities of GIS software operating on the TIGER files.

In preparation for legislative redistricting, TIGER/line files will be enhanced at public expense. As this point, it is not clear by what means a private citizen, public organization, or business could access these files. Presumably the Wisconsin Open Records Law would apply, but this issue has yet to be resolved.

The Census Bureau has been selling the early versions of the TIGER/line files, at relatively low prices. However, they have been available only on tape and CD-ROM, and not floppy disks (these are large files). A tape for one county costs \$200, but additional counties in the same state add only \$25 each. CD-ROM (none available for Wisconsin yet) cost \$250 each; the first disk contains 14 California counties and 69 Illinois counties. For more information on availability, versions, and costs, contact the Census Bureau at Customer Services, Data User Services Division, Bureau of the Census, Washington DC 20233; or call (301) 763-4100.

DLG COMPUTER MAP FILES

Digital Line Graph is a term coined by the USGS for a computer encoding of their published maps. DLG-3 is the current version of this format.

For Wisconsin, DLGs are available for a number of USGS maps, covering various areas of the state. In general, the larger scales such as the statewide 1:24000 topographic map series are not available in digital form since the cost of converting 1154 map sheets is very high. However, at the 1:100,000 scale (1 inch = approximately .63 miles) there is close to complete coverage for several layers (or themes); see the graphic on page 11. Some layers are "panelled"---that is, edge-matched, so that files for adjacent areas can be joined.

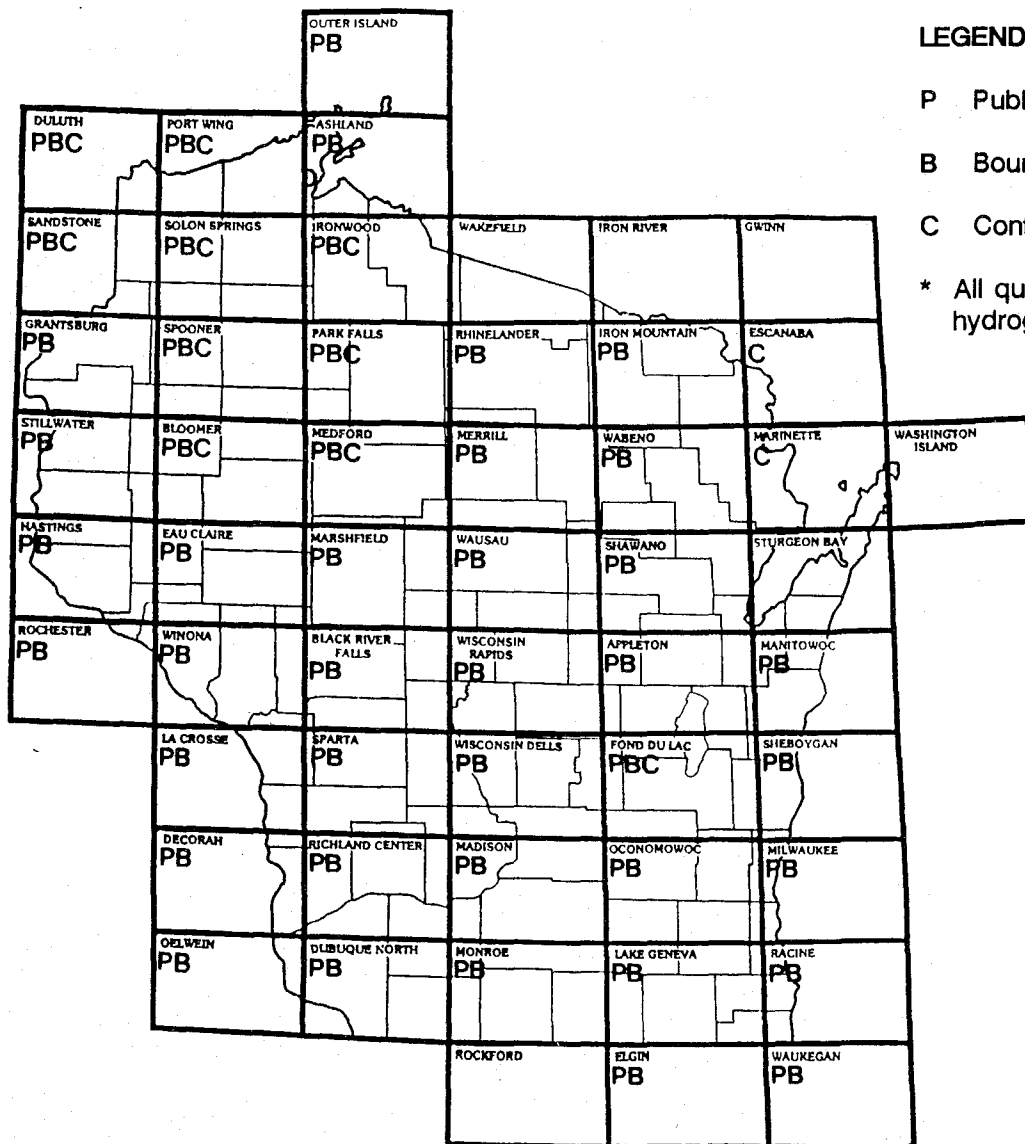
From USGS, DLGs come only on magnetic tape. Cost is \$90 per one unit (east or west half of a 30 x 60 minute area) and \$7 per additional unit. Layers are purchased separately. As an example, 3 layers for each of 4 areas (12 files) would cost \$90 plus 11 X \$7, for a total of \$167.

Private business has filled a market niche by converting DLG files into formats that are more commonly used. A Wisconsin company, American Digital Cartography, sells DLG files in AutoCad format, and in 7.5 X 7.5-minute pieces (call 414/713-678).

Several Wisconsin agencies have been working on 100K DLGs to be used in various GIS applications. DOT is editing the state trunk highway layer to be the base of their statewide planning system. DNR is beginning to edit the hydrography layer. Cooperative work is also proceeding on the PLSS layer, with the recognition that, at this small scale, nuances will not all be represented. A practical mechanism for widespread sharing of these edited and enhanced files needs to be established.

STATUS OF 1:100,000-SCALE DIGITAL LINE GRAPHS

available from USGS as of February 1990



LEGEND*

P Public Land Survey

B Boundaries

C Contours (hypsography)

* All quads in the state include hydrography and transportation.

All DLG's can be ordered from:

*U.S. Geological Survey
Mapping Division
1400 Independence Road
Rolla, Missouri 65401
314/341-0851*

USGS is in the process of creating and updating DLG's for the state of Wisconsin. The data source for the 1:100,000 DLG's is the 1:100,000-scale quadrangle series. Data is ordered in 30'x30' blocks. Specify east or west half of desired quadrangle.

HELP KIDS LEARN GEOGRAPHY !

A new booklet provides guidance for adults who are interested in helping children learn about geographic concepts. Helping Your Child Learn About Geography is published by the U.S. Department of Education, in cooperation with the U.S. Geological Survey.

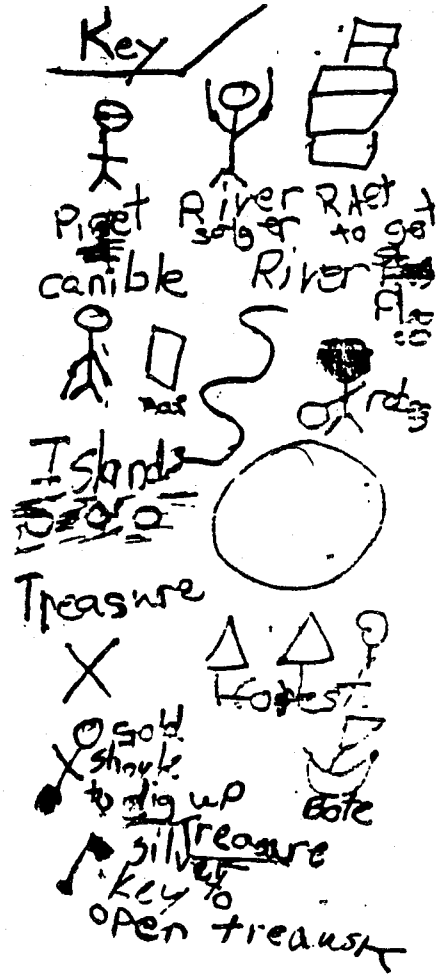
The booklet is 26 pages long, with color illustrations including several maps. It includes a list of references, a glossary, a source listing of free or inexpensive materials, and an annotated children's book list.

Order this publication by sending \$.50 per copy, along with your name and address, to:

Geography
Consumer Information Center
Pueblo, CO 81009

JUST A REMINDER....

Don't miss the WLIA membership meeting scheduled for May 31, 1990 in Madison. Members will be receiving a mailing with details. Non-members are welcome; contact Bob Gurda at (608) 262-3065 for more information.



Wisconsin Mapping Bulletin

Published bimonthly by the State Cartographer's Office. A University of Wisconsin-Madison outreach publication distributed free upon request.

News is welcome on completed or ongoing projects, published maps or reports, conferences/workshops. Local and regional information is especially welcomed. The Editor makes all decisions on content. Deadline for the next issue is May 11, 1990.

Editor: Bob Gurda

Contributors: Art Ziegler, Susan Goral
Desktop Publishing: Brenda Hemstead
Mailing: SCO Production Staff

Please send all comments, corrections, and new items to:

State Cartographer's Office
155 Science Hall
Madison, WI 53706-1404
phone 608/262-3065.

State Cartographer's Office
Univ. of Wisconsin-Madison
550 N. Park Street
Rm. 155 Science Hall
Madison, WI 53706-1404

Nonprofit Organization
U. S. POSTAGE
PAID
Madison, Wisconsin
Permit No. 658