

Reporting on Mapping and Land Information in Wisconsin

Wisconsin MAPPING BULLETIN

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STATE LAND INFO FUNDING BEING REVISITED

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by Bob Gurda

Wisconsin's nationally heralded program to modernize land records and supporting information systems is scheduled to have its sole funding source expire in three years. Only corrective action by the legislature followed by the governor's signature can change this situation.

Professional organizations including the Wisconsin Land Information Association (WLIA) are advocating that "sunset" language in the state statutes be changed so that segregated fees funding the program will continue beyond June of 1996. The fees, collected upon the filings of land records documents at county courthouses, have totalled over six million dollars annually statewide. The statutory change could be made during legislature's current session.

Local governments have become major participants in the state program, through the two-thirds of the fees retained by counties for modernization plan implementation. Many have also received grant awards from the Land Information Board (WLIB) that help to accelerate their work and leverage other funding sources.

The WLIB, which directs the program, asked to have the sunset language removed as part of the biennial budget bill presented recently by the governor to the legislature, but this has not happened to date.

According to David Fodroczi, St. Croix County's Planning Director and President-Elect of the WLIA, "Local governments need to know soon if the state program's funding will continue past 1996. Even though that sunset is three years away, our project planning and related budgeting require sufficient lead time. No responsible local official would start a multi-year project if its funding were uncertain, and we need this funding to have compatible modernization across the state."

WLIA President Nancy von Meyer said that she expects the association will be keeping its membership of over 500 informed regularly about the sunset issue as the current legislative session proceeds.

In his address at WLIA's recent annual conference, one of the legislative architects of the program, Bob Welch of Redgranite, characterized it as a positive example of the reinvention of government based on coalition building. "We are the true heirs of the LaFollette progressive tradition—making things better", he said.

In this issue of the *Mapping Bulletin*, our guest opinion column is authored by Ben Niemann on the subject of the origins and future of the Wisconsin Land Information Program (see page 8). He recalls the rich history behind the program which was enacted in 1989 and funded in 1990, and points to some of its early and tangible benefits.

Our state's bottom-up approach to land records modernization is unique in the country, and has been widely praised from beyond the state's borders. Governor Thompson and Vice President Gore are among the scheduled speakers at the upcoming National Geo-Data Policy Forum which is billed as a gathering of leaders and policy makers to discuss the future of the nation's geographic data network. Integrated programs like Wisconsin's should rate serious consideration as major components of the proposed interconnected system that has been named "the national spatial data infrastructure".

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STATE LAND INFORMATION NEWS

WLIB News

by Bob Gurda and Ted Koch

Board Meetings

Since our last issue, the Wisconsin Land Information Board has met three times: January 25 and March 5 in Madison, and March 10 in Green Lake. A future meeting is scheduled for April 27.

Grants

The most recent board meeting was held in Green Lake, a more central location for the convenience of people travelling to the meeting for discussion of grant awards. Following opportunities for applicants to explain their proposed projects, the board recommended 18 grant awards totaling \$1,056,880. This was from a total of 31 applications that requested a total of \$2,656,230 in grant aid. With 10 more counties now added to the list, 36 counties have now received their first grant under the program.

The board has decided to shift the future grant application periods back one month. As a result, the open application periods become January and July, effective this July.

Education

The board presented a workshop on parcel mapping at the WLIA conference in March. The workshops on geographic frameworks that we announced (in our last issue) as being planned for presentation this April will not be held. The board is one of the co-sponsors of a continuing education course in land information and surveying scheduled for May (see page 15 for details). The board is also a cooperator in a satellite program scheduled for July 13, covering GIS database design for local government. (See page 15 for details).

Integration/Clearinghouse

On February 26th the committee completed the second half of a strategic planning process which has been led by staff from the Department of Administration's Bureau of Information and Telecommunications Management. The propose of the planning was to better define the mission, goals, and strategic issues that the committee should address. At its April meeting the committee will begin work on its two highest priority issues.

Technical Issues

As a update on the Technical Summit mentioned in our two most recent issues, the board's Technical Committee has been eliminated, but the board has not yet addressed the materials that arose from the summit.

Administration

At its March 10 meeting, John Laub and Ben Niemann were re-elected Chair and Vice Chair of the board. Nat Robinson declined to be re-nominated as Secretary; Les Van Horn was elected Secretary.

Statewide Land Cover Mapping Group Prepares for Takeoff by Bob Gurda

A collaborative project is underway to build a new and improved Wisconsin land cover map. Actually, the basic products of the project will not be maps, but digital data representing land cover as interpreted from satellite imagery and aerial photographs. Maps and various analyses will be among the by-products of the data.

Sparked by the Department of Natural Resources (DNR), cooperators have begun lining up to pledge resources that will support a vigorous and flexible program. A number of DNR programs have needs for various kinds of land cover information. By joining forces with others who need the same or similar information, we can build a program that has a wider array of benefits and that has more staying power than any single organization could sustain. The program may begin as early as this summer.

All parties interested in participating are invited to an afternoon meeting on May 3rd in Madison. This meeting has been called by an ad hoc steering committee involving DNR, the Soil Conservation Service, and chaired by the SCO. Our intent is to include as many organizations as possible in order to assemble the maximum resources that can be used to develop the most useful land cover information. The potential cooperators already involved include both state and federal agencies and the private sector.

Although land cover information has been of great value for many purposes for years, several factors have recently raised the issue to a new level.

- UW-Madison Professor Thomas Lillesand's recent investigation into the feasibility of establishing a statewide land cover mapping program, as he profiled in this publication a year ago, has convinced many key players that there is no longer a significant technical barrier;
- success in cooperative funding of the the 1992 statewide National Aerial Photography acquisition proved that pooled resources can yield major paybacks;
- significant data acquisition savings are available from EOSAT Corporation for statewide data purchases;
- several major federal natural resource initiatives will need land cover information across large parts of the state.

DNR has drafted a proposal whereby it would become the manager for the project, and would provide both primary and secondary data, analyses, etc. as cooperators might arrange. DNR's Bureau of Information Management includes people with expertise in analyzing satellite imagery and aerial photographs, in related geoprocessing, and in managing statewide landcover mapping projects.

For specifics on the May 3rd meeting, contact Bob Gurda at the SCO at 608/262-6850.

REMOTE SENSING NEWS

Landsat 6 Launch Delayed by Tim Ruhren

The planned launch of Landsat 6 in January was postponed due to problems with the satellite. Difficulties with the mechanism that points the satellite's solar panel toward the sun were discovered. It was another in a series of delays that have plagued the attempt to launch a replacement for the long lived Landsats 4 and 5. A brief review of past *Bulletins* shows a gradual rollback of launch dates, from mid-1992 (January 1992 *Bulletin*) to late 1992 (April 1992 issue) to most recently January 23, 1993 (October 1992 issue). At present, a summer launch is planned.

Evidence from other space programs, such as the Space Shuttle and NAVSTAR (GPS) satellite programs, indicates that delays are to be expected in such endeavors. With the Landsat program specifically, the launch delays lead to situations such as exist today—the remote sensing community depending on data from satellites that are operating long beyond their three year design operational lives. This extended satellite life is a characteristic of the Landsat program that provides a tenuous solution to potential gaps in coverage that could be caused by launch delays. Hopefully Landsat 6 will be launched soon to ensure continued remote sensing for Landsat system users.

(source: Earth Observation Magazine, February 1993)



EOSAT Landsat Data Announcements

EOSAT has recently made three announcements having potential impact upon users of Landsat data. First, state agencies participating in EOSAT's Statewide Purchase Program (Bulletin, April & October, 1992) have a chance to save more money. Agencies purchasing statewide Landsat imagery in 1993 will enjoy a 33% discount on the price of additional scenes.

EOSAT has also introduced Landsat data in an ARC/INFO-compatible format to facilitate its use in geographic information systems (GIS). This new GIS-compatible imagery is available in the standard Landsat Thematic Mapper Full Scene (185 x 170 km), Subscene (100 x 100 km), and Map Sheet ($1/2^{\circ} x 1^{\circ}$, or roughly 55.5 x 111 km) coverages. A new product has been introduced for this data—the MicroScene which is a map-oriented scene covering 56 x 56 kilometers, with the customer's choice of three bands. For all of these products, customers can choose image pixel size, earth ellipsoid and map projection to ensure that the product matches their GIS needs. More information is available from EOSAT Customer Services at 800/344-9933.

Finally, EOSAT has turned responsibility for production and distribution of all data from the older Landsat Multispectral Scanner (MSS) over to the EROS Data Center in Sioux Falls, South Dakota. This change had been planned to go into effect after the launch of Landsat 6, which does not carry the MSS sensor, but problems with old ground processing equipment led to the termination of MSS data collection. Demand for MSS data has been decreasing, and EOSAT has helped its customers upgrade their capabilities to handle TM data. All orders for archived MSS data will be handled by EROS Data Center Customer Services at 605/594-6151.

(source: EOSAT)

Reduced Prices on Landsat Imagery for Schools

Educators now have a chance to obtain archived Landsat TM scenes at significantly reduced prices. EOSAT has announced a new pricing scheme for TM imagery dating from 1985 to 1989 that lowers the price per scene from \$4,400 to \$750. This discount applies to nearly 8,000 scenes, and is effective through September 1993. The same scenes are available for \$1,500 for non-academic users.

For more information about EOSAT's educational support, contact EOSAT Customer Services at 800/344-9933. (source: EOSAT)

April 1993

DNR Forestry Photos Now Available

by Ted Koch

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Photo products covering 18 Wisconsin counties from the Department of Natural Resources (DNR) 1991-1993 forestry photography project are now available for sale. Recently, the DNR signed an agreement with Photo Science, Inc. of Gaithersburg, Maryland to handle the sale of all photo products to the public.

The DNR forestry photography project collects summer (leaf-on conditions) photography using black-andwhite infrared film at a scale of 1:15,840 (1 inch = 1320 feet). This project has been in operation during the past two summers, and is scheduled for completion no later than the end of this summer (August 31, 1993).

Photo Science will handle all standard and special-request enlargement orders. An information sheet and order form have been prepared describing services and costs for a variety of products. Prices begin at \$6.00 for single contact prints, with discounts for larger quantity orders. A variety of different enlargements up to four-times are also available. Consult the order form for additional details.

Local DNR forestry offices have a set of photos covering their area of jurisdiction. Photos may be viewed by the public at these offices. For more information on this project, to obtain order forms and information, or addresses of local DNR forestry offices contact:

> Willard Kiefer, Aerial Photo Specialist Wisconsin DNR 1705 Superior Ave Superior, WI 54480 phone: 715/392-4764 fax: 715/392-7993

Paul Delong, State Land & Recreation Specialist Wisconsin DNR P.O. Box 7921 Madison, WI 53707 phone: 608/264-9224 fax:: 608/266-8576



NAPP Photography

by Ted Koch

As announced in our last issue, photos from the Spring, 1992 National Aerial Photography Program (NAPP) are now available for sale. You may purchase copies of this photography by mail from two separate locations: the U.S. Geological Survey's Earth Resources Observation Systems (EROS) Data Center in Sioux Falls South Dakota, or the U.S.D.A. Aerial Photography Field Office in Salt Lake City, Utah.

NAPP coverage is statewide; however, about 5% of the photos flown last spring were rejected due to poor quality. Areas lacking coverage are scheduled for reflight this spring (late April to early May).

The standard price for a single NAPP photo image is \$6.00. Prices for film copies or enlargements can range up to \$45.00 per print. The SCO has ordered a number of different products from the EROS Data Center in the last two months, and our experience is that orders take 3-4 weeks to arrive (for a premium, this can abe reduced.) The image quality of the prints is very good.

Indexes to NAPP photography are available from EROS on microfiche cards. The quality of the microfiche index images are poor, however, which limits the making of good quality paper copies. Microfiche indexes may be obtained directly from EROS. When calling or writing to EROS, be specific on the geographic area(s) of interest. This will make the filling of your request easier and quicker. Order forms may be requested from EROS or the SCO. The address for the EROS Data center is:

> U.S. Geological Survey EROS data Center Sioux Falls, SD 57198 phone: 605/594-6151; fax: 605/594-6589

National Digital Orthophoto Program Funding Situation Unchanged

by Bob Gurda

No news is not good news, but not bad news either. Since our last issue there has been no discernible movement in Washington on the proposal to begin funding a national digital orthophto program.

The situation remains that several agencies would like to have resources allocated in the upcoming fiscal year (October 1) budget to start the conversion of scanned NAPP photographs into geometrically corrected computer-compatible images. Due to the change in administration, the agency budgeting process reportedly is behind schedule, especially since program spending is being examined in detail.

It does appear, however, that the proposed program has high priority within several key agencies. While we may have to wait a few more months for it to begin, the prospects look reasonably good at this point.

AERIAL PHOTOGRAPHY

SCS Requests Orthophotos for Four Counties by Bob Gurda

The first digital orthophotos from Wisconsin's 1992 NAPP photography have been ordered by the USDA Soil Conservation Service (SCS). Two areas are involved: the contiguous west-central counties of Dunn, Pierce, and Pepin; and Menominee County.

Ken Lubich, SCS State Soil Scientist, said that these counties received top priority for orthophoto work because SCS is remapping soils across those areas and wants to produce new soil surveys that are directly compatible with other maps. The orthophotos, which will meet National Map Accuracy Standards down to a scale of 1:12,000, are the key to accurately linking soil survey maps to other maps.

Orthophotos are derived from aerial photograph images, by removing geometric distortions that naturally occur in all photographs. Such distortions are more severe in hilly areas like the counties along the Mississippi River.

This orthophoto project will be managed by SCS' Cartographic Center in Texas, and will meet the recently established federal standards for digital orthophoto conversion from NAPP imagery. The work will be performed by a private contractor. The entire process is expected to be complete by late 1994. Funds being supplied under a cooperative soil mapping agreements between SCS and the counties, and by national SCS funds.



STATE CARTOGRAPHER'S COMMENTARY

by Ted Koch

If you didn't get to the Wisconsin Land Information Association's Annual conference in Middleton last month you missed a great meeting. In my view the conference was an outstanding success. WLIA put together a collection of workshops, technical sessions, exhibitor demonstrations and displays, and an open "town meeting" that, in total, reflected well the depth and breath of the state's land information program.

This year, for the first time, the number of registrations exceeded 500, which is more than a 25% increase over the 1992 registration total. The magnitude of the increase is an interesting statistic considering attendance has dropped nearly 10% at several national mapping and GIS conventions this past year. For WLIA, the annual conference attendance figures continue to rise which demonstrates the value and attraction of a statewide meeting, and the widespread interest and appeal of Wisconsin's program.

The WLIA tried several new things this year which, judging from comments and evaluations, seemed successful. The seven software demos conducted by commercial firms were extremely popular, with several session, unfortunately presented under standing-room-only conditions.

Another new event was the electronic poster session on Thursday. This session gave a number of agencies the opportunity to display their projects and applications in an "on-line" setting. It proved to be an innovative idea that succeeded; however, a number of attendees said they overlooked this session entirely, or didn't have enough time visit both the posters and commercial exhibits.

Nancy Tosta, from the U.S. Geological Survey office in Reston, Virginia, and representing the Federal Geographic Data Committee (FGDC), provided an enlightening description of the FDGC vision for the proposed "national spatial data infrastructure". To many in attendance, the discussion of current and future technological and policy issues at the federal level was new, revealing, and possibly inspiring.

At Friday's morning's town meeting more than forty ideas were proposed as mechanisms to generate more financial resources for the land information program. Many of the ideas presented were excellent suggestions with solid merit. WLIA, in the near future, will be analyzing the proposals in an attempt to decide which have the most merit, and potentially the best chance of receiving support.

The conference had many other successful sessions for which I can't devote space for comment. Even though a successful WLIA conference provided so much to so many individuals, much work and many issues surrounding the land information program remain to be addressed and solved. The program in many aspects is still in childhood. Successful conferences, such as the one WLIA just conducted, add measurably to the land information program's growth and maturing process.

NEWS FROM THE SCO

Soil Mapping Guide Heading for Printer

The SCO's new brochure, a guide to soil mapping in Wisconsin, is scheduled for printing in April. We are almost through incorporating the comments submitted by our group of reviewers.

We will be automatically distributing copies to all county land information offices and several other groups. Contact the SCO in May to receive a copy.

Printing costs are being partially offset by contributions from the State Office of the Soil Conservation Service and the UW-Madison Soils Department.



Address Update

The University recently received a notice from the post office that mail will no longer be delivered to the individual department UNLESS a street address is given. PLEASE address all correspondence to the SCO at:

State Cartographer's Office University of Wisconsin-Madison 550 N. Park Street Rm. 160 Science Hall Madison, WI 53706-1404

Bulletin and LIS Handbooks Recognized by Ted Koch

The Wisconsin Mapping Bulletin recently was recognized as one of the nation's six best mapping/GIS newsletters. Judged as offering valuable and current information appropriate for use in classrooms by college and university instructors, the endorsement appeared in an article written by James Merchant in the April, 1993 issue of *Geo Info Systems*.

The Merchant article, "Resource Materials for Teaching GIS", discusses a variety of GIS items appropriate as resources for classroom use, including newsletters, textbooks, publications from public agencies and the private sector, videos, computer-aided instructional packages, and data sets and lab exercises.

Under a section on publications from public agencies, Merchant says that two Wisconsin GIS/LIS handbooks (Vonderohe, et al., 1991; Ventura, 1991) published by the State Cartographer's Office, "might well be the best \$10.00 one will ever invest in GIS publications".

The Vonderohe book, Introduction to Local Land Information Systems for Wisconsin's Future, covers GIS/LIS terms, definitions, coordinate systems, methods, technologies and problems. The Ventura book, Implementation of Land Information Systems in Local Government-Steps Toward Land records Modernization in Wisconsin, covers GIS/LIS needs assessments, hardware, software, data base design, and implementation guidelines for the local level of government.

If you wish to find out how good these publications are, both can be obtained from the:

Wisconsin Geological and Natural History Survey Attn: Map Sales 3817 Mineral Point Road Madison, WI 53705-5100 Phone: 608/263-7389

Each book costs \$5.00. Additional postage and handling is \$2.00 for one book, and \$2.25 if ordering both. Wisconsin residents should add applicable sales tax to the book's cost. You can request an order form from the SCO.





Questions & Answers

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How can I distinguish between gravel pits and limestone quarries on a USGS topographic map?

Each of these two classes of features has its own symbol, although quarries in general are not separated by the type of rock being quarried (e.g., limestone, granite, marble, etc.). The symbols are similar, so you might mistake one for the other: quarries are shown as a pair of crossed picks, and gravel pits as a pair of crossed shovels.

Other features related to mineral extraction that are shown on the topo maps include mine dumps, mine shafts, tailings, and tailings ponds. Remember that any features shown reflect only the situation as of the time of field survey, aerial photography, or other data collection.

As an aside, Wisconsin's most significant mineral extraction activity is sand and gravel. Thanks to the "recent" glaciation of most of the state, these resources are abundant. However, rapidly spreading urbanization is closing off access in some areas, threatening to raise the price of these materials since trucking expenses are the largest cost component.

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Can you help me construct a Request for Proposals for new aerial photography over my county, and provide me with a list of potential vendors?

The SCO is always happy to provide advice for such projects. In fact, we've received enough requests like yours recently that we've begun work on a basic guide to aerial photography contracting. This guide will not replace textbooks and other major sources of information, but is designed to help you understand the fundamentals and how to find answers to specific questions. We hope to have it printed some time this summer.

In the meantime, we can give you general advice and can suggest others to contact who have been through the contracting experience recently. We can also check our aerial photography holdings database for acquisitions over your area, since there may some existing photography that you would find useful, thereby saving you the significant expense of a new flight.



I located a geodetic control monument that has both "ADP" and "USGS" stamped on its cap. What do these initials stand for?

After you told us the ground location of this monument, we checked our records of U.S. Geological Survey (USGS) geodetic control points to find the listing for this particular monument. In this case, ADP are the initials of the chief of the survey crew that installed this control point.

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Can you send me copies of the original federal land survey done for my farm?

You are referring to notes and accompanying maps prepared for the Public Land Survey that the federal government conducted across Wisconsin in the 19th century. This survey measured and marked the land for subdivision and transfer to private ownership. The original PLSS records can be of critical importance to landowners today, since they are part of the legal evidence of the spatial location and extent of property transferred from the public domain.

The state's Board of Commissioners of Public Lands, in Madison, holds the original copies of these records for Wisconsin. You can contact their land records specialist, Trish Hamm, at 608/266-1370. Some county surveyors also have copies of the records for their area, and may have other old records such as PLSS retracement notes.

These original records are also simply interesting from an historical standpoint. The surveyors noted various features of the landscapes they encountered, and their records of tree species near PLSS section corners have been used to construct a map of the "original" vegetation pattern across the entire state.

The surveyors left various kinds of markings to document the corners they designated for the PLSS land parcels. The relocation and restoration of these corner points continues to be an important activity, primarily for local government; in some areas, this work is complete. Ultimately, all of the many thousands of these points may be permanently "remonumented" with sturdy markers anchored in the ground, and further enhanced with highly accurate mapping coordinate values; this is one goal of the Wisconsin Land Information Program.

Editor's Note: If you have a question, or had a question for which you found an answer that might be of interest to others, please let us know.

-Guest Opinion-

It's Too Good to Lose

by Bernard J. Niemann, Jr.*

With my Wisconsin Land Information Board (WLIB) hat on I have been asked to review the state of the Wisconsin Land Information Program.

A Bit of History

Some 17 years ago Art Ziegler, Wisconsin's first State Cartographer, along with Al Miller of the State Planning Office, Barbara Larsen from the Wisconsin Department of Administration, and Jim Clapp and I from the University, set sail to see what was inhibiting Wisconsin's venture into the land information age. Other states like New York and our neighbor Minnesota were investing heavily in this new technology called Land and Geographic Information Systems (LIS/GIS). Many of you know the product of our effort as the "Larsen Report". The official name was Land Records: The Cost to the Citizen to Maintain the Present Land Information Base: A Case Study of Wisconsin.

We reached the following conclusions in 1976:

- Government agencies tend to be informationally organized along single program or mandate lines;
- Government agencies do not tend to look horizontally or across program boundaries;
- On each level of government, no one agency is charged with the responsibility for modernizing and integrating land data and records;
- Of the \$79 million annual cost to Wisconsin citizens for land records collection and management, local government spends over half.



Breakdown of annual expenditures, in millions, for Wisconsin land records, in 1976.

While other states went about their LIS/GIS Information business at the state level, we in Wisconsin set about trying to figure out how to use information technology to modernize procedures, where more than half of the investment was taking place.

ACTS 31 and 339

The Larsen Report generated responses that we all recognize. Some 13 years later, after various attempts, in 1989 the Wisconsin Legislature established the Wisconsin Land Information Program (WLIP) and then funded it through a \$6 increase in the land recordation fee. Many of you who read the *Mapping Bulletin* assisted in the passage of this legislation by spreading the word, talking with and writing your legislators, and letting the Governor know that you wanted this Program, not for yourself but for the citizens of Wisconsin. Examination of the legislation shows that it is built firmly on the issues identified in the Larsen Report.

WLIP Benefits

The benefits of WLIP are already accruing to the citizens of Wisconsin. What if I were to tell you that two missing tax parcels worth hundreds of thousand of dollars were identified in your county through the process of modernizing the parcel maps, resulting in significant additional real estate taxes to the county. When you see Mike Hasslinger, the Register of Deeds in Waukesha County ask him about this incident.

The benefits of WLIP are already accruing to the citizens of Wisconsin.

What if I were to tell you that because of Wisconsin Department of Transportation and the National Geodetic Survey participation in the Wisconsin Land Information Program, other state and local governments can access freely a highly accurate geodetic reference base for their own needs and applications. When you see John Haverberg of WISDOT or David Moyer of NGS ask them about the magnitude of this benefit.

What if I were to tell you that because of a cooperative data sharing and mapping project a new, more accurate and equitable floodplain map meeting the requirements of the Federal Emergency Management Administration (FEMA) is being produced. A county provided a Digital Elevation Model of the terrain, housing footprints, and soils information, a state agency took this digital data and created a more accurate floodway map by using floodway simulation models in a GIS; and FEMA which is responsible for the flood insurance program, provided the seed money. As a result, as a land owner you will no longer need to pay \$1,112.50 yearly for flood insurance on your \$80,000 home. Furthermore, a cloud on your title to the property-caused by the original floodplain map-could be removed, probably resulting in an increase in your home's overall value. When you see David Schmidt, Director of Planning and Zoning from Winnebago County or Alan Lulloff, Floodplain Engineer or Paul Tessar, Director of Geoprocessing for the Wisconsin Department of Nat-

continued...

*Bernard J. Niemann is Vice Chair of the Wisconsin Land Information Board, and a Professor of Landscape Architecture and Environmental Studies at the Univ. of Wisconsin-Madison. He is also a member of the National Research Council's' Mapping Sciences Committee, and served as Vice Chair of the Wisconsin Land Records Committee (1985-1987) and as President of the Wisconsin Land Information Association (1989). ural Resources ask them about this cooperative project between local, state and federal government.

What if I were to tell you that next month you could go to your county Register of Deeds or a satellite office or use your own terminal, and key in your parcel's identification number or your name and street address and then see a computer map of your parcel, your neighbor's parcel, or the block on which you live, and then further point and click on your parcel on the map andbe able to inspect your deed in its present form or its past history from years back. When you happen to see Helen Schutten, the Register of Deeds for Racine County ask her to tell you about this new paperless on line system. Also ask about her finding a missing tax parcel that now generates \$525 additional tax dollars each year for the county.

What if I were to tell you that WLIP funding was the catalyst that brought together the City, County and utility companies in Milwaukee to form the MCAMLIS Project. Ask Hardy Meihsner of the Wisconsin Gas Company about this effort that is building a common land base to support the exchange of facility information.

Others benefits are also emerging. Agencies, disciplines, associations, and individuals that historically never spoke to each other now have common ground because of the WLIP. Almost every county in Wisconsin can attest to this experience. Retained fees and access to grants are resulting in high quality and cost effective land

... the land recordation fee is worthwhile and the benefits will continue to multiply.

records modernization. New multi-county deals are being made across the state. Oneida County has shared PLSS coordinate positioning data with Vilas County. Multi-county GPS pacts are emerging such as that spearheaded by the RC&D in West-Central Wisconsin. This same movement has caused the Chippewa Valley Technical College to begin the development of a curriculum for a Geographic Information Technicians degree program. And on and on it goes!

Serious business

Most of the *Mapping Bulletin* readers in Wisconsin know about the funding sunset provision of the WLIP legislation. During the negotiations with the legislature in 1990, the sunset was put in to allow a review of the program to assure that it was beneficial as proposed. The above examples begin to provide ample evidence that the increase in the land recordation fee is worthwhile and the benefits will continue to multiply beyond our wildest expectations. The sunset now needs to be removed for three reasons.

First, we have addressed the legislature's concerns. Resources are being spent wisely and prudently; tangible and intangible benefits are occurring. What was intended is happening.

Second, some county board members and land records managers want to see the sunset removed to assure themselves that their current and proposed modernization investments won't go for naught.

Third, there are bigger and more difficult issues to be addressed in land records management, that require looking beyond 1996. Issues such as standards, local-state data sharing and integration mechanisms, involvement by towns and municipalities, privacy and public access, etc. are the keys to a truly complete and enduring modernization of our land information.

Action Item

The Wisconsin Land Information Association is in the process of asking the legislature to address the sunset, access to funding to sufficiently support the Program, and the authority and flexibility to address statewide data integration both horizontally and vertically. I urge you to participate in this activity. This program is too good to lose.

... a related request from Ben Niemann:

With my UW-Madison hat on, I seek assistance from Wisconsin readers of the Mapping Bulletin to help document the benefits from the WLIP.

As some of you know, the University's Land Information and Computer Graphics Facility, with the assistance of the WLIB, the WLIA, and the National Center for Geographic Information and Analysis, is implementing a long-term procedure to document the expected efficiency and effectiveness benefits of the WLIP.

To do this we are conducting two surveys. One has been completed in which we have identified expenditures in relationship to the various WLIP Foundational Elements.

The second survey will document the impacts of the program. If you receive this next survey, we would sincerely appreciate your cooperation by completing it in a timely manner. Finally, we are also seeking other examples of benefits. We will soon be sharing a template with you that provides a format for recording and categorizing various examples of the benefits. Our intent is to assimilate these benefits over time and to use these examples to demonstrate to elected officials and the public the kinds of benefits that are the result of the WLIP.

If you have an example, give me a call and I will send you the "WLIP Benefits Template". You can reach me at 608/263-5534; fax 608/252-2500.

The WLIP has made giant leaps because it has been supported at a grassroots level. Further successes depend on our continued work together.

New State Highway Map Announced

by Ted Koch

Availability of Wisconsin's new 1993/94 Official State Highway Map has been announced by the Governor's Office and the State Department of Transportation (WISDOT). The map, which features a new design and slightly larger size, was produced by WISDOT using automated mapping techniques.



The redesign of the state map features a new and more legible lettering style, lighter color tints, and thinner lines for the depiction of highways. In addition, the legend has been redesigned and expanded to more precisely explain the various map symbols.

Production of both the state map and a block of 16 detailed metropolitan area insets used computer-aided drafting, layout, and editing. Final images for printing were created directly from the computer data with a high-precision laser plotter.

The reverse side of the state map contains the block of insets covering those metropolitan areas with a population over

30,000. Communities mapped are metropolitan and downtown Milwaukee, Green Bay, Racine/Kenosha, Oshkosh, Beloit/Janesville, Wausau, Appleton, Eau Claire, Madison, La Crosse, Sheboygan, Superior, Stevens Point, Fond du Lac, and Manitowoc/Two Rivers.

In addition to the inset maps and an information section offering driver assistance, the reverse side also highlights detailed information on state parks, forests, historical sites, wildlife areas, and fish hatcheries.

Two million copies of the new map have been printed at a cost of \$242,000. They are prepared for free distribution. Copies may be obtained from WISDOT at:

> Map and Publication Sales Office 3617 Piersdorff Street Madison, WI 53704 Phone: 608/246-3265

A wall-sized version of the state map side, identical in appearance but measuring approximately 3 by 4 feet, has also been prepared by WISDOT. The cost is \$6.00 plus sales tax (shipping included).

Revised 7.5-min Quads

The U.S. Geological Survey has increased the number of 7.5-minute quadrangle topographic maps scheduled for revision for parts of Wisconsin. In addition to work already underway around Wausau and LaCrosse, the suburban Milwaukee and Minnesota boundary areas are next in line. The index map at left shows the specific areas involved.

(source: USGS)



New State Biking Maps

A new set of detailed bicycle maps showing recommended Wisconsin roadways for bicycles touring is now available free. The set includes four maps, each 27" X 33", which divide the state into quadrants at a scale of approximately 1" = 5 miles (1:300,000). Folded, each map measures about 7" X 8.5".

The maps carry a variety of facility information useful to bicyclists, and have both "recommended" and "not recommended" routes marked in contrasting colors. Landscape relief is very generally indicated by shading; more detailed topographic maps should be referenced to determine the hilliness of specific routes.

The updated maps are the result of a collaboration between the state's Division of Tourism and Departments of Transportation and Natural Resources.

To order these free maps, contact the Wisconsin Division of Tourism, P.O. Box 7606, Madison, WI 53707; or telephone 800/432-TRIP or 608/266-2161.

(source: Middleton Times-Tribune)

Census to Update TIGER by Ted Koch

According to recent U.S. Bureau of the Census information, users of the TIGER digital data base files can expect to see some major enhancements within the next couple of years. Based on the TIGER files that were developed to support the geographic operations of the 1990 decennial census, the Bureau is making major changes, particularly in street address ranges and the addition of ZIP-Code areas.

The current TIGER database includes most transportation and hydrographic features, names, civil boundaries and codes, and Census statistical area boundaries and codes. Many state legislatures, including Wisconsin (Bulletin, April, 92) used TIGER files as the basis for congressional and statewide legislative redistricting.

Upcoming improvements to TIGER include expanding street address ranges to include all areas having a street name and house number, improving the consistency of feature names and highway route numbers, adding the network of the Public Land Survey System, matching the U.S. Postal service's ZIP+4 files to the data base, and adding annexation updates to civil boundaries.

In order to update and maintain the currency of TIGER files, and to avoid duplication with other government agencies and the private sector, the Census Bureau has signed a number of agreements with other federal agencies to promote active data sharing. Agreements will not be limited to federal agencies however. According to the Census Bureau they will be actively seeking data from state and local government agencies also.

SCO Projects in Progress

The SCO is working on several major projects with completion dates expected from late spring through autumn.

Our database of aerial photography holdings continues to grow in size, which has delayed publication of the new catalog. Look for details in our next issue on ordering this valuable source of updated information.

Another project that we expect to have available by midsummer is a guide to managing contracts for aerial photography. This publication will outline the basics of aerial photography and explain the trade-offs involved in selecting a film type, flying height, etc. It will further provide advice on issuing a *Request for Proposals*, selecting a contractor, and managing the contract.

Two computer demonstration products are also in the works. We are preparing a guide to viewing digital elevation models (DEMs) on a personal computer, including a display program and Wisconsin data. And we are updating the popular demonstration of digital orthophotos, incorporating a more extensive introduction to concepts and providing a newer version of the display software that accesses super-VGA video capabilities. Look for announcement of these products in our next issue.

BLM Readies Access to Original Land Records by Bob Gurda

Information on the original transfer of Wisconsin lands from the public domain to private ownership will soon be accessible at your desktop. The Bureau of Land Management (BLM), an agency of the U.S. Dept. of the Interior, has scheduled May 1 as its target for full access to its new database and scanned images of Wisconsin land patents.

These patents are the original legal documents that conveyed property from the federal government to private ownership. BLM, the successor to the General Land Office which managed the original land transfers, has been developing the computer files and the user interface for the last year.

Anyone will be able to retrieve information stored on computers at BLM's office in Springfield, VA. Two things will be necessary: a funded account on the system, and a computer equipped with a modem. A user will use the modem to dial into the system, and guide a search against various indexes (e.g., patentee name, Public Land Survey section, patent date, acreage, modern county name, type of transfer, etc.).

Images of the original patents will not be viewable via modem. However, upon locating information from the database, the user will then be able to request a copy made from the scanned patent image, delivered by fax or by mail. On-line access to the database query system will cost \$2.00 per minute; according to Jim Gegen, BLM's manager for this project, a typical search for an original land parcel in a PLSS section will take about two minutes of connect time. Fax or paper copies of the patents will cost 13 cents per page including delivery.

BLM's database contains information on about 187,000 patent documents for Wisconsin, covering the period up to June 39, 1908. Scanned images of these patents average 150 kilobytes of computer storage per document, which for all of Wisconsin would occupy about 50 CD-ROM discs. Such a distribution mechanism is not in BLM's plans, although private contractors may use CD-ROM as the medium for re-selling the database for desktop use.

In order to perform a remote search or to request copies of patents, a user's account must have a minimum balance. Each query/order usage automatically reduces the balance; however, training use does not affect the balance. Accounts can be funded by check, credit card, etc. For more information, contact BLM's Eastern States Office at 7450 Boston Boulevard, Springfield, VA 22153; telephone 703/440-1600.

GPS "Base-Station" Study Continues by Ted Koch

Base-station Global Positioning System (GPS) receivers are permanently located and positioned devices designed to receive and store multiple GPS satellite radio signals on a 24-hour basis. Over the past six months a GPS base station task force, formed by the Wisconsin Department of Administration, has been studying issues related to installing, maintaining, and managing one or more base stations in Wisconsin. The task force is made up of representatives from a variety of state and federal agencies, local government, the Wisconsin Society of Land Surveyors, and the University of Wisconsin-Madison. Dixon Hoyle, the National Geodetic Survey's state advisor in Minnesota, is acting as a liaison between the task force and a state of Minnesota committee analyzing similar base-station issues.

Base-station GPS receivers serve as an anchor point location in determining the precise differential positions of other mobile GPS receivers. With a base-station providing access to the collected and processed signals, users of mobile GPS data collectors can obtain positions using a single receiver. Without access to a base station, at least two mobile receivers are required. Resulting savings come from investing in fewer receivers, and spending less time and effort with receiver set-up.

To effectively tackle the variety of base-station questions, the task force divided into two groups, one to study and report on base-station management related issues, and the other to investigate and analyze technical requirements. The management group is currently in the process of developing a report identifying potential users within state government, and their applications. Other areas to be addressed cover the costs and potential saving from base-station use, and costs and requirements associated with operating a base-station service.

The technical issues group is preparing a short document explaining GPS base-station concepts and applications. Also, they are experimenting with a test base-station receiver which has been affixed to the roof of the UW-Madison Civil Engineering Building. The purpose of the test project is to determine receiver compatibilities, identify data translation and archiving problems, and determine where base-station equipment should be located within the state. Collection of GPS readings using field receivers at various high precision geodetic network control monuments across the state has begun.

The management report and the receiver testing are scheduled for completion early this summer. For additional information on the task force and its projects, contact the task force chair: John Haverberg, State Technical Services Engineer, Wisconsin Department of Transportation, P.O. Box 7916, Room 5B, Madison, WI 53707. Phone: 608/266-0075.

Geodetic Services Forum Draws a Crowd by Diann Danielsen

In response to anticipated funding cuts for National Geodetic Survey (NGS) services provided to surveyors and other users of geodetic information, the American Congress on Surveying and Mapping (ACSM) governors held an open forum at the New Orleans conference in February. The forum, entitled *The Future of Geodetic User Services* was comprised of a panel including NGS administrators, professional association officers, and members of the Association of State Surveyors. The NGS representatives presented an outline of the current status of geodetic services at NGS, and future plans for restructuring to meet needs with reduced funding. The association officers and others in attendance then responded.

Interest in the forum was excellent—those attending reported over 100 persons in the audience. Overwhelming support was demonstrated for the state advisor program, one of the most endangered of the NGS services. At one point, Dr. Stanley Wilson of NGS, told speakers they need not comment further on the value of the state advisor program—he got the message. In fact, by the time the session ended, audience members were asking how the program could be expanded to the 24 states not yet participating! However, the current situation gives no assurance that the basic nature of the advisor program will not be changed. One proposal has been to include a much wider range of NOAA products and services. Given the heavy workload state advisors already deal with, such additions will likely adversely affect the geodetic user community.

The audience was also united in their frustration that NGS funds were being spent on other NOAA activities, and that maintenance of the National Geodetic Reference System may be further curtailed or even eliminated (NGS is a division of NOAA). Additionally, state representatives were distressed at NGS's emphasis on scientific and research activities, to the neglect of on-going support of the NGS geodetic user community.

It is hoped that the concerns voiced at this forum, together with the tremendous written response from the user community, will be heard at NOAA, and that any budget cuts will applied fairly throughout the entire agency.



GEODETIC CONTROL

Recording Abandoned Railroad Rights-of-Way

The ACSM Government Affairs Committee has prepared and filed a petition with the Interstate Commerce Commission (ICC) to address concerns with abandoned railroad rights-of-way. The issue is of great concern to surveyors and geodesists because removing railroad tracks effectively removes property lines, the basis for their re-establishment, and important NGS monumentation and landmarks. The petition argued that "the railroads have a responsibility to either protect or restore important reference monumentation when dismantling tracks to avoid future land disputes."

The ICC is expected to respond to the petition which also requested a rule-making on the issue. Until a rule is promulgated, ACSM members can attempt to quash railroads' prospective petitions to abandon its lines on a state-by-state basis. State surveying associations should monitor railroad petitions closely through state historic offices, which receive such notices from the railroads. State associations can then request intervention by state historic offices to deny the abandonment petition under the guise of state historic preservation acts.

(Note: 1985 Wisconsin legislation requires that County Surveyors be notified of proposed railroad abandonments so that endangered monuments may be referenced. County Surveyors: How effective has this legislation been? Are the railroads providing notification? — with adequate lead time? Let us know.)

(source: <u>ACSM Bulletin</u>, January/February 1993)

NGS Seeks to Develop Model State Legislation for Vertical Datums

The National Geodetic Survey (NGS) has been asked to develop a model state law that defines the new vertical datum, the North American Vertical Datum of 1988 (NAVD 88). This model would assist states that wish to enact legislation defining the vertical datum. Surveying and mapping applications of NAVD 88 could be addressed by the legislation. The concept of a model law for NAVD 88 is similar to what NGS provided to states as a model for the North American Datum of 1983 (NAD 83) State Plane Coordinate System.

At this point, there is no known collection of information on states' vertical datum legislation from which to begin developing a model law. Interested people are asked to provide any current or proposed legislation or local regulations for their state, or any other state of which they are aware, that reference the old vertical datum, the National Geodetic Vertical Datum of 1929 (NGVD 29), or other vertical datums. Contact: Ed McKay, NGS, NOAA, Vertical Network Branch, N/CG13, Rockwall Bldg., Rm. 313, Rockville, MD 20852, fax 301/881-0117; phone 301/443-8567.

(source: <u>ACSM Bulletin</u>, January/February 1993)

PEOPLE & ORGANIZATIONS

Robertson New WGNHS Director by Bob Gurda

James M. Robertson is the new State Geologist and Director of the Wisconsin Geological and Natural History Survey (WGNHS). He came to Madison in January, following 18 years with the New Mexico Bureau of Mines and Mineral Resources.

Amongst his many new responsibilities, Robertson is already working with the SCO in several capacities. He is a member of our advisory committee, the Committee on State Cartography; he is a statutorily designated advisory member of the Wisconsin Land Information Board; and he is coordinating WGNHS involvement in a new SCO publication—being a guide to *Wisconsin Geological Mapping*.

Robertson's specialty is Precambrian geology, including metal sulfide mineral resources such as are found in some of Wisconsin's oldest bedrock.

UWM Offers Certificate in Urban GIS

The Department of Urban Planning at the University of Wisconsin-Milwaukee has developed a Certificate Program in Urban Geographic Information Systems. The certificate can be earned through the department along with a Master's degree in various fields.

For more information, contact Prof. William Huxhold at (414) 229-5563.

(source: UWM)

Winnebago Tribe Receives GIS Donation

The Wisconsin Winnebago Nation has accepted a donation from ESRI, Inc. of a "University Lab Kit"—a 5-seat installation of PC Arc/Info. He Ping, the tribe's GIS Director, said that the gift was the first ESRI had made to a Native American Nation. The installation will be used to help train tribal members and to offer similar opportunities to other Native American groups.

The GIS Division is located in Black River Falls, and to date has concentrated on a tribal land database and a survey of indian burial mounds in southern Wisconsin.

(source: HO-CHUNK WO-LDUK)

Geocode and Landinfo Merge

Two Wisconsin GIS/LIS companies have joined forces. Geocode (Eau Claire) and LandInfo (Hayward and Tomahawk) are now operating under the Geocode name at all three locations. The merger broadens the services available to clients, to cover GIS hardware, software, and services including data conversion, modeling, and application development. For more information, contact Geocode at (715) 834-5058.

(source: Geocode)

WLIA to Convene in Fox Valley by Ted Koch

The Fox Valley will be the site of the Wisconsin Land Information Association's quarterly membership meeting, scheduled for Thursday, June 3 and Friday, June 4. Activities will be held at two different locations. Non-members are welcome to attend.

The UW-Fox Valley Center in Menasha will be host to an evening seminar (7:00 - 9:00 p.m.) on Thursday, June 3. This will be a demonstration session intended primarily for elected officials from the area. The purpose of the session is to introduce and demonstrate a successful land records modernization project.

Speakers for the evening will include Dave Schmidt, Winnebago County Planning Director, and other officials from county and local government. The very successful WINGS project will be discussed and demonstrations conducted with a live computer setup and projection.

The Paper Valley Inn in Appleton will be the site of the general membership meeting on June 4. WLIA committee meetings will begin at 8:00 a.m., followed by the member meeting at 10:00 a.m. Topics of discussion and presentation will include a legislative update, a continuation of the "Funding the Future" session begun at the annual conference in Middleton, and a review of the Association's vision, goals and strategies for the next year.

For more information and registration contact the WLIA at 800/344-0421.

Satellite Uplink Set for July 13

A four hour satellite broadcast on GIS database design for land records modernization will be broadcast by UW-Madison on July 13. The program, based on work from the LOCALIS Project, will highlight efforts of the Project's County Advisory Group. Among the co-sponsors and cooperators are UW-Extension, WLIB, WLIA, URISA, and NGS.

The satellite uplink will be paired with voice telephone and fax access so that participants at remote sites can submit questions during the broadcast. For more information, contact Uplink, c/o LICGF Outreach Programs, 25 Agriculture Hall, 1450 Linden Drive, Madison, WI 53706.

Land Info & Surveying Course Set for May

The UW-Madison's Civil & Environmental Engineering Department has announced its First Semi-Annual Continuing Education Course in Land Information and Surveying. It is scheduled for the evening of Friday, May 7 and the day of May 8. The course, *Geodetic Datums, Map Projections, and Coordinate Systems*, is designed for people with training, experience, or interest in surveying, property records management, land information systems development, and other related areas. See the listings on page 15 for contact information.

Auto-Carto 11 Added to GIS/LIS in Twin Cities by Bob Gurda

Late this fall, the GIS/LIS '93 conference is being held in Minneapolis. A recent addition to the event is the Eleventh International Symposium on Computer-Assisted Cartography (Auto-Carto 11). Auto-Carto 11, which will focus on visualization and multimedia representation of spatial data, spatial data structures, and computational geometry, will run from October 30 through November 1, immediately prior to GIS/LIS.

For further information on these events, contact GIS/LIS '93 at (301) 394-0200.

(source: GIS/LIS)

Learn About Ins and Outs of Census Data

The U.S. Bureau of the Census and other government agencies are continually releasing data valuable to researchers, marketers, planners, and other who need to make critical decision based on current statistics. Frequently, users are unaware of the extent and variety of data available or are unsure where or how to access the information they need.

For this reason, the Wisconsin State Data Center is offering a workshop on Population, Housing, and Economic Data and Current Technologies for Access and Use. The day-long workshop will be held in Milwaukee on May 11 and in Eau Claire on May 13.

Participants will learn about the contents and release schedules for specific census reports, the format and media in which data are release, and the latest technologies that make accessing and using data easier than ever before. In addition, participants will learn about the Census Bureau's TIGER system. This extensive database has opened up new possibilities for analyzing, interpreting, and mapping information. Conference presenters will discuss the advantages and pitfalls of the TIGER system and what can and cannot be gained from using it.

For more information, or to register, contact Nancy Hurley, Applied Population Laboratory, University of Wisconsin-Madison/Extension, 1450 Linden Drive., Madison, WI 53706, or call 608/262-0141.

LICGF Set Classes

The UW-Madison's Land Information and Computer Graphics Facility has announced 10 GIS short courses utilizing Arc/Info software. They will run from 1-5 days in length, at various dates between May 19 and November 19. Several topics focus on land records modernization and natural resources management. For more information, contact Tom McClintock at 608/263-5534.

CONFERENCES, TECHNICAL MEETINGS, AND CLASSES

April 26-28, ELRC and WSLCA will hold a joint spring meeting in Washington, DC. Contact: ELRC c/o Michigan Department of Natural Resources, Real Estate Division, P.O. Box 30028, Lansing, MI 48909.

April 26-29, Introduction to GIS: A Tool for the 90's will be held at Rutgers University, New Brunswick, NJ. Call: 908/932-9271; fax 908/932-8726.

April 26-29, 14th Annual NCGA Conference, "Computer Graphics Solutions: Applications for Implementation," *National Computer Graphics Assoc.*, will be held in Philadelphia, PA. Contact: Ms. Kate Whalen, NCGA, 2722 Merrilee Dr., Suite 200, Fairfax, VA 22031, 703/698-9600; fax 703/560-2752.

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May 3-9, 16th International Cartographic Conference, ICC '93, International Cartographic Assoc., will be held in Cologne, Germany. Contact: AKM, Congress Service Clarastrasse 57, CH-4405, Basel, Switzerland; or Robert Marx, Chair, USNC Papers Comm., 8312 Oakford Dr., Springfield, VA 22152.

May 4-6, U.S. Geo-Data Data-Base Access via CD-ROM Technology will be held at the Stennis Space Center, Mississippi. Contact: U.S. Geological Survey, Applications Assistance Facility, Building 3101, Stennis Space Center, MS 39529 at 601/688-3541.

May 4, Introduction to Global Positions Systems will be held at Rutgers University, New Brunswick, NJ. Call: 908/932-9271; fax 908/932-8726.

May 7-8, First Semi-Annual Continuing Education Course in Land Information and Surveying, Geodetic Datums, Map Projections and Coordinate Systems will be held in Room 1227 of the Engineering Building on the UW-Madison Campus. Contact: Prof. David Mezera, Rm. 1214 Engr. Bldg., 1415 Johnson Dr., UW-Madison, WI 53706 at 608/262-4365.

May 10-12, First National GeoData Policy Forum will be held in Washington, DC. Contact: Brenda Abrams at 301/929-3351.

May 11 & 13, Population, Housing, and Economic Data and Current technologies for Access and Use will be held in Milwaukee on May 11 and in Eau Claire on May 13. Contact: Nancy Hurley, Applied Population Laboratory, UW-Madison-Extension, 1450 Linden Dr., Madison, WI 53706. Call: 608/262-0141.

May 13-14, Wetlands: Critical Land Use & Development Issues in Wisconsin will be held at the Wyndham Milwaukee Center, Milwaukee, WI. Contact: CLE International, 999 18th Street, Suite 2260, Denver, CO 80202 at 800/873-7130; fax 303/297-1223.

May 17-20, 14th North American Surveying and Mapping Teachers Conference, "A Changing Professional World," Univ. of FL, Gainesville, FL. Contact: 904/392-9492; fax 904/392-3394.

May 25-27, Image Processing and GIS Workshop for Geological Mapping will be held in Fort Worth, TX. Contacat: Dr. Ken Morgan, Texas Christian University at 817/921-7270.

June 2-6, 1993 Canadian Cartographic Association Conference will be held in Winnipeg, Manitoba, Canada. Contact: Marcia Faurer, '93 CCA, c/o Dept. of Geography, The Univ. of Winnipeg, 515 Portage Ave., Winnipeg, Manitoba, Canada, R3B 2E9 at 204/786-9481; fax 204/786-1824.

June 4, Wisconsin Land Information Association (WLIA) Quarterly Membership Meeting will be held at the Paper Valley Inn in Appleton. Contact: WLIA at 800/344-0421.

June 7-10, A/E/C Systems '93 will be held in Anaheim, CA. Contact: A/E/C Systems, Inc., 1 Farron Drive, Chadds Ford, PA 19317 at 215/444-9690; fax 215/444-9583.

June 7-10, Remote Sensing in Water Resources will be held in Lincoln, NB. Contact: CALMIT, 113 Nebraska Hall, Univ. of NE-Lincoln, Lincoln, NE 68588-0517 at 402/472-8197; fax 402/472-2410. June 17-18, Linking Land Use and Transportation will be held in Denver, CO. Contact: Ann Long, Registrar, Lincoln Institute of Land Policy, 113 Brattle Street, Cambridge, MA 02138-3400 at 617/661-3016; fax 617/661-7235.

June 21-25, 15th International Conference on the History of Cartography will be held in Chicago, IL. Contact: James R. Akerman, Conference Secretary, Hermon Dunlap Smith Center for the History of Cartography, The Newberrry Library, 60 W. Walton St., Chicago, IL 60610-3380/.

June 21-22, Third Annual International GPS/GIS Conference will be held at the Sheraton Hotel & Towers in Seattle, WA. Contact: GeoResearch, Inc., 115 N. Broadway, Billings, MT 59101, 406/248-6771; fax 406/248-6770.

July 6-8, Image Processing and GIS Workshop for Environmental Mapping will be held in Fort Worth, TX. Contacat: Dr. Ken Morgan, Texas Christian University at 817/921-7270.

July 13, LIS/GIS Satellite Uplink on Database Design will be broadcast on from 10:00 a.m. to 2:00 p.m., CDT. Contact: Celeste Kirk at 608/263-5534.

July 25-29, 1993, URISA '93 Annual Conference will be held in Atlanta, GA. Contact: Urban and Regional Information Systems Association, 900 Second Street N.E., Suite 304, Washington, DC 20002, 202/289-1685.

August 1-6, SIGGRAPH '93 will be held in Anaheim, CA. Contact: SIGGRAPH '93 Conference Management, 401 N. Michigan Ave., Chicago, IL 60611 at 312/321-6830; fax 312/321-6876.

August 24-26, Twelfth Pecora Remote Sensing Symposium will be held in Sioux Falls, SD. Contact: Dr. Robert Haas, Symposium Chair at 605/594-6007.

September 22-24, Institute of Navigation GPS '93 will be held at the Salt Palace Convention Center in Salt Lake City, UT. Contact: Gaylord Green, Hansen Experimental Physics Labs, Stanford University, Stanford, CA 94305-4085 at 415/725-8911; fax 415/725-7010.

September 26-30, Second International Conference/Workshop on Integrating GIS and Environmental Modeling will be held in Breckenridge, CO. Contact: NCGIA Conference Secetariat at 805/893-8224.

September 27-30, Introduction to GIS will be held in Lincoln, NE. Contact: CALMIT, 113 Nebraska Hall, Univ. of NE-Lincoln, Lincoln, NE 68588-0517 at 402/472-8197; fax 402/472-2410.

October 3-7, Workshop on Land Management Planning Utilizing GIS will be held in Atlanta, GA. Contact: Diane Ross-Leach, Pacific Gas & Electric Co., 123 Mission St., H21A, San Francisco, CA 94177 at 415/973-5696; fax 415/973-7971.

October 25-28, 105th Geological Society of America Annual Meeting & Exposition will be held in Boston, MA. Contact: GSA Exhibits Coordinator, P.O. Box 9140, Boulder, CO 80301-9140 at 303/447-2020; fax 303/447-0648.

October 29-November 6, 1993, GIS/LIS '93 Annual Conference & Expo. & ACSM/ASPRS Fall Convention will be held in Minneapolis, MN. Contact: ACSM, 5410 Grosvenor Lane, Bethesda, MD 20814-2122, 301/493-0200; fax 301/493-8245.

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March 21-23, Wisconsin Land Information Association Annual Conference will be held in Stevens Point, WI. Contact: WLIA at 800/344-0421.

ABOUT THE SCO.....

The State Cartographer's Office (SCO), established in 1973, is a unit of the University of Wisconsin-Madison. The SCO is located on the 1st Floor of Science Hall.

Our staff presently consists of two full-time academic staff—Ted Koch, State Cartographer (608/262-6852), Bob Gurda, Assistant State Cartographer (608/262-6850), and one full-time classified staff—Brenda Hemstead, Program Assistant (608/262-3065), plus several part-time graduate and undergraduate students.

The State Cartographer's position and mission is described in Wis. Statute 36.25 (12m). In addressing this role, the SCO functions in a number of ways:

- publishes the Wisconsin Mapping Bulletin, catalogs, guides, brochures, and other documents to inform the mapping community.
- inventories mapping practices, methods, accomplishments, experience, and expertise, and further acts as a clearinghouse by providing information and advice in support of sound mapping practices and map use.
- participates on committees, task forces, boards, etc. The State Cartographer is one of the 13 voting members of the Wisconsin Land Information Board.
- develops experimental and prototype products.
- serves as the state's affiliate for cartographic information in the U.S. Geological Survey's Earth Science Information Center (ESIC) network.

The Office answers a wide range of inquiries ranging from simple to complex, in the following general categories:

- 1. Geodetic Control—Requests for surveying information which has been established by some office or agency, and upon which the requestor wishes to base a survey or map.
- 2. Aerial Photographic Coverage—These are requests for information about existing or planned aerial photographic coverage which can be utilized for a variety of projects. These requests, in many instances, are motivated by the desire to avoid the exceedingly more costly option of acquiring specifically flown photography.
- 3. General Map Coverage—The requestor is seeking map coverage to fulfill a specific need, from utilization as a base map upon which other information can be compiled, to determination of location or extent of a resource such as wetlands, to use as a recreation guide.
- 4. Specific Unique Data—These types of requests change as various programs are implemented. Examples include magnetic declination (for land surveying), and latitude/longitude (federal requirement for placement of sending satellite dishes or radio towers).
- 5. General Requests—Such as size of an area, height of a particular feature, location of a named feature, explaining contours, digital methods, software, hardware, etc.
- 6. Activities of Other—This provides access to publications, news, anecdotal information, and referrals to appropriate agencies, programs, organizations, or individuals who may be able to provide the information being sought.

For more information, call the SCO at 608/262-3065. You can request a free brochure profiling the SCO in more detail, and listing available publications.

Wisconsin <u>Mapping Bulletin</u>

Published quarterly 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 encouraged. The Editor makes all decisions on content. Deadline for the next issue is June 18, 1993.

Editor: Bob Gurda Desktop publishing: Brenda Hemstead Mailing: SCO Production Staff

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

State Cartographer's Office 550 N. Park Street Room 160 Science Hall Madison, WI 53706-1404 phone 608/262-3065 fax 608/262-5205 State Cartographer's Office Univ. of Wisconsin-Madison 550 N. Park Street Rm. 160 Science Hall Madison, WI 53706-1404 Nonprofit Organization U. S. POSTAGE PAID Madison, Wisconsin Permit No. 658

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