



Wisconsin MAPPING BULLETIN

NAPP PHOTOGRAPHY AVAILABLE FOR ORDERS

by Ted Koch

We have just received confirmation that the Spring, 1992 aerial photographs acquired over Wisconsin through the National Aerial Photography Program (NAPP) are now available for general sale. At this time, you may purchase copies by mail from two separate locations; the U.S. Department of Agriculture Aerial Photography Field Office (APFO) in Salt Lake City, Utah, or the U.S. Geological Survey's Earth Resources Observation Systems (EROS) Data Center in Sioux Falls, South Dakota. At present there is no location within the state where the photos can be either viewed or purchased.

NAPP photos for Wisconsin are normal black-and-white (panchromatic) images, taken at a flying height of nearly four miles. This gives a photo scale of approximately 1:40,000 or 1" = 3333'. A single 9"x 9" frame of this imagery will cover about 32 square miles.

Almost all of the NAPP photography for Wisconsin was acquired during the first two weeks of May, 1992. The three private firms that were under contract, completed statewide coverage; however, the NAPP program administrators at USGS rejected approximately 5% of the photography because of poor quality. Areas of rejected photos are scheduled to be flown again this spring.

NAPP photos are most useful for natural resource and agricultural inventories, and general planning purposes. They have not been scale-corrected or processed to be orthophotos, although they can be used as the base image for making both analog and digital orthophotos (see page 5 for a related article on status of digital orthophotography).

In a non-related development concerning another statewide photo project, the Wisconsin Department of Natural Resources and its vending contractor are close to announcing the availability of photos from the forestry project. See the DNR Forestry Photography article on page 5 for more details.

NAPP is a cooperative federal-state program, where a state that commits 50% of the cost of the photography ac-

quisition is guaranteed to be flown during its scheduled year. In 1992, five public agencies and one utility company pledged a total of \$140,000 for Wisconsin's share.

The Wisconsin Department of Natural Resources, the largest contributor, committed more than half of the total amount. Other state agency commitments were made by the Department's of Transportation; and Agriculture Trade and Consumer Protection. Two federal agency contributions were made through the state offices of the Soil Conservation Service and the National Park Service's Trails Project Office in Madison. The contributing utility was Wisconsin Power and Light.

Those organizations in the state that contributed funds to the NAPP acquisition are eligible to buy contact photo prints at one-half the standard price. Other products, such as enlargements and film copies may be obtained at reduced prices. The standard (non-contributor) price for a single image on paper is \$6.00, while prices for film copies or enlargements may range up to \$45.00 per image. Orders from either organization selling the photography will take approximately three weeks to process.

The State Cartographer's Office has indexes of NAPP coverage and can assist potential purchasers identify those images that are currently available.

Highlights of this issue....

• WLIB News	2
• State Cartographer's Commentary	3
• Aerial Photography & Orthophotography	4&5
• People and Organizations	6
• Questions & Answers	7
• Guest Opinion	8
• Remote Sensing News	9
• Legislative/Policy News	10
• Geodetic Control	11
• Conferences, Meetings, & Classes	12&13
• Publications	14
• 1993 Index	15

WLIB NEWS

by Bob Gurda

Board Meetings

Since our last issue, the Wisconsin Land Information Board has not held any meetings. The meeting scheduled for December 14 was canceled and the meeting scheduled for January 11 is postponed until January 25. Also canceled is the meeting originally scheduled for February 8. The meetings planned for March 10 and April 12 remain on the calendar.

Countywide Modernization Plans

At least two amendments to plans previously approved have been submitted for board consideration.

Grants

During the recent December grant application period, the WLIB staff received 31 grant applications requesting a total of \$2,656,230 (average of \$85,685). About 75% of the total is being requested by counties. Based on previously committed grant awards, administrative costs, and revenues through June of 1992, the board has just over \$1 million to apply to new awards.

The applications are expected to be considered by the WLIB's Grant Evaluation Committee in February, and then by the entire board on March 10.

Of the 31 applications, one each are from 15 counties where no previous awards have been made. Under the applicable administrative rule, each of these applications receives a bonus of fifteen points in the Grant Evaluation Committee's scoring process. In these 15 applications, a total of \$1,344,893 is being requested (average of \$89,660).

Revenues

Document filing fees collected for the state Land Information Program at county Register of Deeds' offices have continued to exceed the same periods from 1991. While this effect has been more pronounced in some parts of the state than others, counties in general should have greater retained funds to utilize than in earlier years. Similarly, the WLIB should be in a position to award at least \$1 million in grants in response to grant applications in June of this year.

Education Committee

This group is organizing a low-cost workshop on geographic frameworks and parcel numbering, to be offered at

several sites around the state in April. See the article below for details.

Integration/Clearinghouse Committee

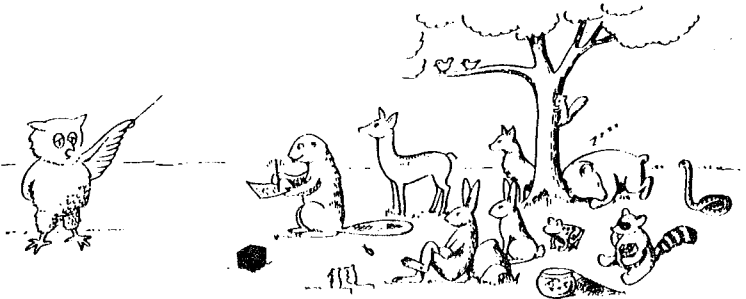
The committee has been meeting regularly, and is involved in a strategic planning process with assistance from staff of the Department of Administration's Bureau of Information Technology. The objective of this process is development of effective methods for state agencies to use in meeting their statutory responsibilities to report their land information plans to the WLIB.

Technical Issues

The WLIB invited a small group of technically informed individuals to participate in a pair of Technical Summit meetings in October and November. In the immediate aftermath of those meetings, it is not clear what direction the WLIB will take on the process of identifying, prioritizing, and addressing technical issues that affect the state Land Information Program.

Administration

The WLIB's Executive Director, Bill Holland, visited land information officials of the State of Essen in Germany recently. Essen is a "sister state" to Wisconsin, and Bill's visit was encouraged by the Secretary of the Wisconsin Department of Administration, James Klauser.



Board Plans Spring Workshops

by Ted Koch

The Wisconsin Land Information Board (WLIB) will be sponsoring one-day workshops covering geographic frameworks and parcel identification numbers at four state locations, all during the month of April. These low-cost workshops will emphasize applications rather than theory.

The first-half of each workshop will cover the geographic framework topics of measurement and surveying, GPS, aerial photography, and mapping. The second-half will cover parcel identification numbering schemes, and will finish with a showcase of several local projects.

The exact cost, locations, and dates of the workshops have not yet been determined. Further information and registration forms will be available soon from the WLIB. Contact Sue Simons at (608)267-3369 for more details.

Correction:

On the first page of our last issue (October, 1992), the map showing newly approved grants through the Wisconsin Land Information Program had two counties in the wrong categories. Dodge County should have been shown as receiving an award in the June, 1992 grant period. By contrast, Calumet County was incorrectly shown as receiving an award.

STATE CARTOGRAPHER'S COMMENTARY

by Ted Koch

Modernization and integration are the two words that most clearly characterize the policy objectives of the Wisconsin Land Information Program (WLIP). Effective planning is the critical first step in meeting these objectives.

To date, seventy county-wide modernization plans have been approved by the Board. More than \$2,400,000 has been awarded in grants-in-aid to counties for specific land records modernization projects, with another \$1,000,000-plus available for award to December, 1992 grant applicants. These are impressive statistics, and by themselves demonstrate that the WLIP is moving decisively toward achieving the goals of modernization and integration, particularly at the local level.

So far, so good! Strides are being made toward improved local modernization and integration. But, what about modernization and integration of land information at the state agency level? What is being accomplished at this level of government to support the program objectives?

The 1989 statutes creating the WLIP are clear about state agency involvement. Nine departments, plus the Public Service Commission, the State Historical Society, and the University of Wisconsin System are each required to submit to the board, a plan to integrate land information. The plans, which are to be submitted to the Board every two years beginning in March, 1990, are to enable state agency land information, "... to be readily translatable, retrievable and geographically referenced for the use by any state, local government unit or public utility".

However, with the notable exceptions of the Department of Natural Resources and the UW-System, state agencies have not prepared plans and presented them to the

Board as required. There are many reasons for this lack of action. For one, while the statute is clear in its general intent, it provides no guidance as to the content or the format of the plans, nor any means to assess their usefulness. For the past couple of years the Board's State Agency Integration Committee had worked toward achieving the preparation of agency plans.

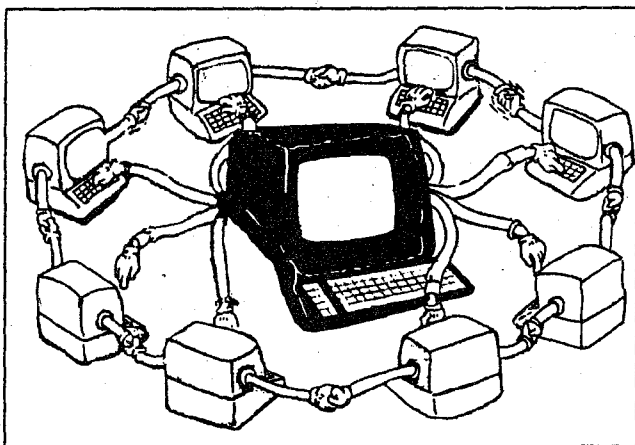
Last April, the Board merged State Agency Integration and Clearinghouse, two of its standing committees, into one with the State Cartographer as chair. Since the merger, the joint Clearinghouse/Integration Committee, in an attempt to get agencies actively involved in land information integration planning, has held four meetings with representatives from as many as twelve different agencies attending.

Under the state Land Information Program, strides are being made toward local modernization and integration. But what is happening at the state agency level?

The purpose of the meetings has been to explore, define and understand the concepts and working processes of data integration within and between agencies. The immediate goal of the committee is one of building a consensus amongst the participants of how agencies will proceed with integration planning and implementation. There are long-term budget implications of the level of integration that the group ultimately achieves. The committee has two more meetings planned for mid-January and mid-February with the purpose of more specifically identifying and prioritizing agency integration activities and short-term objectives.

Unlike counties who are eligible for financial grants after they have written a WLIP-approved plan, state agencies are not eligible for WLIP financial benefits once their integration plans are completed. In fact, the Board's capability to help fund "statewide integration" projects, which might be led by state agencies, was removed from its budget authority for the current biennium. At the state agency-level the "carrot" of increased data integration is reduction of duplication and increased efficiency and effectiveness of ongoing operations.

So, to the question of how state agencies are dealing with integration, the answer is that the process has begun. Agency plans are far from complete at this time; however, we are actively working toward that goal, and in addition we are working on getting all agencies with land information involved in the process.



SCO AERIAL PHOTOGRAPHY SURVEY & CATALOG

by Tim Ruhren

The SCO Aerial Photography Survey is drawing to a close. The last telephone calls to follow up on late responses are being made, and we are waiting for the replies to our last batch of mailings. Since the report in the last *Bulletin*, quite a few responses have arrived. SCO staff is busy compiling survey results and assembling the new airphoto database.

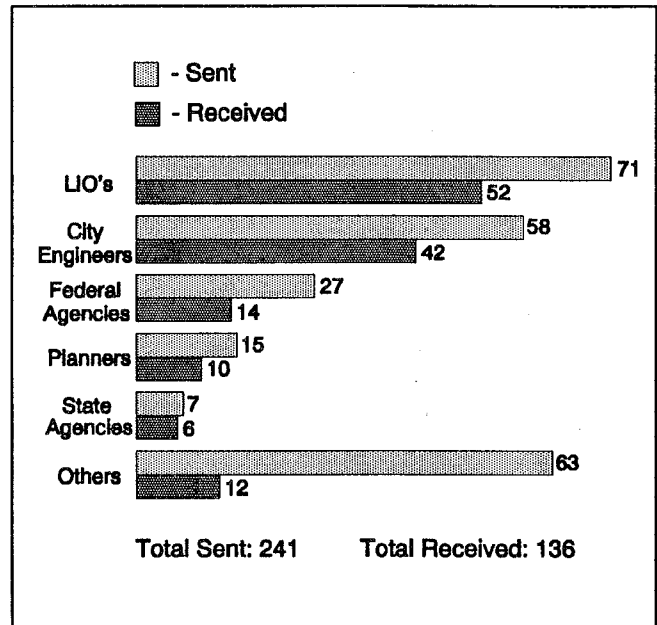
A total of 251 individual surveys were mailed, and 133 replies have been received so far. County Land Information Offices and City Engineers accounted for the majority of these responses. Of the 71 LIO's, 52 answered the survey, while 42 of the 58 City Engineers of cities with populations over 10,000 returned completed surveys. Planning organizations such as Regional Planning Commissions, and Federal and State agencies accounted for most of the remaining responses.

Besides the surveys mailed to individual offices, some of the government agencies were approached on an organizational basis. The ASCS district offices handled the responses from their county branches, with a 100 percent response rate. The Wisconsin DNR is currently forwarding the survey to its numerous districts and branches, and replies have started to arrive from various DNR offices throughout the state. Finally, the DOT has extensive holdings which are centralized at the Hill Farms office in Madison.

One striking fact that has become evident during the survey is the difficulty many organizations have in describing their aerial photography holdings. For example, several utilities and aerial photography firms expressed interest in the survey but were unable to respond because they did not have enough time to sort out what photography they hold.

Ultimately, this lack of organization rises in two situations—where there are many organization units holding photography but no centralized description exists, or where the photography is in a central location, but the work effort is geared towards acquiring new coverage as contrasted to organizing older coverage. A dual impetus for improving current aerial photography indexing systems exists—the demand for copies of older coverage is growing while increasing volumes of photography will be acquired as part of land records modernization work.

As the actual survey process winds down, the compilation of the SCO Aerial Photography Database is currently in full swing. This database will be used to answer inquiries in the office, and to produce a new Aerial Photography Catalog.



Respondents to the survey have reported their aerial photography holdings where applicable. Many city engineers have reported photography that is not listed in previous SCO catalogs or federal databases. In addition, newly reported holdings include photography that was acquired after the 1990 update to the 1984 Catalog. Finally, all the photography described in the previous Catalog must be entered into the database.

The new catalog will feature numerous revisions to the earlier format. Photography will be organized by area of coverage, rather than by the acquiring organization. Area of coverage will be referenced to counties (whether entire or partial), with cross reference to listings for larger area, multi-county coverages such as the new statewide NAPP photography acquired last year.

Where applicable, the addresses for where to view and where to purchase copies of the photography will be given. The viewing information will include, whenever possible, the addresses for local holdings. A loose leaf format is planned in order to allow for issuing updates. An early Spring publication date is planned.

AERIAL PHOTOGRAPHY

DNR Forestry Photography Update

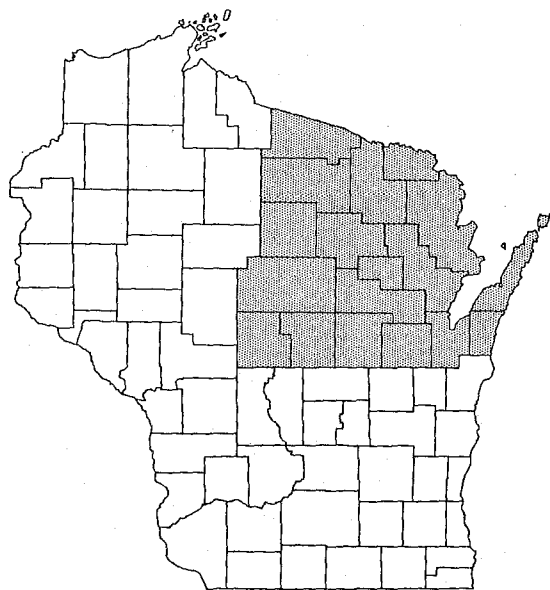
by Ted Koch

As was discussed in the last issue of the *Bulletin*, the state-wide Department of Natural Resources (DNR) aerial photography project, after nearly two summers of flights, is still only partially complete. The remainder of this "leaf-on" project, which is collecting black-and-white infrared photos at a scale of 1:15,840 (1 inch = 1320 feet), is scheduled for final completion this summer.

The most recent news concerning this photography is that the vending arrangement for the sale of the photos is nearly complete. Some photos should be available to the public sometime during the month of February. For photos of a given county to be available, the entire county has to be flown and accepted by the DNR. As a result only photos for 18 counties in the northeast part of the state will be available for sale (see map below).

The vending contract for sale of the photos has been awarded to Photo Science, Inc., an aerial photo, surveying and mapping firm located in Gaithersburg, Maryland. Photo Science will handle all standard and special-order duplication services. A standard price list for the photos has been established through the contract. Prices will range from \$6.00 per-print for orders of less than ten photos, to \$5.50 per-print for orders greater than 100 photos (shipping is additional). County index maps and an order form are currently being developed.

For more information on this project, and on buying photo prints, you may contact either the State Cartographer's Office, or Will Kiefer at the DNR forestry photo field office in Superior, WI (715) 392-4764.



Tint shows area for which new DNR forestry photography is available as of February, 1993.

National Digital Orthophoto Program Moves Closer to Reality

by Bob Gurda

We have several points of progress to report on the initiative to develop a national program to produce computerized, geometrically corrected images from NAPP aerial photographs. While the process is moving more slowly than those promoting it would like, movement is in the right direction.

A number of people in Wisconsin sent letters supporting the program to congressional representatives in the last quarter of 1992. Responses to those letters, from the Office of Management and Budget, show that federal understanding and interest is growing, particularly toward full funding beginning in October, 1993. Another factor that could either slow or accelerate this initiative is the change of presidential administrations.

However, funding in the nearer term is still not approved, although hope remains alive that certain U.S. Dept. of Agriculture (USDA) funds can still be utilized this fiscal year.

USDA has successfully integrated digital orthophoto imagery into local field office operations with a pilot project in Rockingham County, VA. Four different USDA agencies are sharing computing resources and digital images. Office staff are "drawing" farm field boundaries right on the computer screen, and are analyzing data for various federal farm programs by computer.

A similar arrangement of technology and trained operators could be developed in an array of other public and private offices, utilizing the same digital orthophoto data as an important component.

At the recent GIS/LIS '92 Conference in San Jose, CA, a workshop for potential private sector contractors was held. If the national program becomes reality, a great part of the production work will be done by contractors.

Closer to home, the prospects for development of state-wide digital orthophoto imagery for Wisconsin will be discussed as part of a session at the upcoming annual conference of the Wisconsin Land Information Association, to be held in Middleton. A full-morning session "Satellite and Photography Technology for Land Records Modernization" is scheduled for March 3.

PEOPLE & ORGANIZATIONS

NPS Opens GIS Technical Support Center

The National Park Service (NPS) recently selected the University of Wisconsin-Madison as the site for its Midwest Region GIS Technical Support Center (MTSC). The MTSC began operation in late fall under the guidance of Joe Meyer, an NPS employee who had a similar role in the Southeast region. Joe's operations are located with the University's Land Information and Computer Graphics Facility. NPS comes to the University through an agreement with the UW Spatial Information and Analysis Consortium (SIAC) and the UW Cooperative Park Studies Unit.

The primary goal of the MTSC is to provide technical support for GIS development and operation in about 40 parks, seashores, and trails in the 10 state midwest region. While Joe and a 1/2-time graduate assistant cannot build and maintain GISs for all these units, they help Park personnel over the many barriers to successful GIS implementation—using hardware and software, locating and converting data, developing implementation strategies, training, and so forth.

In addition to using University facilities, the MTSC also hopes to tap into UW's expertise in GIS, working with faculty and students on a variety of research and development projects. For example, the Institute for Environmental Studies' Environmental Monitoring Practicum class currently is designing a GIS to support the development of Wisconsin's Ice Age Trail, an official NPS trail.

Many GIS activities in Wisconsin may contribute to NPS needs, and so in the best spirit of the Wisconsin Land Information Program, please welcome Joe and his staff when they ask "what are you up to with land information and applications?"

For more information, contact:

Steve Ventura
Land Information and Computer Graphics Facility
c/o Dept. of Soil Science
439 King Hall
1525 Observatory Drive
University of Wisconsin-Madison
Madison, WI 53706
(608)263-2086

Joe Meyer
Midwest Region GIS Technical Support Center
c/o LICGF
25 Ag Hall
1430 Linden Drive
University of Wisconsin-Madison
Madison, WI 53706
(608)265-3515

(source: S. Ventura)

News from the SCO

New Roof Installed

After months of work, the re-roofing of Science Hall has been completed. This means that the small parking lot behind the building is again accessible, including the two short-term public parking slots.

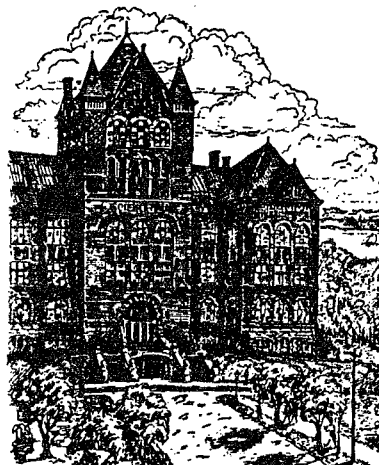
This project involved removing old slate, laying new plywood sheathing, and installing asphalt shingles. In order to accomplish this work, scaffolding was erected around the entire 105-year old building up to the eaves at the top of the fourth floor, and the parking lot was completely utilized by the contractor.

Controversy has swirled around the selection of asphalt shingles, rather than slate. New slate clearly would have been more expensive than new asphalt. Re-using the existing slate (and replacing the small number of damaged shingles) apparently was not considered as an option by the State, although the contractor claimed that it would have been no more expensive than asphalt, and would last considerably longer.

At any rate, we are happy that the work is done and public access to the building has been restored to normal.

Staff

Jim Lacy has joined the SCO's graduate student staff. Jim, who replaces Ken Gotsch who left in December, is our automated systems manager. He is working toward his Master's Degree in Cartography.



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

Questions & Answers

?

I've noticed that elevations are labelled in various places on 1:24,000-scale topographic quadrangle maps. How accurate are these elevations?

The simple answer is that their accuracy varies widely. However, these labelled points actually are of several types or classes, each of which has a stated accuracy. By accuracy, we mean how closely the published value can be expected to vary from the true value for the same point. The true value, of course, can never be determined without at least some error, but a value determined through very careful measurement and analysis can be assumed to be the true value.

The least accurate elevations shown on USGS topo maps, in the sense of elevation at any particular point, are defined by the topographic contours. While these lines depict the relief in the area, individual points along the lines are stated to be accurate only to within one-half the contour interval, 90% of the time. The same standard holds for any point, the elevation of which is interpolated between its nearest contour lines.

Somewhat more accurate are spot elevations. These points are marked with an "X" and the lettering carrying their elevation is in italics. The elevation is determined with a stereoplotter machine, at the time that contours are being drawn for the map. These are no more accurate than about one foot. While some of these points are located seemingly at random across the map, many are on defined features such as road intersections and bridge spans.

Easily confused with the above spot elevations are "useful elevations". These are useful in the sense of vertical geodetic control, and were developed in the course of ground surveys (levelling lines or circuits). Useful elevations (UE's) include chiseled squares on bridges, corners of railway station platforms, and spikes in utility poles. Depending on their physical sturdiness, these can be quite accurate—down to tenths of inches.

The highest accuracy elevations are benchmarks. These are special monuments installed for the purpose of permanent geodetic control. They range in accuracy between 1/32" and 1/8" over the span of a mile. The error is stated in statistical terms, meaning that the actual amount of error attached to any single point is not known exactly.

A sample map showing these various types of elevation markings on topographic maps is on page 13 of the SCO's guide *Wisconsin Geodetic Control*. We maintain files of detailed information on benchmarks and UE's that are part of the federal government's vertical geodetic control network. By the way, all elevations currently on USGS topo maps are referenced to NGVD 29.

?

Do you know of any jobs in GIS in Wisconsin at the present time?

The SCO does not maintain files on available jobs or on people looking for positions. We also do not carry advertising such as personnel announcements in the *Bulletin*. While we do hear about available people or positions occasionally, often it is after the fact.

There are a number of national periodicals that carry employment advertising for GIS and related fields. Being active in professional organizations, particularly at the state level, is an especially good way to develop contacts and to become familiar with trends in the industry.



?

Can you help me identify the locations of all operating farms in Wisconsin?

Well, your request is a tall order. We know of no maps that explicitly depict farm locations (of course, anyone making such a map would have to have standard criteria for what constitutes a "farm"). Land use maps commonly have at least one "agricultural" category, but this doesn't help in differentiating one farm from its neighboring farms.

USGS topographic maps use small square symbols to show buildings. In many cases, clusters of several such symbols along rural roads could *generally* be inferred to represent farms. Beware that each map sheet has a date, and that abandoned farms appear the same as operating farms.

If you are actually trying to find *addresses* of operating farms, in order to target the marketing of a product or service, an address data base would serve your purpose. In urban areas, the Census Bureau's TIGER files would be of great value, since they help link various population characteristics to geographic units. However, the TIGER files don't include rural ZIP codes that would help link "farms" to addresses.

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.

WLIP Funding: What do you think?

by Michael J. Lefebvre*

Land Records Modernization (LRM) is alive and well in the State of Wisconsin! OR IS IT? This question is frequently an issue of debate across the state. The answer is obviously dependent on the success, or lack thereof, that the individual may have experienced within the process.

For those who are actively involved in the LRM process and have success to show for our efforts, the answer would probably be "yes." For others who have struggled through the creation of a planning document and have charted a course into the future with known financial support, the answer would probably be "maybe." For many others with a vision for success but unable to tap sufficient program funding, the answer would be a definite "NO."

Based on my personal observations and the communications I have had over the past 18 months, I believe the majority of us fall somewhere between a "maybe" and a definite "NO." I also believe our opinion is directly related to the question of adequate program funding.

Stop the train! Not enough Funding for LRM? Impossible! LRM is one of the primary concepts essential to the Wisconsin Land Information Program (WLIP). More specifically, LRM is the process by which land information will be ultimately shared through automated systems, significantly improving land information management at reduced cost. Didn't 1989 Wisconsin Act 339 create a funding mechanism via an increase in recording fees, which through June of 1992 has raised over \$11 million for LRM? Have not the Governor and a majority of our state/local elected officials shown support? Has not almost every taxpayer familiar with program, from business professional to household engineer, indicated support?

If all the above is true, this program has more support than baseball and apple pie. The truth of the matter is, it does, but the funding mechanism that was created is simply not adequate by itself. While state/local governments and utilities in Wisconsin—the private sector not included—together spend at least \$140 million per year on land records, much of this is necessary to maintain existing systems that cannot be idled while modernization takes place. The conversion to more efficient systems requires additional funds, especially in the short term.

As a result, I believe it is fair to say that we have created a program with great potential but inadequate financing. This is especially troublesome since the existing WLIP funding is needed for up front development, implementation, and training costs. There will be additional significant funding needed in the future to maintain and update the systems we are creating, although the resultant benefits of modernized systems should justify stronger base funding; locally established fees based on new services are another option. All considered, the task in front of us borders on awesome.

As LRM professionals, what can we do about this funding situation? The answer of course lies in a team effort.

We need to focus ourselves on the problem, identify possible solution(s) and implement the solution(s) with the greatest chance of success.

In the State of Wisconsin, we have an organization to help issues in this arena: the Wisconsin Land Information Association, Inc. (WLIA). The WLIA is over 500 individuals, businesses and associated professional groups, with an interest in the success of the WLIP.

WLIA invites you to help improve the land records modernization funding situation by joining in a Town Meeting on March 5.

In 1991, the WLIA worked with the Wisconsin Land Information Board (WLIB) to assist in identifying guidelines that should be used by the WLIB in awarding grants for LRM activities. In order to accomplish this and at the same time provide an opportunity to all interested parties to voice their opinions, the WLIA conducted an information gathering session at its annual conference, in the form of a Town Meeting. At that Town Meeting, the WLIA solicited a list of ideas that could be used by the WLIB as guidelines in the grant selection process. In addition to coming up with a list, the attendees also voted on weighting the proposed guidelines by their importance. This effort resulted in a list of guidelines that WLIB adopted and continues to utilize in the grant selection process.

Because of that success, the WLIA will be holding another Town Meeting at its sixth annual conference, being held in Middleton from March 3-5. The Town Meeting, on March 5, will focus on funding. Arriving at a list of solutions for this important issue will be difficult. But with a team effort, I believe we have a good chance for success.

Our goal will be to identify potential funding methods and possible sources. To accomplish this, we need everyone's creativity. We need as much input as possible. The meeting will be an excellent opportunity to express your ideas and opinions. Your experience may be of benefit to others. You will come away more informed about the problem and its potential solutions.

As a group, we need to identify possible solutions and implement a course of action. Like any group attempting to implement a solution, however, we will still need each individual to carry the torch. As individual taxpayers, we have a responsibility to become informed and advocate for what we believe is in the best interest of our State.

On behalf of the WLIA Board of Directors, I invite you to take part in this Town Meeting, and our entire conference if possible. If you are unable to attend but would like your opinions included, feel free to send your ideas to me c/o WLIA. You are also welcome to call me directly at (414) 592-9440. I hope to see you all in Middleton.

**Michael J. Lefebvre is the manager for the Green Bay Division of Graef, Anhalt, Schloemer & Associates Inc., a consulting engineering firm, and President of the WLIA, Inc.*

REMOTE SENSING NEWS

Landsat Policy

The Land Remote Sensing Policy Act of 1992 was passed by Congress in September and then signed by President Bush. It now replaces the Land Remote Sensing Commercialization Act of 1984. Past *Bulletins* (January, April, and October 1992) have discussed some of the issues involved. In general, the new act redefines the roles of the public and private sectors in the distribution of remote sensing data and the development of new satellites. Among the important details are:

- management of the Landsat program will be by the "Landsat Program Management Office" comprised of NASA and the Department of Defense;
- this office is directed to obtain and operate a Landsat 7 satellite as quickly as practicable;
- a policy for distributing Landsat 7 data will be developed to include provisions for supplying unenhanced data to government and affiliated users at delivery cost;
- the office will negotiate with EOSAT to transform its data distribution policy to be consistent with the planned policy for Landsat 7 data;
- licensing requirements for private remote sensing systems have been changed to hopefully encourage the development of private systems, and
- guidelines for developing a successor to Landsat 7, including applying military reconnaissance satellite technology where feasible, have been set out.

The executive branch of the government, namely the White House's National Space Council, will be responsible for the details of carrying out these guidelines. The new administration will appoint the members of the Council, which will be headed by Vice President-Elect Albert Gore Jr. Among its other duties, the Council will oversee negotiations between the Landsat Program Management Office and EOSAT concerning prices for archived TM imagery and future Landsat 6 data. Clearly, significant changes are in the future for the Landsat program and its users.

(source: *GIS World*, December 1992).

Landsat Exhibit in D.C.

The Library of Congress has opened a new exhibition of over 40 Landsat images of various parts of the earth, ranging from Moscow to Brazilian rain forests and Mount St. Helens. The exhibition marks the 20th anniversary of NASA's launch of Landsat 1.

The display is located in the corridor outside the Geography and Map Division on the B Floor of the Madison Building, in Washington, D.C. It is open 8:30 am to 5 pm, Monday through Friday, and Saturday from 8:30 am to 12:30 pm, through June 20, 1993.

(source: *Library of Congress*)

NASA Seeks Input on Landsat Management

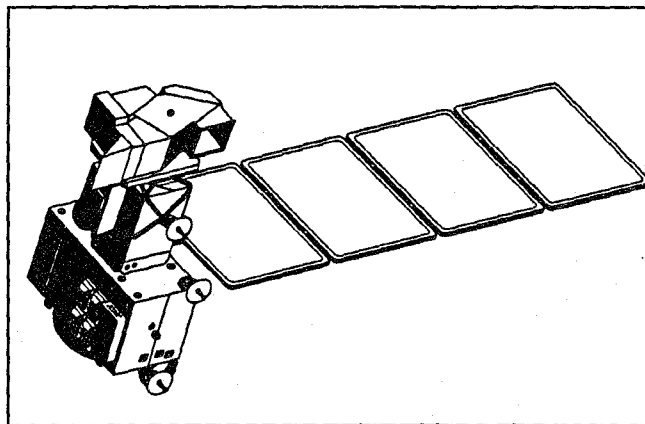
The federal government is inviting advice and comments on the status, effectiveness, and operation of the Landsat system. Anyone interested can request to be sent a survey that is being issued as part of the implementation of the Land Remote Sensing Policy Act of 1992. The survey will be used as input for a report to Congress.

Requests to participate in the survey that are received by the end of February will be honored. The survey is scheduled to be sent out about March 10, to be returned by April 15. For a person fairly familiar with Landsat, it should take about one hour to complete the survey form.

To be included in the survey, or to obtain further information on the Landsat advisory process, contact:

Stanley R. Schneider
Landsat Advisory Process Coordinator
NASA Code SED
300 E St., SW
Washington, DC 20546
Fax: (202) 358-3098

(source: NASA)



Landsat 6, scheduled for launch in early 1993.

LEGISLATIVE/POLICY NEWS

Revision Planned—Wis. Statutes: Chapter 236

by Diann Danielsen

The Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP), along with the Wisconsin Society of Land Surveyors, UW faculty, and other practicing professionals, have joined together to craft a revision to Chapter 236 of the Wisconsin Statutes.

The Chapter covers subdivision platting regulations and is the only place in the Statutes where the use of State Plane Coordinates and geodetic datums is addressed. The need to update this legislation has grown critical with the publication of the new National Geodetic Reference System (NGRS) datums: NAD 83 (1986) and NAD 83 (1991).

Currently Chapter 236 defines the Wisconsin Coordinate System based on the NAD 27 datum, and recognizes only that datum for State Plane Coordinates shown on subdivision plats and other maps and records of survey. The proposed revision allows the use of coordinate systems based on the NAD 27, NAD 83 (1986), NAD 83 (1991) datums, or any other relatable projection system.

Considerable effort was given to making the proposed revision wording technically and legislatively correct, and at the same time trying to enable all datums necessary for work in Wisconsin. Since there is not one best system for all Wisconsin counties, municipalities, and planning agencies, the proposed revision allows government units to designate, in their subdivision control ordinances, the coordinate system to be used within their political boundaries. Another proposed addition to the current statutory language is a requirement that DATCP be notified of the coordinate system regulated for use in each county.

The revised legislation is being proposed through the DATCP budget process as "remedial" legislation. This was the easiest and quickest way to provide an immediate fix to the statutes since the changes are not controversial and do not have a fiscal impact.

Wider issues need to be addressed in the future, such as legislating the use of specific datums or coordinate systems for other maps and documents, moving the statute to a more appropriate place (possibly Chapter 16 dealing with Land Information Systems), and establishing an approval process to assure that locally developed coordinate systems are correct and mathematically relateable to the NGRS datums.

The proposed revision is silent on county coordinate systems and other local coordinate systems. However, nothing in the proposed wording prohibits the use of such coordinate systems. Additionally, local coordinate systems are enabled by the Wisconsin Land Information Board's language on geodetic reference systems (contained in their *Recommendations for County Plans for Land Records Modernization*). The proposed statute revision goes a long way towards modernizing state law to reflect current land surveying and platting practices.

Leaders to Plan for "Information Infrastructure"

by Bob Gurda

"National Spatial Data Infrastructure". That's a term being heard frequently these days. It is a reflection of federal, state and local activity in spatial information arena, and an underlying revolution in information technology.

To highlight this policy area, the Federal Geographic Data Committee is sponsoring a Nation Geodata Policy Forum in May. Many high-level officials from federal and state governments are expected to attend this meeting.

The idea is that spatial data, particularly certain sets of basic data, are needed by many persons, but are expensive and complicated to maintain. If one party concentrates on being the custodian of a data set, and other users can get easy access to it, then benefits accrue at lower cost.

This infrastructure is made up of both well-developed data that is needed, and the means to distribute it. As compared to more traditional forms of infrastructure (e.g., airports, bridges, electric power systems), spatial data infrastructure is mostly invisible. The data itself is coded on some computer-accessible medium; the delivery network is high-speed communication lines.

Vice-President-elect Al Gore has long been a proponent of national high-speed communications. He also will become directly involved with remote sensing policy (a massive source of spatial data) through the National Space Council. It is impossible to predict the degree to which federal resources will be directed toward infrastructure developments, but there could be a significant shift with the new administration in Washington.

A critical aspect of policy is the degree to which it can be coordinated between federal, state, and local levels. The Wisconsin Land Information Program is one model that can be a building block in forming new institutional structures across these levels.

FGDC Asks for Metadata Comments

by Bob Gurda

The Federal Geographic Data Committee (FGDC) is asking for comments on a proposal for *Content Standards for Spatial Metadata*. The document is about 40 pages long and comments must be received by April 15, 1993.

Metadata is a description of a data file itself, and is useful for locating and evaluating the usefulness of various sets of spatial information. The proposal includes a recommendation that certain metadata elements be required for a catalog report (much like a library card catalog entry) and that additional elements be required to accompany a transfer of the data itself in order to guide the eventual user.

The FGDC hopes to use this process to modify the recently adopted Spatial Data Transfer Standard, improving its capability to describe data being transferred.

For more information, contact Michael Domaratz of the FGDC staff at (703) 648-4533.

GEODETIC CONTROL

Global Positioning System Matures

by Diann Danielsen

The U.S. government's Global Positioning System (GPS) came one step closer to completion with the launch of another GPS satellite last summer. This newest GPS satellite will bring the number of active satellites within the current GPS constellation to 19, assuring sufficient coverage to produce three-dimensional (XYZ) positioning anywhere in the world.

In addition to the 19 satellites currently in orbit, 14 newly constructed block II and Block IIA satellites are awaiting launch. More recently, the U.S. Senate and House of Representatives Appropriations Committees approved funding for a multi-year procurement of 20 Block IIR GPS satellites, assuring a long-term commitment to GPS positioning and navigation services.

Orbiting 10,900 nautical miles above the Earth, the GPS satellites transmit precise time and position information, enabling users of GPS receivers to determine their positions on the Earth. The GPS is being developed for military purposes by the U.S. Department of Defense at an estimated total program cost of more than \$10 billion. The system is, however, extremely useful for producing high-precision survey measurements.



NGS Suffers Federal Budget Cuts

by Diann Danielsen

The National Geodetic Survey (NGS) suffered a \$1.3 million budget cut at the start of the Federal Fiscal Year 93, which began on October 1, 1992. The already strained agency will unlikely be able to absorb the huge cut without a significant impact to its programs.

One of the most likely programs to be eliminated is the very successful State Advisor Program, in which Wisconsin participates. The elimination of the state advisor would cut a critical link between the state and the agency, and would make cooperative efforts increasingly difficult.

Wisconsin has a very active state advisor who has been integral to developments such as the recent high precision datum adjustment and the Wisconsin Land Information Program. The loss of such a person, or any other NGS geodetic services or programs, would be very unfortunate for Wisconsin. The viability of the NGS is being threatened just as the need for their geodetic programs has increased due to the implementation of new surveying and mapping technologies.



SCO Augments Geodetic Data Holdings

by Diann Danielsen

Earlier this fall, the SCO ordered a large amount of data from the National Geodetic Survey (NGS) to update our files and to complete the acquisition for all geodetic datums. The order includes:

- A complete paper set of datasheets for all NGRS control in Wisconsin.
- A complete digital set of datasheets for all NGRS control in Wisconsin, separated by county. (Data for 26 counties has been received thus far; alphabetically A-G.)
- Complete digital sets of NAD 27 and NAD 83 (1991) coordinate listings.
- Complete digital sets of NGVD 29 and NAVD 88 elevation listings.
- A complete paper set of all NGVD 29 level lines in Wisconsin.
- The most current versions of the NADCON (v. 2.10) and CORPSCON (v. 3.10) coordinate transformation software programs. (NADCON v. 2.10 has been received.)

The datasheet sets noted above are on the NAD 83 (1991) datum adjustment for horizontal positions. Vertical data is on the NAVD 88 datum where possible, and on the NGVD 29 datum where NAVD 88 information is not available. The datasheets include datum shift information for use with work on other datums. Because of the increased amount of information provided on the new datasheet format, geodetic inquiries will be answered by mail or fax. Please plan your information needs and request data well in advance!

The SCO is in the process of establishing policies on the pricing and distribution of county or statewide sets of data. Individual station information will continue to be provided as it has been in the past.

All of the above geodetic data covers that in the National Geodetic Reference System, whose information is maintained by NGS. Our USGS vertical control data is complete only in paper form on the NGVD 29 datum. USGS and NGS are currently cooperating on a project to encode the USGS data for adjustment to the NAVD 88 datum and input into the NGS database. This project has just begun, however, and Wisconsin's USGS data is not expected to be available on the NAVD 88 datum for a number of years.

SCO Set to Publish New Soils Mapping Guide

by Rob Carnachan

A new informational guide covering the topic of soils mapping will be available soon from the State Cartographer's Office. The guide is free and provides a detailed thematic overview of the topic from a Wisconsin perspective. The 16-page guide is produced in a style similar to the Wisconsin Mapping Bulletin and includes numerous illustrations highlighting key concepts and information.

The new guide provides a broad discussion of the various forms of soils mapping, how they differ, when or where they are used, and the current status of and future plans for soils mapping within the state. This guide should be particularly helpful to those seeking information concerning the availability of modern or digital soils data as it relates to WLIP requirements.

Major topics covered in the guide include the nature of soil variability, basics of soil morphology, characteristics of soil surveys, uses and misuses of soil surveys, predominant methods of soil mapping, custodians of soil information in Wisconsin, development of digital soils maps and databases, current issues in soils mapping, and information on where to obtain various types of soils information for Wisconsin. Of particular interest will be a discussion of the current and future status of both soil surveying and digital soil data in Wisconsin.

This publication is the fourth in a series of planned guides that will cover a wide range of mapping topics. Currently available from the SCO are guides covering three topics: topographic mapping, geodetic control, and magnetic declination. The purpose of each guide is to describe current information on a mapping related topic, giving particular emphasis to the status, availability, condition, and future of this information in Wisconsin. The guides are intended to be both informative and educational, and to compile and explain a range of information that is not currently available from any other single source.

Each of the guides in the series should be useful to professionals involved in the Wisconsin Land Information Program (WLIP), educators in need of supplemental classroom material, or anyone desiring a more in-depth understanding of mapping related topics. We will directly distribute copies of the soils mapping guide to county land information offices, regional planning commissions, selected libraries, educators, and others, as we have done with the first three publications in the series. You may request a free copy by contacting the SCO (see page 16 for details).

The soils mapping guide is written by Rob Carnachan, a graduate assistant at the SCO. Rob is working toward his Master's degree in Water Resources Management at UW-Madison. Generous financial support for the printing of this guide is being provided by the Wisconsin State Office of the Soil Conservation Service.

EVENTS

WLIA Heads Toward Big Annual Conference

by Bob Gurda

The Wisconsin Land Information Association's next quarterly event is its 6th Annual Conference, to be held in Middleton (Madison area) from March 3-5. This event is expected to attract in excess of 500 people, and will feature dozens of vendor exhibits (including one afternoon/evening of free access to the general public), thirty workshops and presentations, and a town meeting on the future of funding for land information modernization. Amongst the speakers will be several out-of-state visitors. Governor Thompson has been invited to open the vendor trade show. For details, contact WLIA at 800-344-0421.

McSweeney to Speak on Soil Mapping

"Soil Mapping: Past, Present, and Prospects for the Future" will be the subject of a lecture on April 16 in Madison. Kevin McSweeney, Professor of Soil Science at UW-Madison, will discuss this subject as part of the UW-Madison Geography Department's Guest Lecture Series. His talk will be presented in Room 180 in Science Hall at 3:30 pm.

(source: UW-Madison Geography Dept.)

URISA Announces 1993 Exemplary Systems in Government Competition

The Urban and Regional Information Systems Association is encouraging entries to the latest round of its annual competition that recognizes exemplary information systems in government. The deadline for applications is February 15, 1993. For more information, contact URISA at (202) 289-1685.

(source: URISA)

"Power of Maps" Exhibit open in NYC

Visitors to a new computer mapping exhibit in New York City can interactively work with GIS systems and various data bases. "This is a great opportunity for the general public to learn about maps", remarked one of the exhibit's sponsors. "It's an exciting new technology and one of the fastest growing fields in American business. In the near future, we will probably all be using computers and computerized maps regularly."

The "Power of Maps" exhibit is located at the Cooper-Hewitt National Museum of Design, Smithsonian Institution, at 2 East 91st Street in New York City. It opened on October 6 and will remain on view through March 7, 1993. Call (212) 860-6868 for information and hours.

(source: *ARC News*, Vol. 14, No. 4)

CONFERENCES, TECHNICAL MEETINGS, AND CLASSES

February 8-11, **Ninth Thematic Conference Geologic Remote Sensing** will be held in Pasadena, CA. Contact: ERIM/Thematic Conferences, Nancy J. Wallman, P.O. Box 134001, Ann Arbor, MI 48113-4001, 313/994-1200, fax 313/994-5123, telex 4940991 ERIMARB.

February 15-18, 1993, **7th Annual Symposium: Geographic Information Systems in Forestry, Environmental and Natural Resources Management** will be held in Vancouver, British Columbia, Canada. Contact: Symposium Office, Suite 305, 1040 Hamilton Street, Vancouver, British Columbia, Canada V6B 2R9, 604/688-1573.

February 16-18, 1993 **ACSM/ASPRS Annual Convention & Exposition** will be held in New Orleans, LA. Contact: ACSM/ASPRS, 5410 Grosvenor Lane, Bethesda, MD 20814, 301/493-0200.

February 23-24, **The Fourth Annual Conference & Exposition on Government Imaging, Process Redesign through Electronic Imaging** will be held at the Hyatt Regency Bethesda, Bethesda, MD. Contact: 301/445-4405; fax 301/445-5722.

March 3-5, **Wisconsin Land Information Association Annual Conference** will be held in Madison, WI at the Holiday Inn (West), 1313 John Q. Hammonds Drive, Middleton, WI. Contact: WLIA at 800/344-0421.

March 7-10, **GIS in Business '93 Conference** will be held in Boston, MA. Contact: Derry Eynon, GIS World Inc., 155 E. Boardwalk Drive, Suite 250, Fort Collins, CO 80525, 303/223-4848.

March 10-12, **Introducing ArcCAD with a Focus on Land Records Modernization** will be held at the UW-Madison. Contact: Tom McClintock, Land Information & Computer Facility, 25 Agriculture Hall, UW-Madison, Madison, WI 53706, 608/263-5534 or fax 608/262-2500.

March 14-18, 1993 **Spring Symposium, GIS & Water Resources** will be held in Mobile, AL. Contact: American Water Resources Assn., 5410 Grosvenor Lane, Suite 220, Bethesda, MD 20814-2192, 301/493-8600; fax 301/493-5844.

March 14-19, **Eighth Annual GRASS Users' Conference & Exhibition** will be held in Reston, VA. Contact: Open GRASS Foundation, Center for Remote Sensing, Boxton Univ., 725 Commonwealth Ave., Boxton, MA 02215, 617/353-5642; fax 617/353-3200.

March 21-25, **The Fifth International Conference on GIS** will be held in Ottawa, Ontario, Canada. Contact: L. Aubrey, Canadian Conference on GIS, c/o SMRSS EMR Canada, 615 Booth St., Ottawa, ON Canada, K1A 0E9 at 613/995-0266.

March 22-25, **AM/FM Conference XVI** will be held in Orlando FL. Contact: Paula Delie, AM/FM International, 14456 E. Evans Avenue, Aurora, CO 80014-1409, 303/337-0513; fax 303-337-1001.

March 24-27, **Sixth Annual Geographic Information Systems Conference (TSU/GIS '93)**. Contact: Dr. John M. Morgan, III, Dept. of Geography & Environmental Planning, Towson State Univ., Baltimore, MD 21204-7097, 410/830-2964.

March 28-31, **GIS Transportation Symposium '93** will be held in Albuquerque, NM. Contact: Jim Dolson, GIS-T '93 Symposium Chair, Florida DOT, 605 Suwannee St., MS43, Tallahassee, FL 32399, 904/488-1954.

April 5-8, **Introduction to Global Positioning Systems (GPS)** will be held at the University of Wisconsin-Madison Engineering Building, Room 1610, 1415 Johnson Drive, Madison, WI. Contact: Engineering Registration, The Wisconsin Center, 702 Langdon St., Madison, WI 53706, 608/262-0876; fax 608/263-3160.

April 6-9, 1993, **AAG Annual Meeting** will be held in Atlanta, GA. Contact: Kevin Klug 202/234-1450.

April 12-16, **SPIE's International Symposium on Aerospace Science and Sensing** will be held in Orlando, FL. Contact: SPIE at 206/676-3290.

April 16, **Operating a Profitable Survey Business** will be held in Madison, WI. Contact: Professional Surveyor Seminars, 3020 Holcomb Bridge Road, Norcross, GA 30071, 404/448-1601; fax 404/448-2286.

April 19-20, **On Common Ground Conference** will be held at the Hyatt Regency Tech Center in Denver, CO. Contact: On Common Ground Conference, P.O. Box 10460, Eugene, OR 97440-2460, 503/343-1200; fax 503/343-7024.

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, **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.

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

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.

June, **Wisconsin Land Information Association (WLIA) Quarterly Membership Meeting** will be held in the Fox River Valley area. Contact: WLIA at 800/344-0421.

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

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.

1994

August 8-12, **URISA '94, Urban & Regional Information Systems Assn.**, will be held in Milwaukee, WI. Contact: The Urban & Regional Information Systems Assn., 900 Second St., N.E., Suite 304, Washington, DC 20002, 202/289-1685.

PUBLICATIONS

Poster of Sample Satellite Images

The latest listing of ASPRS publications includes a new poster showing international satellite sensor specifications and sample imagery in full color. This 2' x 3' poster has information on the Landsat Multispectral Scanner (MSS), Advanced Very High Resolution Radiometer (AVHRR), Japanese Earth Resource Satellite-1 Optical Sensor (JERS-1), Japanese Earth Resource Satellite-1 Radar Sensor (JERS-1), European Resource Satellite-1 (ERS-1), Satellite Pour l'Observation de la Terre (SPOT), and ALMAZ. The poster costs \$15.00 (\$8.00 for ASPRS Members and Students). For more information, contact ASPRS at 412-772-0070.

ASPRS Creating Index of GIS Videos

The student chapters and GIS Division of the American Society for Photogrammetry and Remote Sensing are compiling a bibliographic index about videos related to GIS. Project coordination will be through the National Center for Geographic Information and Analysis.

The index will include videos of instructional projects, conference sessions, and company demonstrations. ASPRS is also interested in reviewing existing video bibliographies. For more information or to contribute to the index, contact Karen Kemp at (805) 893-8652.

(source: *PERS*, Jan., 1993)

History of Cartography—Volume 2, Book 1, Published

The second book from the long-term History of Cartography Project was published recently. Its title is *Cartography in the Traditional Islamic and South Asian Societies*.

David Woodward, Professor of Geography at UW-Madison, has taken on the full responsibility for the series following the death a year ago of Brian Harley, his co-editor. David reports good news on the grant funding and fund raising front. As a result, work is continuing on the series, including typesetting for Book 2 of Volume 2, which will cover the cartographies of China, Japan, Korea, Vietnam, Greater Tibet, and Southeast Asia, and which will include over 500 illustrations. Volume 3, *Cartography in the European Renaissance*, is in work.

For information on purchasing the published volumes, contact:

University of Chicago Press
11030 South Langley Avenue
Chicago, IL 60628
Phone: 800/621-2736
Fax: 312/660-2235

Contouring—A Guide to the Analysis and Display of Spatial Data

This unique book, written by David F. Watson, is the key to computer contouring, exploring in detail the practice and principles using a personal computer. Accompanying the book is a set of BASIC programs, in ASCII format, on an MS-DOS 360KB floppy disk. For ordering information write or call: Pergamon Press Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, 914/524-9200; fax 914/333-2444.



Geographic Informations (GIS) and Mapping: Practices and Standards

This book is a valuable resource for those who are considering using maps, remote sensing imagery, and GIS, as well as for advanced users. This book was written by: A.I. Johnson, C.B. Pettersson, and J.L. Fulton, 360 pages (1992); Hard Cover at for \$75. For ordering information contact: ASTM, 1916 Race Street, Philadelphia, PA 19103-1187, ATTN: Customer Service Dept., 215/299-5585; fax 215/977-9679.

Three 7.5-Minute Topographic Quads Revised

Three USGS 7.5-minute topographic quadrangle maps in the Stevens Point area have been revised: Dancy, 1991; Rocky Run, 1991; and Stevens Point, 1991. These quads may be purchased from the Wisconsin Geological & Natural History Survey, 3817 Mineral Point Road, Madison, WI 53705, 608/263-7389 for \$2.50 each plus shipping and handling.

1993 INDEX

AERIAL PHOTOGRAPHY AND DIGITAL ORTHOPHOTOS

- Digital Orthophoto Program Progress no. 3, p. 3-4
no. 4, p. 5
- DOQQ Standards Released no. 4, p. 5
- SCO's Aerial Photography Survey no. 1, p. 9
no. 4, p. 4
- WI 1992 NAPP Coverage and Funding no. 1, p. 11
no. 2, p. 1-2; no. 3, p. 3; no. 4, p. 4

AUTOMATION

- Metadata Gains New Exposure no. 3, p. 15
- NGS Releases NADCON Update no. 4, p. 13
- SCO's Free Digital Imagery Disk no. 1, p. 11
- STDS Becomes FIPS Standard no. 4, p. 11
- USGS to Acquire DLG Data no. 4, p. 12
- WI LRB Redistricting System no. 1&2, p. 14

EVENTS

- Columbus Map Exhibit Tours State no. 2, p. 13
- GPS Class Offered by EPD at UW-Madison no. 1, p. 13
- Pearl Harbor Map Exhibit no. 1, p. 8
- TIGER Class Offered by APL at UW-Madison no. 1, p. 14
no. 4, p. 15
- USGS & EPA Joint Forum no. 1, p. 13

GEODETTIC CONTROL AND GLOBAL POSITIONING SYSTEMS

- Benefits of NAVD 88 no. 2, p. 4
- Coordinate Transformation Software no. 2, p. 5
no. 4, p. 13
- FEMA Adopts NAVD 88 no. 3, p. 6
- FGCS Looking for Orgs. Operating GPS no. 2, p. 5
- Geodetic Control Database Software Product no. 4, p. 11
- High Accuracy Reference Networks no. 3, p. 7
- NAVD 88 Update Available no. 2, p. 4-5
- SCO Offers NAD 83 (1991) Information no. 2, p. 5
- WHPGN NAD 83 (1991) Coordinates no. 1, p. 4-5
- WI GPS Base Station Planning no. 4, p. 6
- Proposal for WI Geodetic Info. Clearinghouse no. 3, p. 5

GEOGRAPHIC INFORMATION SYSTEMS

- Joint TIGER/DLG Development no. 4, p. 7
- GIS in Business and Commerce Conference no. 2&3, p. 13
- Winnebago Co. WINGS Data no. 3, p. 5
- Report from GIS/LIS 1991 Conference no. 1, p. 13
- WI Winnebago Nation Forms GIS Division no. 1, p. 8
- WI Signs GIS Purchasing Contract no. 2, p. 15

LAND RECORDS

- Boundary Review Moved from DOD to DOA no. 1, p. 8
- County Land Information Office List no. 3, 4-page insert
- Wisconsin Land Information Board:
 - Committees no. 3&4, p. 2
 - Grant Applications no. 1&3, p. 2
 - Grant Rule Hearings no. 1, p. 2
 - Grant Awards no. 4, p. 1-2
no. 2, p. 3
 - Meetings no. 1, 3&4, p. 2
no. 2, p. 3
 - Land Record Modernization Plans Approved no. 1&3, p. 1-2
no. 2, p. 3; no. 4, p. 2
 - Revenues no. 3&4, p. 2
 - Workshops no. 1, p. 2
 - Administration no. 2, p. 3
no. 4, p. 2

MAPS AND INDEX MAPS

- National Geologic Mapping Act of 1992 no. 3, p. 12
- NOAA Produces Images of Coastal Sea Floor no. 2, p. 10
- US Wetlands Map Available no. 2, p. 10
- USGS Miscellaneous Investigation Series Maps no. 3, p. 13
- USGS 1:100,000 Topographic Series no. 1, p. 6
no. 2, p. 10
- USGS WI 7.5" Topographic Series Updates no. 1, p. 10
no. 4, p. 13

ORGANIZATIONS

- AM/FM meeting no. 4, p. 13
- GISDEX Begins Awards Program no. 2, p. 13
- NSGIC Meeting no. 4, p. 13
- URISA 1992 Conference Report no. 4, p. 13
- UW-URISA Hosts Talk no. 4, p. 15
- Western WI Land Information Network Formed no. 1, p. 3
- WLIA 1992 Conference no. 1&2, p. 13
- WLIA Meetings no. 3, p. 15
no. 4, p. 13

PEOPLE

- AIPG Honors Retired WI State Geologist no. 2, p. 8
- British Cartographic Society Honors Robinson no. 2, p. 8
- Dir. of MN Land Mgmt. Info. Center Dies no. 2, p. 8
- Guest Opinion no. 1&2, p. 7
no. 3, p. 9-11; no. 4, p. 9
- ICA Vice President Dies no. 4, p. 7
- Madison Engineering Firm Wins Award no. 2, p. 8
- Map Historian Dies no. 2, p. 8
- Mapping Specialists, Ltd. New Owner no. 3, p. 5
- New WGNHS Director Selected no. 4, p. 7
- Views from WIDOT GIS Operation Head no. 3, p. 5
- UW-Eau Claire Prof. Departs to Univ. of NB no. 3, p. 5
- WI DOT GIS Operation Head Departs for NM no. 3, p. 5

PUBLICATIONS

- GIS: Principles and Applications no. 1, p. 6
- Understanding GIS: A Digital Encyclopedia no. 3, p. 12
- Compendium of State GIS Activities no. 2, p. 11
no. 3, p. 13
- Digital Cadastral Mapping Publication no. 4, p. 12
- FEMA Datum Conversion Guidelines no. 4, p. 13
- Groundwater Mgmt GIS Video no. 2, p. 11
- Guide to GIS Selection no. 2, p. 11
- New Business GIS Magazine no. 4, p. 13
- New WG&NHS publications no. 4, p. 12
- USGS Water-Resources Investigations Reports no. 1, p. 6
- County Plat Books no. 4, p. 12

REMOTE SENSING

- European RS Developments no. 2, p. 6
- Federal RS Legislation News no. 1&4, p. 10
no. 2, p. 6
- Development of Landsat 6 no. 1&4, p. 10
no. 2, p. 6
- N. American Vegetation Map no. 4, p. 10
- WI TM Database Development Interest no. 4, p. 10

STATE CARTOGRAPHER'S OFFICE

- SCO Offers Three New Guides no. 4, p. 3
- Staff and Projects no. 1, p. 9
no. 3, p. 4; no. 4, p. 7
- State Cartographer's Commentary no. 1, p. 3
no. 2, p. 15; no. 3, p. 4

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 Mapping Bulletin

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 March 26, 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

ADDRESS CORRECTION REQUESTED