



Wisconsin MAPPING BULLETIN

ED candidates announced

Just as this issue of the *Bulletin* was to go to the printer, we received the names of the six finalists for the WLIB/WLC Executive Director position. The six will be interviewed by a specially selected committee, with the committee's recommendations being forwarded to Mark Bugher, Department of Administration (DOA) Secretary, who will make the hiring decision.

The names of the six finalists in alphabetical order are:

- **Sheryl Albers**, Republican representative since 1991 of the 50th Assembly District, which covers all of Juneau county and portions of Richland and Sauk counties.
- **Mike Blaska**, member of the Dane County Board from the Town of Sun Prairie, former Chair of the County Board, and currently a special assistant to the Secretary, WI DOA.
- **Georgia Hopf**, currently Acting Director of the WLIB and administrator of the WLIB's local government grants program. She has been with the board since its beginnings in 1990.
- **Phillip Klein**, Research Analyst in the Bureau of Welfare Initiatives in the WI Department of Workforce Development, formerly on the Dane County Board for 2 years and the Town of Dunn Planning Commission for 8 years.
- **Tim Spence**, Director of the Bureau of Space Management and Leasing within the WI DOA.
- **Stephen Ventura**, UW-Madison Associate Professor in Soil Science, member of the WLIA Board of Directors, and instructor for courses in GIS and land information systems. ♦

Land Council Appointed

by Ted Koch

In an announcement made February 26, Governor Tommy Thompson released the names of the sixteen members of the newly created Wisconsin Land Council (WLC). The WLC, which was created in the 1997 state budget, will be a sister organization to the Wisconsin Land Information Board which was created by legislative action in 1989.

Each organization is subject to a "sunset" in 2003. They will share staff and were directed to develop a Memorandum of Understanding to clarify their relationship and respective roles. Only one person, the state cartographer, serves both on the council as well as the board as the groups are presently constituted.

Amongst the WLC's sixteen members are seven specifically identified in the new statutes: the secretary (or a designee) from each of six state departments: **Administration; Agriculture, Trade and Consumer Protection; Commerce; Natural Resources; Revenue; and Transportation**; plus the **state cartographer**. Mark Bugher, Secretary of the Department of Administration, has been selected by the governor to chair the WLC.

The remaining nine members of the WLC are appointed by the governor to terms expiring July 1 of various years. They are:

- **David Fodroczi**,
*St. Croix County
Planning Di-*

rector for the past eight years, and head of the County's Land Information Office; representing the interests of counties. (term: 2000)

- **Arnold Clement**, *Director of the Racine County Planning and Development Division for the past thirty-one years, and the head of the County's Land Information Office, representing the interests of local governments.* (term: 2001)
- **Tim Hanna**, *Mayor of the City of Appleton for the past 1-1/2 years and a city council member for 4 years, representing the interests of cities.* (term: 2000)
- **Pamela Hicks**, *from the Town of Washington, a suburban town adjoining the City of Eau Claire in Eau Claire County, representing the interests of towns.* (term: 2001)
- **Gordon Baldwin**, *a member of the UW-Madison Law School faculty for the past 40 years with speciali-*

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Land Council Appointed

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zation in constitutional and international law, a past member of the State Public Defender Board and the Wisconsin Elections Board, representing the **University of Wisconsin System**. (term: 2001).

Members representing the public:

- **William Mielke** of Waukesha, President and CEO of Ruekert and Mielke a consulting and engineering firm in Waukesha specializing in municipal engineering for more than 60 communities in the south-eastern part of the state. Mielke has been with his company for 28 years. (term: 2001)
- **Matthew Miller** of Walworth, a realtor with the Rauland Agency, Inc., a small realty firm. Miller currently serves on the Board and Executive Committee of the Wisconsin Realtors Association, and on the Land Use Committee of the National Association of Realtors. (term: 2001)
- **Mike Wehler** of Plain, an owner of a 700 acre farm specializing in the raising of hogs and beef. Wehler has served as the President of the National Pork Producers Organization and on the National Pork Board. He has been locally involved in environmental issues concerning farming. (term: 2002)
- **Phil Salkin** of Verona, President of Archaeological Consulting and Services, Inc. a firm specializing in architectural, historic, land use and environmental studies. Salkin is a former mayor of the City of Verona, and Secretary/Treasurer of the Dane County Planning Commission, and currently serves on the Dane County Board of Supervisors. (term: 2002)

As identified in last year's state budget bill, the duties identified for the WLC in-



clude a wide variety of research tasks, followed by making recommendations to the governor for legislative action. Some of the major items are:

- Identify state land use goals and priorities, and recommend legislation to implement these recommendations;
- Study and identify areas of the state land use statutes that conflict with one another or with local land use ordinances, and recommend legislation to address these conflicts;
- Identify procedures for helping local land use planning efforts and recommend legislation to implement these procedures;
- Study how local government land use activities impact state land use goals, and recommend legislation that improves coordination between local and state governments;
- Establish a technical working group to study and recommend legislation to implement a computer-based land information system;
- Establish a state agency working group to improve coordination of agency land use policy and plans, and to recommend how to provide training and technical assistance to local governments in support of land use planning efforts.

The first meeting of the WLC has not been announced; however, in the meantime recruitment is proceeding for an Executive Director who will administer

both the WLIB and WLC programs.

The two week application period for the position closed on April 1. Scoring and evaluation of applications has been completed. Candidate interviews are scheduled for early May, with the expectation that a new Executive Director will be announced sometime later in the month of May. (See the list of interviewees on page 1).

Last year's legislation also provided for seven other shared staff positions between the WLIB and WLC. All positions will be housed in a new unit in the Department of Administration which will report directly to Mark Bugher, the DOA secretary. Plans also call for that unit to include the Plat Review and Municipal Boundary Review functions which were transferred to DOA last year.

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by Ted Koch

The Wisconsin Land Information Board last met on January 15, 1998 in Madison. Highlights of that meeting were covered in the previous (January, 1998) issue of the *Bulletin*.

The board has set its meeting schedule for the remainder of the year as follows: Wednesday, May 13; Thursday, August 20; and Monday, November 9. All meetings will be held at the Department of Agriculture, Trade, and Consumer Protection Building on Madison's east side starting at 10:00 a.m.

Executive Committee meets

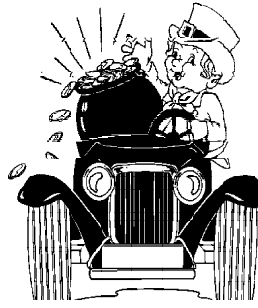
Even though the board has not met since January, its Executive Committee has met five times since mid-January, with three additional meetings scheduled before the May 13 full board meeting.

Primarily, the Executive Committee has been dealing with issues concerning the recruitment of an executive director to serve both the WLIB and the new Wisconsin Land Council (WLC) as mentioned in our lead story (see page 1), preparing a draft "Memo of Understanding" defining the working relationships between the WLIB and WLC, and preparing for the writing of a new "administrative rule" that will guide the distribution of grant funds to the state's counties beginning in 1999.

DOA plans joint administration

A new office within the Wisconsin Department of Administration will house the executive staff of the WLIB and the WLC. The official name of the new unit has not yet been announced. The new office will be attached directly to the Secretary of the DOA, and not housed within a DOA division as the WLIB had been attached in the past.

At this time, DOA plans to include the state functions of Plat Review (currently assigned to the Department of Revenue) and Municipal Boundary Review (currently housed in DOA) within the new office, and under the supervision of the combined WLIB/WLC executive director position.



New admin. rule for grants

During 1998 and early 1999, the board will be proceeding through the state's administrative rule rewriting process to create new language guiding the distribution of grant funds to counties from 1999 and beyond.

The current rule, established in 1991, has formed the administrative framework for the current local government grant program. Temporary changes to the 1991 rule were established for the 1997 and 1998 grant periods; however, they cannot be extended any further.

At the request of the WLIB to assist in the rule making process, the Wisconsin Land Information Association (WLIA) has formed an eleven member task force to recommend the foundations of a new rule. The task force will base its findings on their understandings of the goals of the land records modernization program, along with the WLIB Statement of Scope for the proposed rule, which was published in mid-February this year. The WLIA task force has met four times, and expects to complete its recommendations by mid-May. Association members will vote on the recommendations at the June 5th membership meeting in Madison (see related article on page 14).

Steps in the administrative rule process include preparing and publishing a statement of scope, writing a proposed rule, submitting the proposed rule to the Legislative Council Clearinghouse for review and comments, conducting a series of public hearings, and sending the proposed rule in final draft form to each house of the legislature. Upon approval by the legislature, certified copies are then filed with the Secretary of State and Reviser of Statutes for official publication. The board anticipates that a new administrative rule for local grants will be in place by July 1, 1999.

Framework survey nearly complete

by Ted Koch

Wisconsin's contribution to a national effort to determine the development status of geospatial data on a national basis is nearly complete. As of mid-April, 124 agencies within the state had completed the "Framework Data" survey sponsored by the Federal Geographic Data Committee and the National States Geographic Information Council.

As reported in the two most recent issues of the *Bulletin*, the State Cartographer's Office served as the Wisconsin coordinator for this project. In early December, the SCO mailed the survey diskette and associated materials to 126 organizations across the state. This included all 72 counties, all 9 regional planning commissions, 13 state agencies and the state's 32 largest cities (by population). At this point, only two surveys have not been completed, with just one county and one city survey still outstanding.

Within the next 3-4 months, results from the surveys will be compiled and tabulated. Wisconsin's survey response rate has been one of the best nationally. Thanks to all who helped make this project so successful!

Reflections

by Ted Koch

Often, the death of a person causes in us some moments for reflection. We may wonder what this individual experienced in their lifetime, what were some of the significant events affecting this person's life, what impact did he/she have on others? The recent death of the first state cartographer, Art Ziegler (see report on page 10), has caused me to pause and think some about this office.

I didn't know Art well, having only spoken with him, at most, on four or five different occasions. However, in notes he wrote in 1990, his last year here, he reported starting the operation in August, 1974 with three rooms of furniture and no staff or telephones. What an inauspicious beginning!

The position of state cartographer was created in the legislature a year earlier (1973), ten years after initial attempts. It was placed within the UW-Madison with the idea of providing some degree of independence not available within other state run organizations. The charge given to the office in the legislation was not to be a map production agency, but instead to promote the mapping of the state and function as a coordinating/liaison influence with others,

and be a source of mapping information, both current and historical, for public agencies, cartographers, surveyors and the general public.

Over the years the office has pretty much followed that original direction, and even to this day occupies those same three rooms in Science Hall (along with a few others) that welcomed Art in 1974. However, some things have changed (improved?). We do have telephones now along with voice mail, fax, e-mail, the Internet, eleven computers, and various software to make it all serve our needs.

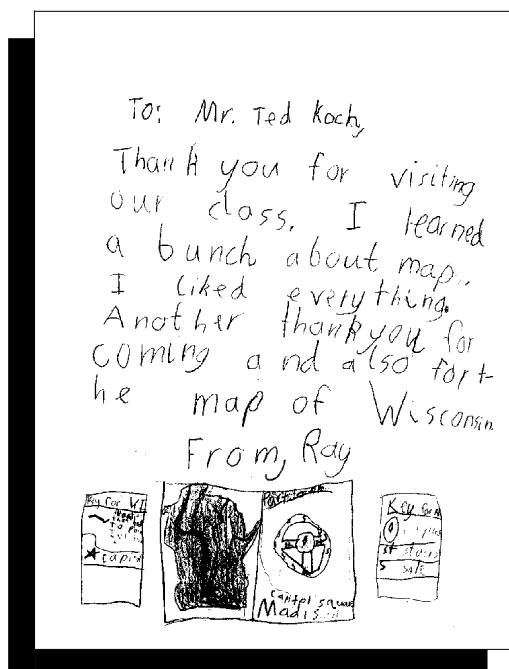
Technological change over the past 25 years has, however, had a huge impact on mapping procedures and the data used in mapping. The challenge continually facing SCO staff is not only keeping abreast with technological changes in mapping, but with the proliferation of electronic data used in mapping and other related applications.

Often, SCO staff members are requested to make presentations on mapping and related topics. Just within the past week, presentations have ranged from a second grade class at Orchard Ridge Elementary School in Madison

(see several of the thoughtful, nicely illustrated "thank-you" notes from that visit below) to a presentation on aerial photography and digital orthophotography to the Bay-Lakes Regional Planning Commission GIS interest group. I can tell you that both groups' level of interest and understanding of information collection and mapping is quite sophisticated although, obviously, very different.

Within the state, the progress of the Land Information Program has fostered the creation and updating of a large amounts of geographic data. Being aware of and understanding this data, hopefully through appropriate metadata documentation, is an increasing necessity not only for the data custodians, but for all those, including the SCO, who have a need to know about data; the who, why, what, where, and when and how much?

Contemplating the future, the continuing challenge will be establishing and maintaining a data clearinghouse in various forms for differing applications that will allow us to carry out the mission defined for us 25 years ago.



Been to Any Good Conferences Lately?

by D. David Moyer*

I have just returned from attending the annual conference of the Wisconsin Land Information Association (WLIA), a statewide event for land information professionals that has been held for the last 11 years. This conference has continued to grow, and in fact set a new attendance record again this year.

Most conference attendance is well worth the costs

This experience caused me to reflect on recent conferences I have attended, the process that I have used to seek approval of funds to attend these conferences, and how these experiences might be summarized to benefit others who may be struggling to obtain the resources needed in order to travel to and participate in conferences.

Most of us who are involved with land and geographic information attend conferences. We do so in order to learn firsthand what other people are doing, see exhibits of the latest technology, hear presentations on how this technology is being used or proposed to be used, and visit with colleagues that we see only occasionally.

These conferences come in a variety of

Carefully review conference publicity and preliminary programs

forms—some are national or international in scope, others cover a region or state. Some are directed at a general audience or profession (such as planners, economists, surveyors, or a particular class of public officials). Others are much more targeted, with a fairly narrow topic serving as the focus (such as Geographic Information Systems and Computer Assisted Mass Appraisal or Geographic Information Systems for Transportation).

I see a number of important trends. First, the number and variety of these

conferences has grown significantly in the last several years with no end in sight.

Second, at the same time, most of us working in the public sector are seeing the resources available to support attendance at conferences continuing to decrease. Shrinking budgets too often translate to significant decreases in travel and education funds.

Third, attendance at some conferences (particularly at the national level) has dropped in the last year or so. While it may be too early to ascertain if this is the beginning of a longer term trend, it is of concern, because in good economic times we typically see a rise, not a decline in conference attendance. This trend may be a signal that others are seeing less benefit in national conferences and possibly more benefits in

Take advantage of any workshops as part of the conference package

state, regional, or specialty conferences, which continue to show strong growth.

Given these trends and conditions, what is the best strategy to follow if we want to continue to attend conferences and obtain the benefits that result from such attendance?

- First, select the conferences you want to attend carefully. Be sure that the conference selected will provide benefit to both you and your employer. This usually requires a careful review of the conference publicity and preliminary programs.
- Second, take advantage of any pre- or post-conference workshops that may be part of the conference package. Such workshops often qualify for educational funds, as opposed to travel funds. By combining your conference travel request with the educational workshop, educational funds may be available and easier to justify than funds budgeted strictly for travel.

- Third, plan to participate actively in the conference, by making a presentation if possible. Managers are

After the conference, submit a concise report to management

often more comfortable in supporting travel when they know you will be sharing information to a conference audience about work going on in your agency or company.

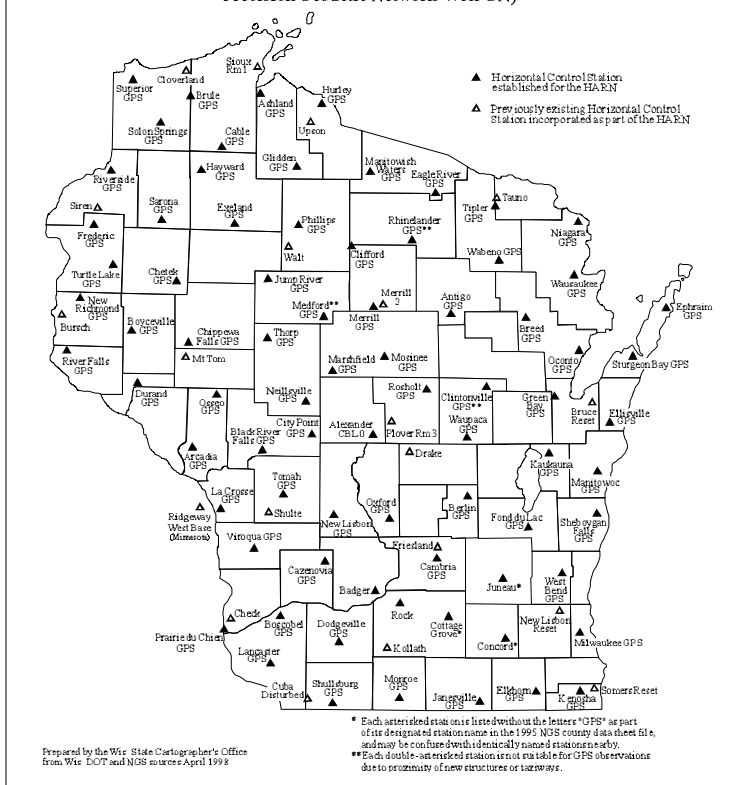
- Fourth, upon returning from the conference, prepare a concise report for the manager who approved your travel. Highlight what you learned and how the experience will benefit you and your agency or company.

I personally believe that most conference attendance is well worth the costs (i.e., the benefits outweigh the costs by a substantial margin.) The key to successful requests for funding for conference attendance is to select conferences carefully, document conference benefits in your request, actively participate in the conference (by making a presentation and/or attending an educational workshop), and provide positive feedback to your manager promptly upon your return. Most important, don't give up. Conferences are an important tool for our use in sharing our experiences and in continuing to grow in our professions.

**D. David Moyer is Immediate Past President of the Wisconsin Land Information Association and is the National Geodetic Survey's Wisconsin State Advisor for Land Information and Geodetic Systems. He has been in the land information field for several decades, has served as President of URISA, and has been involved in organizing numerous conferences.*

Stations in the Wisconsin High Accuracy Reference Network (HARN)

(Formerly known as Wisconsin High Precision Geodetic Network-WHPGN)



Includes improved software, fresh station data

SCO issues latest geodetic package

by Bob Gurda

We are ready to ship a new package of National Geodetic Survey (NGS) geodetic control information, customized for Wisconsin users. Based on control point "datasheets" pulled by the NGS from its database late in 1997 and published on CD-ROM, our product comes on six diskettes and includes several complementary products not available directly from the NGS.

A Windows program for searching

This latest edition of data and software includes the first Windows program for extracting control point information. Named *DSWin*, the new program utilizes several windows for extraction and viewing, but does not provide fundamental search improvements over its DOS cousin, *DSX*. Neither program provides a view of control point locations in reference to a base map.

From a Wisconsin perspective

Compared to the NGS CD-ROM (which carries county datasheet files for 13 states in the north central part of the country), our product has only the 72 county datasheet files for Wisconsin. We have separated the files for Green and Green Lake counties which were published in merged format on the NGS CD-ROM. As enhancements, we include specialized tools to speed searching based on PLSS reference as well as handy guides to the Wisconsin HARN.

How to order

Look for the SCO order form on our web site, or ask us to fax a copy to you. The 1997 version of the NGS geodetic control information package is priced at \$50, the same as last year. We also have copies of the NGS CD-ROM for the same price.

Updated locator map of Wisconsin HARN stations, reduced from original size of 8 1/2 x 11 inches. You can view or download this map from our web site.

Nearby construction limits GPS

More HARN stations suffer competition

by Bob Gurda

We have learned of two more high quality horizontal control stations that are no longer usable for GPS observations due to conflicting structures or uses. These High Accuracy Reference Network (HARN) stations were installed in 1990 at sites specifically for use by GPS receivers.

In our previous issue we noted that the station "Medford GPS" at the Taylor County Airport had become compromised by construction of a fuel tank nearby that partially blocks GPS satellite signals.

Now, we have heard that a similar problem exists with "Rhinelander GPS" due to a new airplane deicing building within 10 feet of the monument. Also, "Clintonville GPS" has become unsuitable for GPS observations because a lengthened taxiway runs next to that monument.

(source: Wis. Dept. of Transportation)

Wis. looks to respond, too

NAPA report inspires varied reactions

by Bob Gurda

We featured the "NAPA Report" as the lead story of our previous (Jan. '98) issue. Recently, several people writing in the national GIS trade literature discussed reactions to (and the political viability of) the primary recommendations in that report.

In addition, a number of people in Wisconsin have studied these documents. So far, draft comments from our state show that we have views that are diverse just like those that have surfaced at the national level, although some have a characteristic Wisconsin flavor as well.

Where it all started

To review, NAPA (the National Academy of Public Administration) studied the geospatial information policies and activities of most of the major federal civilian agencies. Actually, NAPA provided senior expertise and coordination services to support a panel of outside experts. As a result, their publication released early this year, "Geographic Information for the 21st Century", is the report of the panel chosen to study this particular subject.

Then, the Federal Geographic Data Committee (FGDC) compiled a list of NAPA's recommendations and asked for structured comments from a wide variety of organizations this spring.

Major and minor points

Of NAPA's many recommendations, several have drawn the most attention due to the fundamental changes they would effect. Other have drawn little comment because they involve minor or obscure adjustments to the federal government.

The most profound change that NAPA proposed is the one we featured in our January article: creation of a non-profit National Spatial Data Council (NSDC) outside of government, to be a neutral meeting ground of all the constituencies that build, maintain, and use geospatial data. That recommendation has not drawn strong criticism attributable to any specific person, although there appear to be general federal agency misgivings.

However, the idea of a NSDC is also very conceptual since NAPA didn't describe explicit processes by which such an organization should be created, should govern itself, should be funded, and should ensure its longevity. That alone helps explain the low level of comment. It is clear, though, that the NSDC as envisioned by NAPA would not be another government agency, and would not be another professional association. Instead, it would be a mechanism to facilitate coordination and cooperation beyond what may be possible in any existing forum.

Some argue to open the existing FGDC official non-federal voting membership. However, state and local governments likely would still sense this to be a "federal" rather than "national" forum. Yet, steps in this direction would be beneficial.

The first analysis appears

Writing in this January's issue of *Geo Info Systems*, Jerry Dobson opines that the report "...abounds with vision, but also remains re-

alistic." Dobson is a long-time GIS community guru, and is on the staff of the Oak Ridge National Laboratory.

He notes that the Open GIS Consortium, primarily an industry group, has succeeded in raising funds from its members, much as the NSDC would have to do. He also mentions that the report calls for both the Office of Management and Budget as well as the Office of Science and Technology Policy to be added as full members of the existing Federal Geographic Data Committee, which is critical to raising the consciousness of the broader federal bureaucracy to geospatial data issues and funding.

Dobson also observes that the federal agency reorganization recommended by NAPA, while simpler than what was recommended in a 1981 report, is less likely than the collaboration between government, academia, and the private sector continuing to increase on its own. However, he also believes that broad support in the geographic information science community is the key to the NSDC becoming a reality. In other words, the constituencies have to make it happen.

Also from a Washington perspective...

Two further articles appeared in the March issue of *Geo Info Systems*. John Bossler, formerly head of the National Geodetic Survey and more recently at the Ohio State University, reports that federal agencies want to retain the FGDC (perhaps in enhanced mode) rather than create another coordinating body.

Another columnist in the same issue, Dee Ann Divis, adds that agencies are concerned that they will be mandated to commit themselves to national goals without resources to achieve them at the same time as addressing their existing duties.

Those reactions are natural. Organizations rarely advocate radical change that affects their own status. However, the NAPA panel clearly believed that there is so much progress remaining to be made in the geospatial information arena that minor adjustments to existing structures will not deliver the needed results. The panel also believed that the aggregate public benefits would far outweigh any downside for one group or another.

Overall, Bossler feels that "The recommendations are quite sound and on target", including the controversial idea of merging certain federal functions to create a Geographic Data Service.

From the Wisconsin perspective...

Here in the Badger state, interest in the NAPA report appears low. This isn't surprising because our focus isn't on federal issues, and the report and other materials don't make inviting reading. Yet, we have valuable perspectives, and I encourage everyone to get involved.

Several people have been working on responses including a group of people representing the Wisconsin Land Information Association. They are comparing the NAPA recommendations to the group's "guiding principles" as discussed at the recent Annual Conference.

I am doing a similar analysis relative to the WISCLAND's *Articles of Participation*.

Download data & software

Digital elevation data hits the web

by Bob Gurda

How about a few glimpses of the terrain over Devils Lake State Park, or a cruise through the Wisconsin Dells. Want to learn about available digital elevation model data sets over Wisconsin? Need to find out how to make your own terrain views with free data and software?

You'll find all of this and more in the SCO's latest web site feature, on digital elevation models (DEMs). We not only provide basic information on DEMs and

how to acquire copies, but also make it easy for you to download software and several data files so that you can experiment on your own.

Views bring DEMs to life

Visually, we show how a terrain model relates to a topographic map of the same area, how a higher density of higher accuracy elevations compares to a more generalized terrain model, and how vector-based map data can be overlaid on a DEM.

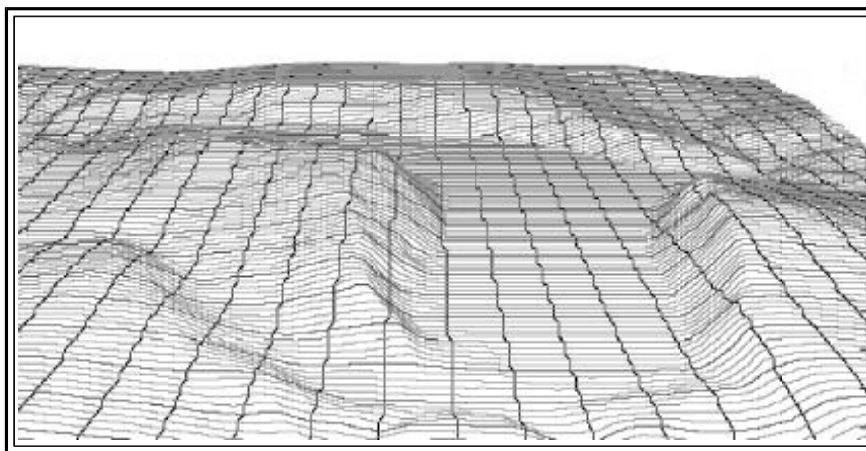
Then, we give you the opportunity to see seven different views we made from a variety of vantage points around Devils Lake in Sauk County. As another exam-

ple of how DEMs can be used, we created a 60-frame fly-through of the Upper Dells of the Wisconsin River.

Experiment with your own data and software

Finally, we provide links to a number of outside sites where you can learn more about DEMs and related terrain modeling methods. We also give you a sampling of DEMs of notable Wisconsin terrains that you can download and display to make your own views using free Windows software. And, we lead you to sites where you can download or purchase DEMs.

Devils Lake and surrounding bluffs, looking south.



...new, improved, and more coming

SCO website rolls onward

by Haidy Ear-Dupuy

Work on enhancing our SCO website continues. The latest addition to our "What's New..." section is the DEM page which adds a splash of intense colors to our site. (See the preview article above).

Working to update our website

As we receive news about mapping events and happenings around town and beyond, our website is updated. In recent months, we've added and made changes to our "Job" and "News and Happenings" sections. Continue to watch these parts of our site to see the latest changes.

Downloadable maps

The new Wisconsin Outline maps are here. Look in our "What's New..." section. Unlike last year's Outline Maps, this year's package fits onto one neat diskette. You have the choice to buy all of the maps in one diskette or just download the map(s) that you need, for which there are full instructions on our site.

In Progress...

We are hard at work expanding and reorganizing our address book so you, our reader, can get the most up-to-date information. We have posted some USGS DEM files of selected notable landscape areas for downloading, and improved sections on road maps and on topographic maps are in the mill, too.

A significant portion of the SCO's student staff time is spent on web-related projects. Our goal is to bring the existing sections up to date, add new sections, and make it easier for you to locate what you are looking for.

Feedback?

How can we make it better for you? Please let us know what you think about our SCO and WISCLINC sites. Contact us if you have suggestions that would help us improve our on-line resources, either the content or how we deliver it to you. We welcome your comments, questions, and requests.

Q: *I'm looking for a water features layer to use in my computerized mapping system, and I think I may have found several choices. However, I'm confused by the terms "hydrology" and "hydrography" that I hear different people using. Which layer is best for me?*

A: The people you have talked with are probably using the terms interchangeably, as though they are synonyms. However, there actually is a difference between the terms, and a mapping or GIS layer of water features is best called "hydrography".

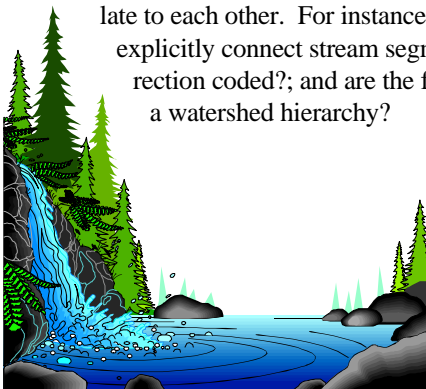
Hydrology is the science that studies water in the landscape. For instance, most of us have heard of the hydrologic cycle, where water vapor precipitates as rain or snow and then either evaporates or becomes part of the groundwater, and/or flows to the oceans...from which it again evaporates. The emphasis in hydrology is on mechanisms by which water acts as part of the overall environment.

Hydrography, by contrast, deals with the charting or mapping of water features and characteristics, based on specific measurements at a point or over a distance or area. Examples include water flow (per a stream gage which collects data over time that can be plotted as a hydrograph), the geometric configuration of a stream (as depicted on a map), changes in the shoreline of a flowage as water levels rise and fall, and the configuration of a lake's bed.

Most water feature layers currently available for use in computerized mapping or GIS systems came originally from features on maps. As a result, this information is termed hydrography. Similarly, digital layers collected by on-screen digitizing (such as by tracing a lake shore from an orthophoto image) or on-site GPS data collection (as such following a river channel in a boat) would also be forms of hydrography.

As far as which of several hydrography layers may be best suited to your needs, consider the mapping scale from which each layer was derived (equivalent to level of accuracy and detail captured), the vintage of the representation, and the types of water features and their attributes that would be useful.

For advanced uses, also consider how the features relate to each other. For instance: does the data layer explicitly connect stream segments?; is the flow direction coded?; and are the features organized into a watershed hierarchy?



Q: *Where can I get a copy of an orthophoto map showing my property?*

A: You are one of many people who have been asking this question lately. Unfortunately, the answer isn't as simple as you might guess.

First, let's make sure that you really need an orthophoto, rather than the far simpler (and traditional) aerial photographic print. The orthophoto is derived from such a photograph, but it has undergone sophisticated processing to unwrap it, making it geometrically accurate. Visually, the two products aren't very different for many uses, and the photographic print will be more physically durable and probably carry more detail.

Aerial photographs, of various vintages, scales, and film types are available for any location in Wisconsin. We can help you evaluate your options and point you to sources to view or purchase copies. Much of resource information we use in this process is posted on our web site as part of the *Wisconsin Catalog of Aerial Photography*.

However, let's assume you do need the accurate geometry of an orthophoto. About 60% of our state has digital orthophoto production completed, all since 1993. Statewide coverage won't be available until the end of 1999 if then.

Very few areas have coverage from overlapping projects, so in most places you have at most a single choice..

The available digital orthophotos come from several different types of projects; they aren't standard over the state. However, several critical factors are universal. First, these images are very large computer files, typically ranging from 20-200 MB; in fact, few digital orthophotos have been published on paper although individual paper plots can be generated on a variety of computer printers. Second, each orthophoto file has been processed to fit a particular coordinate system, and that system may or may not be the one you prefer to use.

Not only aren't the products standard, but the sources vary, too. Some products are not copyrighted, and others are licensed with various restrictions and fees attached. In most cases, there will be some costs for producing your copy and servicing your order.

The overall situation is too complex for us to provide details here, but we are prepared to help you out with specific information or advice. Please give us a call or send a very detailed e-mail or fax.

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.

Art Ziegler, 1st state cartographer

by Bob Gurda

Our state's first state cartographer, Arthur L. "Art" Ziegler, died on February 8 this winter. He had been retired from the SCO for over 7 years, following 16 years of service to Wisconsin.



In his retirement, Art continued living in Madison, surrounded by his children and their families (including ten grandchildren). They were very important to him, and we hadn't seen much of Art since 1990.

Ziegler was born in St. Louis, Missouri on December 9th, 1926. He attended Warrensburg University and received his Bachelor's degree in 1948. In 1963, he completed a Masters of Arts in teaching from St. Louis University. He also served in the U.S. Navy during World War II and the Korean War.

Before coming to SCO, Art worked at the Defense Mapping Agency Aerospace Center in St. Louis as a cartographer. He retired from that position, in 1974, to become Wisconsin's first state cartographer.

While working with the SCO, Art initiated many projects and activities, the most enduring of which is probably this newsletter which he first published in January, 1975.

Art served on a variety of groups including a panel of the National Research Council that produced *Modernization of the Public Land Survey System*, published in 1982. He also served on the Wisconsin Land Records Committee, and later on the Wisconsin Land Information Board which was created by statute upon the recommendations of the committee.

Many people who knew Art probably weren't aware of his artistic talents. One example of his handiwork has been admired by many visitors to our office in

Science Hall: a map of Wisconsin that he painted on the wall over a period of months while waiting for his children who were taking evening university classes. We are in the process of linking a snapshot of that map to the SCO web site.



One new face, another familiar

SCO staff looks to the web

by Bob Gurda

Our office staff has been once again re-configured, and both of the new employees have their eyes firmly focused on how the Internet's World Wide Web can continue to serve us.

Outreach Specialist for metadata

Most recently, Lee "A.J." Wortley has returned to the SCO in an academic staff position. He is our new Outreach Specialist, and will concentrate on metadata issues including the Wisconsin Land Information Clearinghouse (WISCLINC) and its web site which we manage for the Wisconsin Land Information Board.

A.J. worked for us on an hourly basis through last summer while a student pursuing his Bachelor's degree in Civil & Environmental Engineering. His new position is similarly part-time (50%) although we are pursuing funding to increase that percentage in order to reach our goals more rapidly. For now, we're happy to have a staffer again whose focus is solely on the growing and continuously evolving arena of metadata, even if there's more work than even one full-time position could handle.

You'll be finding A.J.'s regular contributions to the *Bulletin* beginning in the next issue. Actually, he broke that ice back last summer with his work on our October '97 cover story on DRGs.

Web management changes hands

Our second new employee is Haidy Ear-Dupuy, a graduate student in the Institute for Environmental Studies with a focus on sustainable development. Her primary role here is to coordinate work on the SCO web site. This ranges from small day-to-day adjustments to overall design and strategy. You'll find her first report on page 8 of this issue. And, if you are a careful observer of our web site, you may have already noticed some of her handiwork.

Esteban Chiriboga, who managed both the SCO web site and WISCLINC, resigned in January because he decided to leave his academic program and take a full-time position working on GIS here in Madison.



WLIA honors Ted Koch

State Cartographer feted

by Bob Gurda

The 1998 President's Award, given for meritorious service by the Wisconsin Land Information Association, has been made to Ted



Koch, State Cartographer. The award was presented at the WLIA's annual conference in early March by David Moyer who was completing his yearlong term as president of the association.

In making the award, Moyer cited Ted's and the SCO staff's support of the association, and the support Ted had given Moyer during his tenure as WLIA president. Ted has served on the WLIA Board of Directors, and chaired the Education Committee and the Parcel Mapping Task Force. Moyer also pointed out Ted's current land information Program policy roles as Vice Chair of the Land Information Board and as a member of the newly appointed Wisconsin Land Council.

Recognized as an administrator, manager and designer

Cartography Lab director honored

by Ted Koch

Onno Brouwer, director of the UW-Madison's Cartography Lab, has been given the 1998 Chancellor's Award for Excellence in Research. This is one of seven awards given annually by the Chancellor to UW-Madison non-faculty professionals for outstanding work in leadership, public service, research and teaching. Award winners were chosen by a special selection committee. The research award carries a \$2,500 stipend.



Brouwer did much of the artwork for and lead the production of the *Cultural Map of Wisconsin*, a map of the state's history and culture that has won wide acclaim and several national honors. Most recently, the American Congress on Surveying and Mapping recognized this publication with a national award for map design.

The *Cultural Map* is one of hundreds of maps produced by Brouwer for faculty, staff and the community. His work illustrates many publications of the UW Press, including the book *Wisconsin Land and Life*, a well as three volumes of the *History of Cartography* and four editions of the textbook, *Elements of Cartography*. Also among his productions are Wisconsin bicycle trail maps and several maps of the Madison campus.

As the cartography lab's director, Brouwer serves as mentor to geography students learning the current techniques of map-making. Over the past 20 years, he has guided the laboratory through a conversion from photomechanical mapmaking to an entirely digital process.

(source: [Wisconsin Week](#))



Celeste Kirk, land info editor

by Bob Gurda

March also brought the news that Celeste Kirk had died. Many people were beneficiaries of her formidable skill as a technical editor. She provided major editorial input on our 1991 handbook *Introduction to Land Information Systems for Wisconsin's Future*.

From her desk at the UW-Madison's Land Information & Computer Graphics Facility (LICGF), Celeste was involved in a great variety of projects. Below are some comments from Ben Niemann and Steve Ventura, the facility's directors.

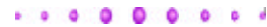
"If you have participated in one of LICGF's offerings—satellite programs, at a conference, read the *Wisconsin Land Information Newsletter* or other of our publications, you were touched by Celeste Kirk even if you were unaware. Celeste was our upbeat word merchant and public relations person until she lost her struggle with cancer this March.

"We remember well her arrival at LICGF a number of years ago. We were looking for a new editor, and during the interview phase, we were revisiting bad memories of high school grammarians and English teachers.

"But then this calm, cheerful, confident person walked in. She said her name was Celeste. She did the questioning. We provided some answers. She said she could help. We agreed, and for many years she did more than that. She was our friend. She was always available to greet people, to help students, to say and do the right thing. She was a lovable and capable person.

"We miss her very much, but we are grateful our paths crossed for as long as they did. We were enriched by her passion for excellence, her vibrant energy, her fine sense of humor, and her finely tuned ability to translate our rough ideas into elegant prose. What we would have given for such a teacher when we were in high school.

"Celeste—you will always be a part of LICGF. As Ralph Waldo Emerson said, "Our life is an apprenticeship to the



A first at UW-Madison

One-year grad certificate in GIS approved

by Ted Koch

Looking to enhance your educational foundation in GIS or to gain stronger GIS credentials? A new opportunity to do just this will be available at the UW-Madison campus within the next year.

The campus administration has recently approved a one-year certificate program (approximately 20 credits) in "Geographic Information Systems", tentatively scheduled to begin its first semester in January, 1999. Operated through the Geography Department, this program will consist of a cluster of current courses in cartography, introduction to and applications of GIS, quantitative methods, and a final project or internship.

The certificate is intended for students with a bachelor's degree in any of the physical, biological, or social sciences or the humanities. An initial entering group of 10 students is anticipated to begin next year which will be expanded, if necessary, to 20 students after several years.

For more information on this planned program, contact Bob Ostegren, chair, UW-Madison Dept. of Geography at (608) 262-2138.

Deja vu all over again?

Remote sensing satellite fails after launch

by Bob Gurda

Late last year, the first of an expected new generation of private, high resolution remote sensing satellites apparently was lost shortly after launch. The event sent shock waves through a fledgling industry and reminded potential customers that technology is often fragile.

The satellite, EarlyBird 1, was launched on December 24 and within a few days no longer responded to radio signals. Apparently, the vehicle is a total loss. Although this satellite was not built to collect imagery crisp enough to compete with conventional orthophotos (made from aerial photographs), it was the first of several scheduled to be launched, and some of the later ones were to deliver better than 1-meter resolution.

Following many months of promotional articles in the trade literature, the disaster was particularly notable. Stockholders and potential customers, and competitors, were equally shocked. Now everyone waits with bated breath for the next scheduled launch later this year.

Not the first time, though

Satellite technology seems almost commonplace today, and it's become a backbone of significant parts of the communication industry. Launches occur regularly, but we seldom hear about failures, although there must be some. Similarly, we don't hear about intelligence satellites that fail.

Unlike communications (or even GPS) satellites, the remote sensing variety are rarely constructed in quantities. Thus, there are no backups when a launch fails. But it does happen, and likely will continue to some degree.

Recently I was looking through back issues of our *Bulletin* from 10 years ago, and noted an article on plans for building Landsat 6, a federally-financed remote sensing satellite. When that satellite was launched in late 1993 it vanished before achieving orbit. We have been extremely lucky that the earlier Landsats operated far beyond their expected lifetimes, and one is still limping along.

One of the French SPOT satellites quit operating earlier than designed, too, although it did function for a respectable length of time before failing.

What does it all mean?

If and when satellite remote sensing becomes an established industry, or if the government makes an abrupt turn and embraces this technology as part of the public infrastructure, then redundant satellites might be constructed. Otherwise, we will continue to face a high level of uncertainty. However, for many potential uses that is a reasonable risk considering the benefits when everything goes according to plan.

(source: *Geo Info Systems*, February, 1998)

Tough spring for aerial photography, so far

NAPP hopes for clear skies

by Bob Gurda

El Nino! El Nino!

Wasn't it wonderful this last winter, having something to blame for most everything that went wrong? Did anyone not blame El Nino for something or other, even in jest?

Well, we may be almost justified in blaming that hot water in the Pacific Ocean for keeping a damper on aerial photography activities over Wisconsin this spring...at least so far.

The biggest project on this spring's docket is the statewide acquisition under the National Aerial Photography Program (NAPP). Getting clear springtime photographs over an entire Great Lakes State is a trick under the best of weather conditions. But between late snows (now melted), persistent cloudiness, and early warmth that threatens to bring leaves out ahead of normal, we may see no more than a modest amount of Wisconsin's NAPP acquired this spring.

There is still time...but the clock is ticking. It's getting harder and harder to use the computer keyboard with several fingers crossed, but we're trying. Look for an update in our July issue.



Onalaska site has standard USGS files

Download DRGs for free

by Bob Gurda

There is a site on the World Wide Web where you can freely download most of USGS Digital Raster Graphics (DRG) files for Wisconsin. DRGs are one form of scanned USGS topographic map files in a common image format (TIFF).

The files are available from a server managed by the USGS Biological Resources Division at the Environmental Management Technical Center (EMTC) in Onalaska, WI. You can download individual DRGs (one per map sheet) representing 1:24,000-scale, 1:100,000-scale, or 1:250,000-scale.

Which are available?

EMTC has all of the DRGs available that fall within 30 X 60 minute blocks around the entire perimeter of the state. However, some blocks more centrally located in Wisconsin are not available. The files are in standard USGS format: UTM coordinate system and no enhancements done to the map collar.

The site includes an index map showing available coverage, and both a listing by quadrangle map sheet name as well as a map index from either of which you select the compressed files you want to download.

Point me there

To navigate to EMTC's site, visit the SCO web site and look under "What's New" or "Maps: Base Maps" (where you'll find not only background information on DRGs but also descriptive information on alternative products available from other sources).

over 64,000 sq. mi. from Landsat

Map shows Chesapeake Bay watershed

by Bob Gurda

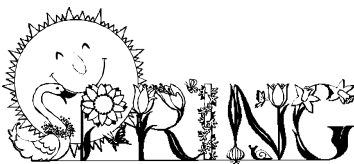
Stretching from the southern edge of western New York State to the mouth of its bay in southeastern Virginia, Chesapeake Bay and its watershed covers a huge area. To help scientists and the public better understand the watershed in an integrated sense, the U.S. Geological Survey and its partners in the Chesapeake Bay Program have published a poster made from a mosaic of Landsat Thematic Mapper images.

Measuring 28 x 40 inches, the full color poster/map looks as though it was derived from a single seamless source. Only subtle lines provides hints to locate the edges of a few of the individual satellite image scenes. In fact, the images date from the years 1990-1994.

The map has very limited reference information: the watershed boundary and state boundaries. Major urban areas are apparent and the effects of the mountain ranges on the overall vegetation pattern is vivid.

Copies of the map are available for \$4.00 (plus a \$3.50 handling charge) from the USGS Branch of Information Services, Denver Federal Center, Box 25286, Denver, CO 80225. Credit card orders may be faxed to (303) 202-4693. For more information on the map, call (800) 435-7627.

(source: USGS)



readable article on map history

Nat'l. Geographic looks back at mapping's millenia

by Bob Gurda

Looking for a very understandable, well illustrated, but short history of cartography? The February '98 issue of *National Geographic* ought to go to the top of your reading list, then. It contains a well written article covering mapping though the millenia up to the present. The accompanying illustrations are outstanding.

The author of the piece is John Noble Wilford, a longtime science writer for the *New York Times*. His article contains quotes from several people with Wisconsin connections including Joel Morrison (Census Bureau) and David Woodward (UW-Madison Geography Dept.).

Cartography has advanced over the centuries as a result of developments that are complex scientifically and/or technically. Wilford's clear and entertaining writing, supported by the illustrations, makes this history about as understandable and interesting as anyone could imagine.



New county plat books

The following 1998 Wisconsin County Land Atlas and Plat Books are now available from Rockford Map Publishers, Inc., for \$30 plus tax and shipping: Columbia, Green Lake, Juneau, Oneida, Sauk, and Vilas Counties. For ordering details, contact: Rockford Map Publishers, Inc., PO Box 6126, Rockford, IL 61125, phone (orders only) 800/321-1MAP; for customer service information, call 815/399-4614.

Of 55,000 maps nationwide

USGS lists "Best Sellers"

by Ted Koch

Care to guess the names of the four best selling 7.5-minute topographic map sheets in Wisconsin? That's out of the 1154 topo sheets covering the state. Perhaps, two of the four you might quickly select - **Milwaukee** and **Madison West**.

The other two provide coverage of popular recreational areas, but you might not guess immediately, and indeed be surprised by the answer - **Baraboo** and **Palmyra**. The Baraboo quad shows Devil's Lake State Park, and the Palmyra quad covers part of the Southern Kettle Moraine State Forest.

These four Wisconsin quadrangles appear on a national "1000 Best Sellers" list developed by the US Geological Survey. The purpose of the list is to identify those high demand maps that may also be out-of-date and in need of revision.

Currently, USGS only revises topo maps for which it has received cooperative funding. Since Wisconsin is not providing any cooperative money to USGS at present, the four best sellers in Wisconsin, along with the other 1150 quads in the state, are most likely to continue aging, and considering the growth changes in many areas of the state, the map aging is not particularly graceful.

(source:USGS)

Record crowd takes in variety of offerings

WLIA "delivers" another Annual Conference

by Brenda Hemstead

The Wisconsin Land Information Association (WLIA) held its 11th annual conference in early March in the Madison area. Over 550 people attended the 4-day event, including 52 exhibitors displaying GIS related hardware, software, services and information.

Focused around the theme, "Wisconsin Land Information: We Deliver!" the event began with a day-long series of six pre-conference workshops attended by a total of 199 people. One workshop, *Parcel Mapping*, alone had over 60 attendees.

The conference proper began the second day with a plenary session "*10 Years of Action: Delivering the Future*" presented by a panel of past WLIA Presidents that looked at the origin of WLIA, its accomplishments in ten years, and its vision for the coming decade. David Fletcher, now leading a transportation GIS think tank in New Mexico, urged WLIA to build on its roots by focusing on a set of guiding principles.

Other highlights of the conference:

- The first day luncheon keynote speaker was Tom Jadin, a Program Development Coordinator for Wisconsin's Winnebago Mental Health Institute. He gave an insightful but very humorous talk on "Teamwork in a Time of Change and Uncertainty".
- A total of 37 different topics were spread across the second and third days as technical breakout sessions. One evening was a "public night" that provided free admission to the exhibits.
- At the second day's luncheon, various business was transacted. Awards were given for service and special contributions to the association including the President's Award which went to Ted Koch (see article on page 10).
- Incoming president, Diann Danielsen, announced the results of elections. Roxanne Brown, the Real Property Lister in Burnett County, was chosen to be president-elect. Voted in for 2-year terms on the Board of Directors were:

Damon Anderson - Ozaukee Co.

Jeff Bluske - LaCrosse Co.

Terry Dietzel - Fond du Lac Co.

Todd Halvorson - Columbia Co.

Jim Johnston - Polk Co.

Mike Koutnik - ESRI

The final morning featured a member forum discussing current issues, WLIA's first map contest awards, and the annual member business meeting.



photo by Zane Williams

Monona Terrace Convention Center

Come to the new convention center!

Get ready for June in Madison

by Brenda Hemstead

The next Wisconsin Land Information Association (WLIA) gathering is the summer quarterly meeting at the Monona Terrace Convention Center in Madison on June 4-5. Nonmembers are welcome!

Thursday: workshop & free seminar

On June 4th, plans include a two hour afternoon workshop on "**Accessing GIS Resources through the Internet**". Scheduled for 7 - 9:00 p.m. are two presentations: "**InforME: An Experiment in Providing Access to Public Records in Maine**" by Prof. Harlan Onsrud who will discuss an Internet-based public-private partnership mechanism to disseminate public data and value-added services such as analysis and publication as well as the conceptual model for this electronic access gateway, how it accords with the Maine's open records law, and why it is still controversial; and, "**Using WISCLAND's Land Cover Data**" which will demonstrate how this new statewide land cover data set can be used for display, GIS analysis, and landscape modeling. These presentations are free and open to the public as well.

Friday: program updates & local gov't. demos

The next morning's program begins at 9:30 a.m. (\$20 registration includes lunch) with Mark Bugher, Dept. of Administration Secretary and chair of the Wisconsin Land Council (WLC) providing updates on the WLC, the Executive Director hiring, and other recent news.

Then will follow a review and discussion of the *Memorandum of Understanding* between the WLIA and the WLC. Presentations will include: "*Dane County on the Internet*" and "*Developing and Managing GIS for the City of Madison*".

After lunch and a short business meeting, the WLIA Grants Task Force will provide an update on its *Final Report* which will give members their last opportunity to make comments before the WLIA recommendations go to the WLIA.

To register or for further information on WLIA call 800/344-0421.

.....Selected Regional Conferences and Technical Meetings.....

May 5, 1998, **The Map Society of Wisconsin** will meet in the American Geographical Society Collection at 7 p.m., 3rd floor east, Golda Meir Library, UW-Milwaukee, WI. Contact: the Collection at 800/558-8993 or 414/229-6282.

May 6, 1998, **AM/FM International - Wisconsin Chapter Meeting** on "*Principles of GIS Database Design*" will be held at the Cherokee Country Club, Madison, WI. Contact: Colleen at Ayres Associates at 608/249-0471.

May 13, 1998, **Wisconsin Land Information Board** will meet at the Wisconsin Dept. of Agriculture, Trade, and Consumer Protection Building at 10:00 am in Madison, WI. Contact: WLIB at 608/267-2707.

May 13, 1998, **Fifth Annual Wisconsin Water Law Conference** will be held at the Monona Terrace Convention Center, Madison, WI. Contact: 800/355-2670.

May 15, 1998, **The Niagara Escarpment Conference**, will be held at the University of Wisconsin-Green Bay Campus. For price and registration call Eric Fowle 920/751-4770 or Aaron Schuette 920/448-2820 by May 1st.

June 2-5, 1998, **A/E/C Systems '98** will be held at the McCormick Place in Chicago, IL. Register before May 15th. Call: 800/451-1196; website: www.aecsystems.com.

June 3-6, 1998, **Who Owns America? II** will be held at the UW-Madison Memorial Union, 800 Langdon Street in Madison, WI. Contact: CALS Outreach Services at 608/263-1672.

June 4-5, 1998, The **Wisconsin Land Information Association Quarterly Meeting** will be held at the Monona Terrace Convention Center, Madison, WI. Contact: WLIA at 800/344-0421.

June 5, 1998, **Highway Right of Way Seminar**, sponsored by the Wisconsin County Surveyor's Association, Inc. will be held at the Mead Inn in Wisconsin Rapids, WI. Contact: Ed Harvey at 920/459-3826.

July 15, 1998, **The WISCLAND Steering Committee** meeting will be held from 1pm - 4pm at the USGS-Water Resources Division office located at 8505 Research Way in Middleton, WI. Contact: Bob Gurda at 608/262-6850, email: rfgurda@fac-staff.wisc.edu.

July 18-22, 1998, **URISA '98**, Charlotte, NC. Contact: URISA at 847/824-6300, fax: 847/824-6363, website: www.urisa.org.

August 14-15, 1998 **The Northern Lakes Chapter of the Wisconsin Society of Land Surveyors Summer Meeting** will be held in Minocqua, WI. Contact Mike Romportl at 715/362-4850.

August 20, 1998, **Wisconsin Land Information Board** will meet at the Wisconsin Dept. of Agriculture, Trade, and Consumer Protection Building at 10:00 am in Madison, WI. Contact: WLIB at 608/267-2707.

September 10-11, 1998, The **Wisconsin Land Information Association Quarterly Meeting** will be held at the Fox Hills Resort in Mishicot, WI. Contact: WLIA at 800/344-0421.

October 7-10, 1998, **The North American Cartographic Information Society (NACIS)** is having their 18th Annual Meeting at the University of Wisconsin - Milwaukee, WI. Contact: Cynthia via email at: cbrewer@essc.psu.edu, phone: 814/865-5072, fax: 814/863-7943.

October 29-31, 1998, **The 49th Annual Meeting of the AAG West Lakes Division and 52nd Annual Meeting of the Wisconsin Geographical Society** will be held in Madison, WI. For more information, contact: Wally Brinkmann of the Department of Geography, UW-Madison at 608/262-6316, email: brinkmann@geography.wisc.edu, website: www.valpo.edu/geomet/wlaag.

November 9, 1998, **Wisconsin Land Information Board** will meet at the Wisconsin Dept. of Agriculture, Trade, and Consumer Protection Building at 10:00 am in Madison, WI. Contact: WLIB at 608/267-2707.

December 3-4, 1998, The **Wisconsin Land Information Association Quarterly Meeting** will be held at the Heidl House in Green Lake, WI. Contact: WLIA at 800/344-0421.

For Bulletin and web site

Send us your calendar items

We focus our calendar listing on events scheduled in Wisconsin and the nearby region. When you keep us informed of your organization's meetings, workshops, classes, etc. we can help spread the word to several thousand people.

Even if you are not seeking additional people to attend an event, announcing it keeps others informed and helps us all coordinate our schedules.

Often, events are scheduled and then occur in a time frame that is too short to get them listed here before they have taken place. To deal with this problem, we also maintain a list of scheduled events on our web site.

To deal with the events outside our region which we formerly included in the Bulletin calendar, we now provide links through our web site to national and international calendars maintained by other organizations. These listings are similar to what has been carried for years in several publications that serve the mapping and GIS fields, but which many people in our state may not have seen regularly.

Between the Bulletin and our web site, plus the linked sites, you now have access to much more information about events than previously.

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 permanent staff consists of six people--Ted Koch, State Cartographer (608/262-6852), Bob Gurda, Assistant State Cartographer (608/262-6850), A.J. Wortley, Outreach Specialist (608/265-8106), Brenda Hemstead, Administrative Assistant (608/263-4371), Paul Gunther, Information Systems Manager, and Liz Krug, 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 32.25 (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 and also serves on the Wisconsin Land Council.
- 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.

Wisconsin Mapping Bulletin

Published quarterly by the Wisconsin 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, or conferences/workshops. Local and regional information is especially encouraged. The editor makes all decisions on content. Deadline for the next issue is July 2, 1998.

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Illustrations: Brenda Hemstead, Chin-Chun Tang, and Jeff Bogenschneider

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About our Internet Web site...

We maintain a "homepage" on the World Wide Web.

Here, you will find information on a wide range of mapping topics, news items, functions and activities of the SCO, our on-line aerial photography catalog, a calendar of events, and links to related web sites. We encourage those of you with Internet access and browsing software to check out the SCO's homepage at

<http://feature.geography.wisc.edu/sco/sco.html>



About the WISCLINC Web site...

A second Internet resource is the on-line Wisconsin Land Information Clearinghouse (WISCLINC). Its address is:

<http://badger.state.wi.us/agencies/wlib/sco/pages/wisclinc.html>

At this site you can search prototype metadata files, download certain data files, learn about our continuing work in this area, and link to other state clearinghouses.

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