

USGS sets regional focus on integrated science

by Bob Gurda

It's not been an easy several years for the U.S. Geological Survey. First, some interests in the U.S. Congress wanted to eliminate the agency altogether. Then, staff levels were reduced and duties switched to ward managing work by outside contractors.

The latest wrinkle is a major reorganization based on "integrated science" at a regional level, designed to forge much closer working relationships among the four USGS divisions: geology, water resources, biological resources, and mapping.

These and other issues were on the docket at the State Mapping Workshop held in early September at the USGS Mid-Century Mapping Center in Rolla, MO. Mike Czechanski of the Wisconsin Geological and Natural History Survey and I attended from Wisconsin. Twenty-five central and eastern states were represented.

Regional focus to the fore

USGS activities will soon be coordinated from three regional centers: Reston VA (also national headquarters), Denver CO, and Menlo Park CA. Each region's administrator will have four assistant administrators—one from each of the disciplines. The person responsible for mapping will be titled the Regional Geographer.

Wisconsin, lying east of the Mississippi River, falls into the Eastern Region of USGS. This means that coordination of USGS activities (including mapping) in our state will come from staff as so ci-

ated with the Mapping Applications Center at the Reston location. Previously, our contacts were with the Mid-Century Mapping Center in Rolla.

Integrated Science approach

Given the recent harrowing experiences USGS has had at the hands of the Congress, it's a smart move to recast the agency so that its relevancy to high-profile issues can be showcased. By coordinating staff with expertise in a wide variety of earth science disciplines, and focusing their efforts on regional problems, the visibility of USGS at the level of Congressional districts will be greatly enhanced.

One question is to what degree USGS will be able to forge partnerships with state and other federal agencies to address the selected regional problems. Hopefully the taxpayers won't be funding a competition for relevancy among agencies. We are aware of several federal Great Lakes initiatives, for example.

Another issue is that development of information resources (e.g., maps and GIS databases) may be come tied more to these projects and thus have less of a wall-to-wall goal. Areas that fall between the geographic extent of nearby projects may see fewer resources for data collection and mapping, even if state/local funds can cover 50% of the cost.

Several states didn't like the regional dividing line that follows the Mississippi

But how much will go to mapping?

USGS gets budget increase

by Bob Gurda

As we go to press, news comes that the Congress and President have agreed on the appropriation bill funding the U.S. Department of the Interior. This means that the U.S. Geological Survey's budget for the 12-month period that began on October 1 is now known.

USGS Director Chip Groat appears pleased with the results which provide his agency with an 8.8% increase over the previous fiscal year (\$885 million versus \$813 million). Groat said "The bill will fund and expand core programs of USGS, including increases for geologic mapping, coastal and marine geology studies, the National Atlas, amphibian research and monitoring, biological information systems, the mission operations of Landsat 7, and funding for high priority research in support of DOI land conservation and preservation".

Given the bare mention of mapping and GIS in Groat's comments, we can only hope that the other activities he highlighted will need stronger geospatial data as part of their infrastructure. It is through such indirect funding that future USGS mapping activity seems most likely.

(source: USGS press release)

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WLIB News

by Ted Koch

Since the previous issue of the Bulletin, the Wisconsin Land Information Board (WLIB) met on September 13 and November 2 in Madison. The WLIB's next meeting will be held in January in Madison. That date and the remainder of the meeting schedule for 2001 has not been set.

Final county plans approved

At its September 13 meeting, the Board approved second-generation county land records modernization plans for Crawford, Grant and Iowa Counties. This action completed the approval process for all 72 of the state's counties.

Strategic grant initiative funded

Also on September 13 the Board voted to allocate \$100,000 to fund locally-based grants in the Strategic Initiative category for the year 2000 grant cycle. Under new administrative code for local grants approved by the legislature earlier this year, the board may provide Strategic Initiative grants to counties for projects or activities that foster state wide or regional goals identified by the Board.

The \$100,000 will be divided evenly between the 72 counties (\$1488 each), and be available for metadata development which includes preparing metadata files, purchasing metadata management or Web-serving software, or receiving training related to metadata. The 90-day application period for year 2000 grants began on November 1.

Metadata standard adopted

At its November 2 meeting, the Board adopted the Federal Geographic Data Committee's (FGDC) *Content Standards for Geospatial Metadata* as the metadata standard for the Wisconsin Land Information Program. The Board took this action following recommendations made by the Board's Standards Committee and the Wisconsin Land Information Association for full adoption of the FGDC standard.

The board's action on the metadata standard was long overdue, given that many digital data producers across the state have been documenting their data sets for some time following the standard. This action also complements the WLIB's Sept. 13 decision to fund a state wide Strategic Grant Initiative focusing on metadata creation (see above).

The FGDC officially released its Metadata standard in 1994. It was revised slightly in 1998. With some additional alterations, it is expected that the standard will become an international standard within the next several years. In adopting the federal standard as Wisconsin's, the board added that any future revisions to the federal standard will become WLIP standards also. The complete FGDC standard can be found at www.fgdc.gov/metadata/constan.html.

Land Council Update

by Ted Koch

The Wisconsin Land Council last met (WLC) on September 26 in Madison. The next meeting is scheduled for November 14 in Madison.

State agency group is sues report

The WLC's State Agency Resource Working Group (SARWG), at the September meeting, presented the WLC with a detailed (nearly 250 pages) report on state agency programs affecting land use, and on the interactions between agencies regarding these programs.

In the report, SARWG grouped over 150 individual state agency administered programs into 25 clusters, such as, Surface and Ground Water Quality Management, Wetlands, Transportation, Tax policy, Housing, etc. Within each cluster, the work group analyzed issues, conflicts, redundancies, as well as opportunities. Also, for each cluster an interaction diagram was developed to analyze program in relationships and to develop recommendations.

WLIS report sent to Governor

by Ted Koch

A report providing details on implementing the proposed Internet-based Wisconsin Land Information System (WLIS) has been forwarded to Governor Thompson for potential inclusion in the 2001-03 state budget. The report, which was released in July this year, was prepared by a 10-member WLIS Project Team (see Summer 2000 issue of the *Bulletin* for WLIS details).

At its September 13 meeting, the WLIB adopted the Project Team Report, and at the same meeting recommended that the report be forwarded to the governor. The Wisconsin Land Council took similar actions at its September 26 meeting.

The report, along with a report summary and transmittal letter signed by the chairs of the WLIB and WLC, was delivered to the Governor's Office on September 29.

Although the Project Team had recommended several organizational options for the WLIB and WLC to consider regarding WLIS issues on governance, policies and funding, both the WLIB and WLC decided not make any specific recommendations on these issues to the Governor.

How and to what degree WLIS develops in the near future is now dependent on specifics contained within the next biennial state budget. There has been some speculation that WLIS will be folded into a larger more comprehensive state wide e-government budget item. This option has some potential in light of the Governor's issuance in September of Executive Order 408. This order calls for creating an Internet-based "service-center" for electronic access to core state government services by January 1, 2001. The order also mentions the expansion of the service center to include a range of state and local government programs.

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River (south from its confluence with the St. Croix). As the regional pattern now stands, special attention will be needed to handle issues that span the border that Wisconsin and Illinois share with Minnesota and Iowa.

Emphasis goes to digital products

Given a shortage of funds to deal with all of the potential mapping and GIS products, USGS will be focusing its resources on three areas: imagery, elevation data, and hydrography. The funds available for supporting revision of the graphic products (paper maps) have been sufficient to meet the demand from states seeking to cost-share on a 50/50 basis, but the amount of this work has been minimal.

USGS continues to evaluate the emerging private satellite systems that acquire imagery. The agency, along with FEMA, also continues work with new systems (e.g., LIDAR and IPSAR) to collect terrain information.

Along with EPA, the USGS also wants to work toward a second-generation national land cover data set. They expressed interest in working with states as partners in this process.

States air their concerns

The USGS State Mapping Workshops, which have been held every 1-3 years for several decades, include a closing session where the states caucus and then provide structured feedback to their hosts. Rick Miller, the GIS Coordinator for Kansas and

the President-elect of the National States Geographic Information Council, moderated the caucus and presentation.

This year, the predominant concerns were the following:

- While integration across USGS disciplines makes sense, executing this plan will be challenging, especially considering the large number of potential stakeholders.
- USGS and its partners need to work out roles for validating data.
- The printed map series are all aging, the costs are a powerful disincentive to states cooperating, and there is no explicit link between the revision of paper maps and updates to digital files such as DLGs. With emphasis shifting, does there remain a mandated responsibility to maintain the traditional map products?
- States should be more involved in the process by which federal funds are allocated to support mapping, since there are opportunities for cost sharing and data sharing.
- On partnerships and cooperation in general, other federal agencies need to be tapped and the FGDC, OMB, and NPR should be used for leverage.



Rick Miller of Kansas presenting the state caucus report to USGS staff in Rolla, MO.

State Cartographer's Commentary

NSGIC: A brief conference report

by Ted Koch

Recently, I attended the annual conference of the National States Geographic Information Council (NSGIC) held this year on the north end of Lake Tahoe. In reality this meeting was held in two states since the California/Neveda line traversed right through the center of the conference hotel.

This was NSGIC's tenth annual conference and my ninth. Always an enjoyable meeting due to its small size (150-200 attendees) and excellent programs, NSGIC attracts state GIS coordinators and managers from forty or so of the states. Federal agencies such as USGS, FGDC, NASA, BLM, Bureau of the Census, and a number of private firms also attend.

One of the conference highlights is always the "Roll Call of States" where a representative from each state has two minutes (strictly enforced) to report on several key issues within the state. While listening to the reports, I make notes about issues I want to follow up on later.

State coordination is now the norm

From roll-call reports it was nice to hear that nearly every state now has a formal GIS coordinating body. Of course many states have had such an entity for several years, but at least half-a-dozen states reported recent successful efforts at establishing a recognized coordinating body. Additionally, many states reported that GIS has gained a higher profile—in many states through direct connection with the state's chief information officer (CIO). At least 10 states mentioned this arrangement, and in most the CIO is a cabinet-level position reporting directly to the governor.

Data development is a big story

My Wisconsin Report covered the Wisconsin Land Information (WLIS) Initiative, the completion of the county land information plans and the survey, and the soil mapping initiative. Most state reports mentioned progress on data creation for various themes such as hydrography and transportation. Digital

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Clearinghouse Connection



Potential is there, but future is hazy

Next-generation WISCLINC Clearinghouse?

by AJ Wortley

Over the last couple years, the Wisconsin Land Information Clearinghouse has grown from a fledgling node in the National Spatial Data Infrastructure (NSDI) to a vigorous participant in providing detailed information on the quality and availability of digital geospatial data in Wisconsin.

Over the last 18 months, this evolution has been furthered under a contract between the Wisconsin Land Information Board and the State Cartographer's Office. As this contract draws to an end in December, you might ask how far we have come, and where might the WISCLINC Clearinghouse head in the future with continued support.

Up close and personal

Since its inception, the concept of WISCLINC has been motivated by the NSDI vision of providing a distributed network of "front doors" to geospatial data discovery online. This vision was influenced by the philosophy that best access to data—and data *about* data (metadata)—comes from as close to the source as possible.

With that in mind, we have strived over the past 18 months to not only increase the total amount of searchable metadata on WISCLINC, but also the breadth or number of participants in this process—in particular focusing on local contributors. To that end, WISCLINC has grown to 6 times the level of metadata content 18 months ago, or around 300 documents.

Our participation levels have also significantly increased, doubling the number of contributors. And all new contributors during this growth period have been county or municipal-level agencies. This trend promises to continue down the homestretch as we add significant contributions of data with accompanying metadata from the Office of Land Information Services as well as final contributions from the FGDC "Don't Duck Metadata" grant cooperators. By January, WISCLINC may hold more than 1000 metadata records from some 25 to 30 agencies in Wisconsin.

Expanding resources and services

To improve the ability of an end user to "discover" data from WISCLINC, we have improved the local search mechanism by which you find metadata online. In addition, we have added a variety of other methods for locating Wisconsin spatial data ranging from browse listings of WISCLINC metadata, to pointers to various sites around the state housing additional information.

Meanwhile, to help new metadata producers and customers create and maintain documentation, we developed metadata training materials in conjunction with OLIS and LICGF. These are now available for download from WISCLINC. We

also created and updated a variety of references to metadata articles, tutorials, and other helpful resources.

Onward and upward...

So, as our contract to expand the Wisconsin Land Information Clearinghouse nears its culmination, the ultimate questions that remain are: what lies in the near future for this burgeoning electronic database of Wisconsin's spatial data holdings? and, who will continue to maintain the Clearinghouse as that future approaches?

With planning under way for a Wisconsin Land Information System (WLIS), there will undoubtedly be a role for metadata and clearinghouse-like functions.

On the horizon but even closer is the Wisconsin Land Information Board's decision to commit strategic grant initiative funds to ward metadata development. All of these signs point toward a role for WISCLINC in the future.

In the near term, we will continue to build the foundation with metadata from around the state. So, don't hesitate to take advantage of the last few months of our contract during which time we have more staff available to assist in getting started with metadata, be it a first-time contribution or updates to existing records. Come and participate in the evolution of WISCLINC into a next-generation clearinghouse.

... more meta-musings

Metadata's popping up everywhere

by AJ Wortley

Ah, metadata—whether you once cringed at its mention or welcomed the new concept—the word (and its implications) are here to stay. If you do a simple search on the Internet, you'll find that the metadata idea has become deeply embedded in the evolution of on-line resource indexing, discovery, and distribution—far beyond its geospatial application that we know best.

Metadata is now a cornerstone in the on-line endeavors of fields as diverse as traditional and digital libraries, large website management, geospatial data management, and more generally, knowledge management and index/search/retrieval of distributed information.

In for information straight from the source...

The fact is: metadata is here and its humble base infrastructure is being created now. In the near future, metadata creation, up-

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Similar to Wisconsin's 1998 release, but...

USGS releases national land cover data

by Bob Gurda

The lower-48 states have a new land cover data base, produced by the U.S. Geological Survey in cooperation with the U.S. Environmental Protection Agency. The National Land Cover Dataset (NLCD) was produced by interpreting 1992 Landsat Thematic Mapper imagery. The project was carried out at the USGS EROS Data Center in Sioux Falls, SD.

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Goal is to provide access to all

PLSS note book scans in work

by Bob Gurda

Over a span of 30 years in the middle of the 19th century, government surveyors laid out the Public Land Survey System across Wisconsin. As they proceeded on the task of marking township and range lines, and then the sections within that framework, their travels took them to every square mile in the state. The notebooks the surveyors created as they did their work are a gold mine of information for contemporary survey-

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dating, and management *will* be increasingly automated. And metadata itself *will* be increasingly standardized not only in general structure but also content as we look to auto-generate much of the crucial information about a resource through auto-extraction of these characteristics.

Legacy is n't extracted easily

But what won't be retrievable or extractable are the valiant beginnings of these data sets.... the old, end of the 20th century, early GIS pioneers' notes on how and why particular data was first collected and then compiled and mapped in digital space.

These first hand accounts are the legacy information that unfortunately must be manually recorded by a data set originator or custodian for that information to be carried on. If this does n't happen, though, chances are there will be no one out there scanning GIS analysts' notebooks to discover their initial methodology and exceptions to the rule.

In the digital realm, information is being promulgated so quickly that if locally collected data does not meet arbitrary minimum requirements and there is no documentation trail to follow and discover why, that data will be superseded by a more generic *yet* more predictable data set.

Thus, manually recorded metadata becomes a critical protection of the invest-

ment in high est-quality large-scale data. In addition, it is an investment in the labor of love that is the beginnings of yet another chapter in application of local *and* accurate information to wise decision-making.

Focus on the deeper narrative

From this standpoint, a renewed metadata priority, for beginners or updaters, should be on the written narrative components. This is, in the long run, more important than the figures, statistics, addresses, etc.

That is, the easy parts—the reusable components of the metadata, be it name, address, coordinate system parameters, or what have you—are of less initial importance. Not that some parts of the metadata aren't important; each fulfills its own role in the overall function of metadata. But, it is the narrative, the errata, and the peculiarities about data that most need to be documented.

To draw an analogy with the old surveyors' notes from the original PLSS survey. While certainly the town, range, and section of a section corner are important, a slight error in these numbers is most likely traceable and correctable through the dialogue. But without the dialogue which also mentions that the corner is a meander corner, the number assignments are useless as is the surveyor's name at this point in the game.

What is most important in metadata are the fields that will later be assembled as a narrative for the data (either explicitly or simply through investigation by an end-user). These fields include the abstract, purpose, data quality statements, additional citation details... and the list goes on. We can correct a coordinate system parameter if we can read what coordinate system you used, but we can not insert *why* you chose a COGO method, nor the accuracy you worked toward, nor the original intent of the data.

Give your self some credit

Some people will never like the idea of recording this level of detail in data documentation. But many others will never have that opportunity once the documentation becomes automated and transparent to the end-user. This is the chance for local Wisconsin data creators to document those humble beginnings and leave an account of *how* and *why* a GIS was built with no budget and a staff deficit but it was built, all the same. Twenty years from now, one may be amazed at the original reasons a particular data set was collected and mapped...

Don't laugh. Computer architects of yesterday never thought their original design would be followed so closely as to be using the same date algorithm twenty years into the development of the personal computer.... Y2K any one?

Re-creating his tory through land records

Surfing the web for an ces tor’s lost lands

by AJ Wortley

From time to time, peo ple ask us about his tor i cal land own er ship that re lates to their fam ily his tory. Usually these peo ple are in ter ested in a time pe riod well be fore gen eral map ping of the area, so we will re fer them to of fices that main tain help ful land re cords.

But while his tor i cal land re cords are not cur rently em bed ded in maps as we rec og nize them to day, the quest to find these land re cords on-line pro vides an in ter est ing chal lenge. Such a chal lenge may hint at how much in for ma tion is re ally out there that may be re-assembled in a vir tual map set ting in cyberspace.

In this vein, I re cently helped an in di vid ual lo cate a piece of land which a rel a tive had cited as home of the first school house in the area and pre vi ously owned by a dis tant an ces tor some where in Dodge County. You may be able to ac com plish a sim i lar search by fol low ing the steps be low.

His tor i cal and land re cords sources

Phys i cal of fices that main tain land re cords and geo-referenced in for ma tion are the most re li able first ap proach to this his tor i cal re search. The first such of fice is a his tor i cal so ci ety. We have the state or ga ni za tion in Mad i son, and they are a great re source in gen eral. They may have in for ma tion them selves, or may di rect you to groups or li brar ies more lo cal to a given area. This ap proach may be par tic u larly help ful if a pub lic land mark, such as a school house, is in volved. An other re search chan nel, in terms of land own er ship, is the land in for ma tion of fi cer of a given county who may help re trieve his tor i cal land re cords for the area.

For this ex am ple, the Dodge County Land In for ma tion Of fice, at the court house in Ju neau, might be able to track deep into their re cords and un cover in for ma tion for a par tic u lar land owner in Dodge County. It’s also pos si ble that they may have in for ma tion pin point ing the lo ca tion or other char ac ter istics of the school in ques tion. Land in for ma tion of fice con tact in for ma tion is main tained on the Of fice of Land In for ma tion Ser vices (OLIS) website and serves as a good start ing point to go down this route.

Turn ing to the web

Be yond the phys i cal chan nels avail able to do this re search, you might won der just how much of this leg work could be done on-line? As men tioned pre vi ously, this in for ma tion is not cur rently em bed ded in maps as we know them, but many land re cords orig i na tors and cus to di ans have be gun post ing this in for ma tion in search able form on the Internet. These sites range from gen e a log i cal sites to the Bu reau of Land Man age ment.

To an swer this ques tion, I chanced a search us ing the name and placename given me for this in quiry. This search yielded

an in di vid ual’s per sonal gen e a log i cal work un der a fam ily name match ing my cri te ria:

http://pages.prodigy.net/dave_lossos/webb.htm

I found the Douglass Webb in ques tion with some ba sic in for ma tion (place & date of birth, death, as well as par ents, chil dren).

Linked from the orig i nal gen e a log i cal site, I then came across the US Gen Web Ar chive which also ad ver tises ac cess to ba sic deed & pat ent in for ma tion, here:

www.rootsweb.com/~usgenweb/

I searched un der Wis con sin for Webb and got a list of doc u ments. I chose the Wis con sin Land Pat ents Da ta base for Dodge County, Sur names T-Z.

Zeroing in to sev eral for ties

The re sults came back that Douglass Webb had pat ents to three par cels ly ing in T 10 N, R 14 E: two in sec tion 6 and one in section 5.

With this in for ma tion in hand, I pro ceeded to the Bu reau of Land Man age ment website www.glorerecords.blm.gov/search/search.asp to fur ther dis cover which por tions of the PLSS sec tions were Webb’s, as well as view an im age of the ac tual doc u ment when the land was pur chased from the Mil wau kee Land Of fice. It turns out that only two of the three 40-acre par cels are con tig u ous.

In none of these re cords is there men tion of a school, but with the search nar rowed down to a small part of the land scape we might get lucky and come up with an old map or his tor i cal an ec dote that re veals more.



See if you can find it...

“Cashing in” with GPS

by Bob Gurda

Cou pled with the de clin ing prices for con sumer-grade GPS units, this spring’s lift ing of Se lec tive Avail abil ity (SA) by the U.S. Gov ern ment has spurred the growth of a new form of out door rec reation called *geocaching*.

OK, this is n’t about cash, but about a form of cache. It’s be come chic to col lect some in ter est ing ob jects, hide them some where out on the land scape, and then use a web site to pub lish the geo graphic co or di nates of the lo ca tion.

This pro vides a chal lenge for other peo ple to try to find the cache that you hid. What pro vides proof that some one found your cache? How about a dig i tal pho to graph, sent to you by e-mail?

Try a web search us ing “Geocache”, and you’ll be on your way (but no snipe hunts, okay?).



Lots of (reliable?) information

The web is factual, right?

by Bob Gurda

True or false: The World Wide Web is a wonderful source of facts?



The answer, of course, is both true and false. While there is a vast amount of useful and reliable information at one's fingertips, at the same time there are some web sites that contain glaring errors of fact—inadvertent or deliberate.

Prior to the web's emergence, most reference information was available only in printed form. The great majority of publications that were pitched as reference materials had gone through some kind of technical edit process before they went to print. Experts may have been consulted. The cost of reprinting if errors were discovered was very high, so it was only smart business to be diligent about one's words and numbers, beyond the altruistic goal of professionalism.

Welcome to a brave new world

By contrast, today it's fairly easy to set up a web server, to claim a web site name that implies expertise, and to create enough fancy looking pages to impress many innocent web surfers. Essentially, the previous oversight role of the publisher is no longer economically critical.

As a result, you—the web page viewer—need to pay close attention to the credentials of those who provide web sites to the public. In fact, credentials should be obvious on a site, else you ought be gin wondering. A couple of recent experiences in our office brought home just how careful you need to be—even in a fairly narrow technical realm like mapping.

What can you believe if...

One site which was brought to our attention contains all sorts of facts about mapping aimed at the novice. Well, it claims to provide facts, and does a reasonable job in many ways but also contains far too many statements that are false. In some other cases the statements technically aren't false but poor choice of words muddies an explanation that could be crystal clear.

What explains why this particular web site has these problems? One can't know for sure, but there is one clue. The site's proprietor appears to be only minimally educated in the field, yet the topics presented involve quite technical matters. Maybe this is a case of that old maxim "a little knowledge is dangerous."

For example, the site in question would lead one to believe the following (all of which are incorrect):

- *The UTM coordinate system is the most accurate for topographic mapping. (??)*

- *Section 8 in a PLSS township is flanked by other sections as follows: 2 (N), 7 (E), 13 (S), 9 (W). (??)*
- *The State of Nebraska is a rectangular shape. (??)*
- *NAD 83 (up through 1982) was based entirely on satellites. (??)*

Another site we ran across states that "a datum is a coordinate system." (Of course, the way these terms are usually used, they have a different relationship: a datum is one of several things on which a coordinate system is based).

Surfing, warts and all

A recent major newspaper article revealed that school teachers are working hard to educate their students to evaluate the credentials of the people behind a web site. It has become popular for students to do most of their searching for background facts by surfing the web, yet what's out there doesn't all meet the standards of what we used to be able to assume was reliable in the library.

Be careful, be active

You'll need to adopt the same approach when looking for web-based reference information on mapping. To put a twist on an old adage, "Viewer Beware."

By the same token, if you find some information that you think may be wrong, try to get to the bottom of it. If you can bring about a correction, you'll be doing a very good deed, since some sites that have blatant mistakes may get thousands of innocent visitors each month!



Local observations calibrate satellite data

Volunteers assist remote lake analysis

by Bob Gurda

It's a bird, it's a plane, it's.....Land sat? Well, of course the federal government's Landsat satellite isn't visible by mere mortals as it orbits hundreds of miles overhead.

However, that didn't stop hundreds of volunteers this summer from venturing out on lakes all over Wisconsin to measure water clarity just as the satellite was zipping by. Their efforts are part of a project by the Wis. Dept. of Natural Resources to better understand what affects water quality across the state.

Land sat gets the big picture

As an alternative to measuring water quality at thousands of locations—an expensive proposition—DNR is trying to analyze Landsat satellite images by using water clarity data collected at sampling sites as their calibration. The sampling is being done by over 800 volunteers who each arrange to be on a lake at the time the satellite is collecting its images.

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Grass roots ini ti a tive maps sus tain a ble prac tices

Green Maps fea ture the green sides of cit ies

by Anna Weitzel

Want to know where all the farm ers’ mar kets in Mil wau kee County are? Or re cy cling cen ters? Take a look at the Mil wau kee Green Map, ei ther on pa per or on line. This map is just one of many Green Maps fea tur ing the eco log i cally and cul tur ally sig nif i cant spaces within cit ies around the world.

Lo cal maps in a global con text

The mis sion of each Green Map pro ject is to high light the con nec tions be tween open space and hu man-de signed fea tures in an ur ban en vi ron ment. In this way, the maps cel ebrate a city’s nat u ral and so cial re sources.

Also, they ad dress lo cal needs within the con text of sound en vi ron men tal prac tices. For ex am ple, on Mil wau kee’s Green Map you will find thrift shops (for re cy cled goods), com mu nity gar dens, and bike trails. The maps not only point to spe cific re sources but also pres ent a gen eral pic ture of how far a city has come in its eco log i cal and so cial ef forts.

The Green Maps Sys tem (GMS) is the frame work upon which over 100 of these lo cal map ping pro jects have been started. Vol un teers in the com mu nity di rect the re search, de sign, and pub lish ing of the map, of ten en list ing the help of school chil dren and other lo cal or ga ni za tions. In turn, the GMS pro vides the map makers with some guid ance and tools to get started. One such tool is a set of map icons de pict ing var i ous re sources from sce nic vis tas to stores sell ing re used prod ucts, and other eco log i cally-significant ar eas like wetlands and Superfund sites.

Green Maps in Wis con sin

The Mil wau kee Green Map pro ject was started in 1997 and was led by Matt Groshek of Ed u ca tion De sign Link. You can



A segment of the Mil wau kee Green Map showing the lo ca tion of a nat u ral food store, an out door ed u ca tion fa cil ity, a Park N’ Ride lot, and other re sources. The map fo cuses on open spaces and other so cial and en vi ron men tal re sources in the county. (Note: Green Maps make heavy use of color, which we can’t re pro duce here).

see a sim ple scanned ver sion of the map at www.wisconline.com/greenmap/milwaukee/. Click ing on any of the icons on the im age map will take you to a de scrip tion of that re source.

Ac cord ing to the Green Maps Sys tem site, there are pro jects un der way in Mad i son and Ra cine as well.

Visit www.greenmap.com to learn more about the Green Maps Sys tem and link to map ping pro jects around the world.

Vol un teers as sist re mote lake anal y sis, con tin ued from page 7

Land sat’s or bit brings it back over the same path ev ery 16 days. Those are the days that the vol un teers have marked on their cal en dars. Sev eral paths are needed to cover the full width of Wis con sin, so the cal en dars are marked for dif fer ent days in Oconomowoc than in Spooner, for in stance.

Part of a re gional ini ti a tive

The Sat el lite Lake Ob ser va tory Ini ti a tive (SLOI) is part of the Up per Mid west Re gional Earth Sci ence Ap pli ca tions Cen ter. That cen ter, funded by NASA, in volves uni ver si ties in Wis con sin, Min ne so ta, and Mich i gan. SLOI is co or di nated by the En

vi ron men tal Re mote Sensing Cen ter at UW-Madison.

For the full story, in clud ing sam ple im ages and anal y ses, visit the SLOI web site at tidris.ersc.wisc.edu/sloi/pub/.

(source: Wis con sin State Journal, 7/25/2000)

Orthophoto Production Hits the Desktop...

For this issue, we met with Prof. Frank Scarpace of the University of Wisconsin-Madison's Dept. of Civil and Environmental Engineering as well as the Environmental Remote Sensing Center. A faculty member since 1973, in recent years he has focused on computerized methods to extract terrain and image information from aerial photographs.



In just ten years we have seen the digital orthophoto (DOP) product grow from an idea to a commodity. Now some organizations are funding second-generation DOPs. What's next?

This mapping niche is going to continue to grow and change. Once people get used to having DOPs as an everyday layer in their GIS systems, the demand will grow for sharper and updated images. At the same time, tools for developing and handling DOPs are getting better.

A major trend is emerging: empowering users to handle some of the image development themselves.

We are empowering users to handle some of the orthophoto development themselves.

What research and teaching questions have you been asking about DOPs?

For one, we wanted to find out how valuable it would be to have historical images to compare to modern DOPs. Our students right now are studying the area that's going to be come an expansion of the UW golf course, west of Madison. We got scanned aerial photos covering seven dates back as far as 1937, and converted them to DOPs to match the modern ones. Next, students are interpreting land cover from the photos, so we'll have a series of maps over time.

Another professor here is using the same tools to chart the evolution of a flood plain over time, and other colleagues are using a like approach over an area of lakes in northern Wisconsin.

Software to do the differential rectification that converts a scanned aerial photo into a DOP has always been quite expensive—sometimes over \$100,000. Because we couldn't afford to purchase licenses for our student labs, I have been writing software myself over the last few years. Also, an 11 x 14 inch scanner for about \$2000 is sufficient, as compared with the much fancier units typically used in major DOP production.

What quality of results do you get from this low-cost approach?

I'm very happy with the results. One finding is that as long as we already have an orthophoto over an area, we don't need to have the camera parameters for a new (or historical) image. From studying the mathematical formulas used in photogrammetry we can show that the scale of a photo is much more important than knowing all of the camera parameters. This is critical because the camera information is rarely recoverable from the older flights.

Until there is some competition in the market place we won't know what the real cost of satellite imagery is going to be.

We understand that you are selling your software. How does that work, and who are your customers?

I have written the software, called OrthoMapper, to support classroom and research work. The university considers this akin to a text book, and I am free to market it. There's a web site at www.orthomapper.com. I have provided it free to any one in the university.

I see the primary market as people who want to either convert historical photos into DOPs, or to change the coordinate system of existing DOPs. By contrast, I expect that people who want a large block of DOPs such as a county will continue to contract with photogrammetric firms.

My software takes only a few minutes to reproject a DEM from one coordinate system to another, and a federal DOQQ reprojection takes about 10 minutes. To make a fresh DOP where none exists, it takes about 30 minutes: 5 minutes for scanning, 10 minutes to establish the orientation, and 15 minutes for processing (all based on a 25-micron scanning resolution). The program will also handle multiple images

For making new DOPs, people should use uncompressed images, then compress them later if desired.

in a strip or block; the adjustment takes about 1 minute per image. Alternatively, you can produce individual images and then mosaic them together.

This kind of performance requires a relatively fast computer, and lots of RAM is important. But, this is no longer out of reach for many organizations.

What's around the corner in this area of mapping?

Satellite imagery has received a lot of attention, but until there is some competition in the market place we won't know what the real cost is going to be.

At the same time, large format digital cameras are being built, and with on-board GPS and inertial navigation systems we can nail down the orientation of the camera. Further, LIDAR may become a practical way to collect terrain information at the same time. From that kind of technology package we may see systems that can collect and process digital images very quickly.

What is your opinion of image compression?

It can be very helpful by saving lots of disk space. However, not only does it slow down processing/display, but it tends to soften some important things in an image. For making new DOPs, people should use uncompressed images, then compress them later if desired.

How would you propose to keep track of the proliferation of historical and second-generation DOPs that will be popping up?

These old and new images will support all sorts of great uses, as long as the serious use of metadata is addressed. We need to track the lineage of these image files so the people will understand what they are looking at. Short of some fancy system to handle the tracking, the important thing is to keep good records. I'll be interested to see the results of the DOP cataloging project that your office is starting to work on.

Q: *What old maps of Wisconsin are easily available?*

A: By limiting your search for maps which are “easily available” you have made this question easier to answer. That’s because various old maps show up at auctions or galleries or some specialty dealers, and there are far too many to identify here. Those maps can also be quite expensive because they are collector’s items.

Two maps of the entire state are available as reproductions from the Wisconsin Historical Society. These are both in color and are suitable for wall display. One is from 1849 and the other from 1856. Prices range from about \$14 to \$17 plus tax and shipping. Contact the Society’s sales shop in Madison at 608/264-6565.

We have just heard of an other source for early maps of the Wisconsin area. It’s a web site that is part of a genealogy network. Make a visit and you can view and print a diverse set of 15 scanned maps dating from 1829 to 1943. All are in JPEG format, and range from 85-1180 Kbytes in size. Some show only portions of the state (e.g., cities) while others cover the larger region that includes Wisconsin. Visit this site at www.rootsweb.com/~usgenweb/maps/wisconsin/

Libraries can be good sources of older maps, not for purchase but at least for viewing. The American Geographical Society’s map collection is housed at UW-Milwaukee, and is certainly the largest collection of rare maps in our state, although their holdings form an international collection including maps of Wisconsin.

Q: *The Brown County Coordinate System—as published in your Wisconsin Coordinate Systems handbook—follows a different pattern than all of the other counties. Is this an error?*

A: The values for Brown County are correct as published. Your sharp eyes have picked up on some real differences, however. Most people aren’t aware of the history that explains those differences.

The Wisconsin County Coordinate System—one system for each county—was developed in the early 1990’s by a contractor for the Wis. Dept. of Transportation (DOT). At that time, Brown County already had a coordinate system it had developed itself, and that met the minimum standards defined for the contractor’s statewide work.

As a result, the contractor recommended to DOT that the pre-existing Brown County Coordinate System be adopted as part of the statewide system, rather than establishing a new coordinate system.

Had there been no pre-existing county coordinate system in use in Brown County, the DOT project would have created one strictly following the model for the other counties. Instead, the system already in use placed the mapping plane at the elevation of the ellipsoid rather than a higher elevation close to average ground level.

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.

Land Cover.....continued from page 5

The new national database is somewhat like what has been available for Wisconsin for over 18 months: the WISCLAND land cover data. The two products used essentially the same dates of Landsat imagery which has a cell size of 30 meters. The Wisconsin product has, at its most detailed level, about 50% more categories than the NLCD.

How do they compare?

A significant difference between the two products is that our state’s home grown product is based on 30,000 on-the-ground observations of land cover to calibrate the

computerized interpretation and then to generate accuracy statistics. By contrast, the national product uses a variety of existing spatial databases (e.g., census and wetlands) to create the classification, and then uses moderately high-altitude, leaf-off NAPP aerial photographs to establish accuracy.

Because the WISCLAND land cover data is based on a much more robust set of “ground truth” observations, we recommend its use as compared to the NLCD. Note that a number of federal agencies contributed funds to the WISCLAND ef-

fort. As of this writing, we aren’t aware of any attempt to perform an accuracy comparison between the two products.

Get access; learn more

Preliminary data is available from the NLCD is available for Wisconsin. Some time later it will be produced on CD-ROM.

Use these web links to learn more about the two data sets:

www.dnr.state.wi.us/org/at/et/geo/data/wlc.htm

edcwww.cr.usgs.gov/programs/lccp/

SCO web of fers "re fresher" les sons in GPS and PLSS

Web site to get overhaul

by Anna Weitzel

If you have vis ited our web site's *His tory of the SCO* page, you know that in 1994 we in tro duced an elec tronic bul le tin board con tain ing mostly in for ma tion on maps. That DOS-based sys tem was the pre cur sor to our web site which went on line in 1996. Since then, many pages and sec tions have been added, but the gen eral struc ture and de sign of the site has re mained the same. Now we've de cided to make some ma jor changes.

Not only has web tech nol ogy ad vanced greatly since 1996, but the dis cus sion about good de sign and com mu ni ca tion has be come as wide spread as the web it self. Here at the SCO we've been grad u ally learn ing these new tech nol o gies and, more re cently, dis cuss ing how we can im prove our site as a thor ough yet easy-to-use re source.

Un for tu nately, when you have over 1000 files to work with, re-design sim ply can not hap pen over night. Ex pect to see new page lay outs and re vised con tent ap pear in the stages.

In the mean time...

With the help of civil en gi neer ing grad u ate stu dent Chris tie Miller, we have re vised our pages about the Global Po si tion ing Sys tem (GPS) and the Pub lic Land Sur vey Sys tem (PLSS). New graph ics and links to other tu to ri als make these pages great in tro duc tions to both sub jects. You will find them un der our Sur veying & Geo detic Con trol sec tion.



New stu dent staff as sumes du ties

SCO Grad As sis tants Line-up

by AJ Wortley

With au tumn in full swing, two new grad u ate stu dent staff have set tled in to their project po si tions. Re turning grad u ate stu dents Anna Weitzel (SCO/ Web) and John Marks (WISCLINC) were joined this fall by new Madisonian Woody Wallace, from the Ge og ra phy de part ment, and re turn ing stu dent Tara Roffler, from the IES/Wa ter shed Man age ment Pro gram. Woody and Tara joined the WISCLINC staff in Sep tem ber to work on the clear ing house project as we com plete our ini tial con tract for work in this area.

Tara Roffler has since be gun pre lim i nary work on the new SCO project: Wis con sin Dig i tal Orthophoto In for ma tion and Ac cess Ini tia tive. Woody Wallace will join Tara in this new ef fort later this win ter. We wel come the new skills and ideas brought to the of fice by all of our grad u ate stu dent em ploy ees as they sup port our project-based work and sup ply di verse in sight into new so lu tions.

NSGIC....con tin ued from page 3

orthophotos were an other fre quently men tioned data set. Seven east ern states have ei ther be gun or are well along in the plan ning stages of fi nanc ing a high-resolution, large-scale state wide im ag ery pro gram, and an other four states are start ing to pur chase sec ond-generation im ages state wide through the fed er ally coor di nated Dig i tal Ortho Quar ter-Quad (DOQQ) Pro gram.

NSGIC is ac tive in many ways

As an or ga ni za tion, NSGIC is rep re sented at many na tional fo rums, in clud ing the above men tioned DOQQ Pro gram, the re cently cre ated Na tional Dig i tal Ele va tion Pro gram, the West ern Gov ern or's As so ci a tion Ca das tral Data Ini tia tive, and NASA's ef forts to de sign a state/lo cal gov ern ment ini tia tive. Un der this lat ter ini tia tive, NASA is spon sor ing a se ries of four work shops in volv ing state/lo cal rep re sen ta tives from all fifty states. The North east Work shop, which in cludes Wis con sin, is be ing held at the end of Oc to ber. I will be re port ing on this work shop in the next is sue of the *Bulletin*.



PLSS...con tin ued from page 5

ors and oth ers in ter ested in the land. How ever, cop ies of the notes have only been avail able through mi cro film and pho to cop ies made from that film.

Making the pages dig i tal

Now, the first step to ward mak ing the note books widely avail able has been ac com plished. The Wis. Board of Com mis sioners of Pub lic Lands (BCPL) con tracted with the Univ. of Wis.-Mad i son's li brary sys tem to scan all of the pages, re sult ing in over 155,000 im ages, each cov er ing two pages.

Indexing will be the key to re trieval

The next task is to cre ate links be tween each im age and the ground fea tures de scribed on those two pages. Those links will form an in dex that can be used to iden tify the im ages that are rele vant to any par tic u lar com bi na tion of town/range/sec tion.

The in dex ing pro cess is just now be ing planned. There is no pre dic tion for when the project will be com pleted. Some op tions for mak ing the re sults avail able in clude CD-ROM and web.

Keeping in touch with prog ress

We will mon i tor the prog ress of this project, and will pro vide up dates here in the *Bulletin* as mile stones are reached.



The north west corner of Wood County from a DOT map.

Familiar DOT product now on the web

Get your county maps free

by Bob Gurda

County maps produced by the Wis. Dept. of Transportation have been popular for years. Traditionally available in several sizes printed on paper, you now have another choice: PDF files that you can download free over the Internet.

These county maps are not in a GIS or CAD format. They owe their heritage to earlier days of cartography when maps were drafted by hand and printed with black ink on white paper. These paper maps have now been scanned and converted to Portable Document Format (PDF), a common way to distribute images on the web. Look for them at www.dot.state.wi.us/dtid/bhd/maps.html.

To view a PDF file, you need a free program called Adobe Acrobat Reader.

Giftbook possibility?

Brothers' method showcases terrain

by Bob Gurda

Two brothers, Brian and Jeffrey Ambrosiak, have created a large format book on the history of terrain mapping. It highlights their own patented approach, the Ambrosiak Infinite Perspective Projection.

At \$75 and only 109 pages, the images had better be good—and they are. The terrains are all dramatic and actual ones, ranging from the Grand Canyon to features on Mars.

The Ambrosiak's method is a form of an analygraph—a way of printing two similar (but not identical) images, one in cyan ink and the other red ink, which when viewed through special glasses with color filters creates a 3-D image. Their method allows a viewer to move around the map without distorting the image, creating an amazingly realistic impression.

The book, titled *Infinite Perspectives: Two Thousand Years of Three-Dimensional Mapmaking*, is published by Princeton Architectural Press (1999).

(source: *Mercator's World*, July/August 2000)

How about a map for that spatial person?

Make your shopping easy

by Bob Gurda

The winter holiday season is almost upon us, and with that comes the planning for gift-giving. Is a map an odd gift, or would lots of people enjoy a map—especially a map they hadn't even been aware of?

Being part of the mapping community, we may sometimes think that our narrow world is of interest only to us. In fact, almost all people rely on maps regularly, and many people find the maps they use for practical reasons have general appeal because they provide a unique perspective.

Books are a popular gift, and books that tell engaging stories or that cover familiar territory from a fresh angle are especially welcomed. Several new or recent maps fit that description.

Coming soon....

Our office is part of a group preparing a **poster-sized map of the UW-Madison campus**. This will be produced from about 80 spring time digital orthophotos merged into one image. We hope that this map will be available by early December. Check our web site (www.geography.wisc.edu/sco) for the latest news.

Land cover map is popular

It's been almost a year now since the *Wisconsin Land Cover* map was released. In that time, over 2500 copies have found their way to walls all over Wisconsin and beyond. You can find an order form for this map on our web site.

Version 1.7 in the works

WISCON being upgraded

by Bob Gurda

The coordinate conversion software package WISCON is undergoing another minor upgrade. Version 1.7 may be available in the next few months.

WISCON transforms coordinate values between any of the commonly used coordinate systems in Wisconsin including all of the county coordinate systems. WISCON uses the horizontal datums NAD 27 and NAD 83 (both 1986 and 1991 adjustments) and also transforms elevations between NGVD 29 and NAVD 88. It handles points and lists of points, but not GIS or CAD data files, and operates under Windows 95/98 and NT.

The SCO is the sales outlet for WISCON. The current version is 1.64 and the price is \$165. You can find an order form on our web site.

Purchasers of earlier versions of WISCON can download a copy of the current version. Contact us at the SCO for instructions on how to accomplish the download.

Supports data exchange between systems

FGDC publishes CADD transfer standard

The Federal Geographic Data Committee (FGDC) has published the Spatial Data Transfer Standard (SDTS), Part 7: Computer-Aided Design and Drafting (CADD) Profile, FGDC-STD-002.7-2000. The FGDC endorsed the SDTS CADD Profile in March 2000; however, the standard has only recently become publishable for distribution.

The SDTS CADD Profile supports exchange of geospatial data contained within CADD systems with other geoprocessing systems. CADD software makes up a large portion of the Geographic Information Systems (GIS) marketplace. CADD software allows for several types of elements, in particular, the use of three-dimensional elements and complex curves that are not commonly used by GIS. This profile allows the CADD representation of two- and three-dimensional geographic vector data to be transferred via the SDTS standard.

The SDTS CADD Profile contains specifications for an SDTS profile for use with vector-based geographic data as represented in CADD software. This profile facilitates the translation of this data between CADD packages without loss of data, and supports the translation of this data between CADD and mainstream GIS packages.

For more information about the Spatial Data Transfer Standard (SDTS), Part 7: Computer-Aided Design and Drafting (CADD) Profile, FGDC-STD-002.7-2000, visit www.fgdc.gov/standards/status/sub3_2.html to download PDF and Microsoft Word versions of the document.

(source: FGDC)

Group drafts organizational plan

Structure for GeoData Alliance proposed

by Bob Gurda

It's a nice idea: Get everybody together to support a spatial data infrastructure for the nation. And, it's hardly a new idea.

But, how do you really make it happen? What institutional structures and processes are needed? Well, the proof will always be in the pudding, but the latest recipe is just out and merits some attention.

After a busy spring and summer of meetings, a drafting group has come up with a blueprint for the operation of a proposed GeoData Alliance. Striving for broad representation from the diverse set of stakeholders, their solution includes a Council of Trustees representing clusters of alliances.

What do you think?

Take a look at the recipe and provide feedback:

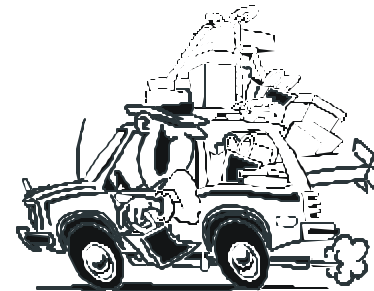
www.geoall.net (look under "Documents", then "Final Organizational Design").

Sandsness steps down

WLIB loses charter member

by Ted Koch

Arden "Sandy" Sandsness has resigned from the Wisconsin Land Information Board. Sandy, a surveyor with Royal Oak Engineering, Inc. in Madison, was a member of the Board since its beginning in 1990. Sandy was also a member of the Wisconsin Land Records Committee in the 1980's. The Land Records Committee conducted much of the study and developed recommendations that lead to the creation of the Board and the Land Information Program.



Halvorsen, Hempel take new roles

People on the move

by Bob Gurda

Noel Halvorsen of Green Bay has taken a new job with a non-profit housing organization there. In doing so, he has left his position as a planner and the land information officer (LIO) for Brown County. In that latter role he has been serving as head of the state network of LIOs. Noel's technical and institutional skills will be missed.

John Hempel is a new arrival to Wisconsin, where he became State Soil Scientist on October 1. Hempel has worked for the USDA's Natural Resources Conservation Service in various capacities in several other Midwestern states, most recently Minnesota. He assumes the position vacated this last spring when Ken Lubich was named to coordinate digital soil survey work for the entire country.

Adds to influx of women in USGS management

Ryan takes reins of National Mapping

by Bob Gurda

Barbara Ryan has been named to lead the U. S. Geological Survey's mapping activities. Ryan replaces Richard Witmer who retired recently as Chief of the National Mapping Division.

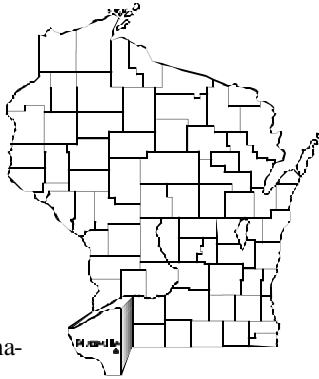
As part of a general agency reorganization, Ryan's new title is Associate Director for Geography. Prior to becoming Associate Director for Operations, her career at USGS was within the Water Resources Division. Ryan is part of a growing number of women who have moved into upper management positions within the USGS in recent years.

Digital orthos for everyone

WLIA heads southwest

by Brenda Hemstead

The winter meeting of the Wisconsin Land Information Association (WLIA) will be held at the Governor Dodge Motor Inn in Platteville on Thursday & Friday, **December 7 & 8**. This quarterly meeting is being co-sponsored by the Wisconsin Chapter of the Geospatial Information & Technology Association (GITA). As always, anyone is welcome to attend.



Full-day workshop

On Thursday, December 7th, a full-day workshop will be held on **“Digital Orthos – 2nd Generation”** addressing the technical issues related to integrating, replacing, and updating older orthophotos with newer ones. Additional topics to be covered include: emerging approaches, DEM’s/DTM’s, cost considerations, metadata for access and distribution, size and compression, using satellite imagery, and change detection.

Through a group exercise attendees will analyze various digital orthos by applying quality assurance/quality control techniques. Registration fee is \$30 WLIA/GITA member; \$40 non-member and includes lunch.

Free evening seminar

Scheduled for 7pm Thursday evening is a seminar on Digital Orthos—How & Why for those wanting to learn the basics of production, status, and availability of digital orthophotography in Wisconsin. Presentations will also include how a variety of people can use digital orthos for many purposes. This event is free and open to non-members.

Information galore on Friday

The next morning’s program (\$25 WLIA/GITA member, \$35 non-member, and includes lunch) begins with updates on **WLIS, grants, and state budget initiatives**. Following will be a presentation from Wis. DNR outlining the proposed changes to the **Wisconsin Wetlands Inventory Program** and a presentation by Wis. DOT explaining the **Height Modernization Program**.

A lively discussion on **digital orthos** addressing topics related to: cost recovery/maintenance, compression, resolution vs. cost, and funding/cost sharing will be shared through a panel with audience participation.

The meeting will conclude at 1:30 p.m. after the lunch and business meeting.

For registration information contact WLIA by email at abarrett@uniontel.net or fax at 715/366-4501 or call at 800/344-0421 or visit their website at www.wlia.org.

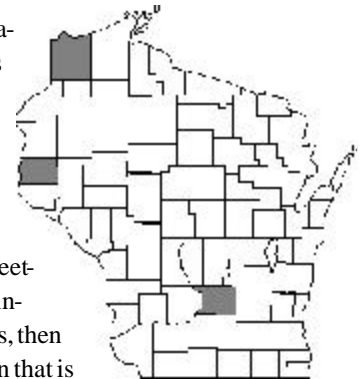
North, west, and south locations

WLIA schedules quarterly meetings for 2001

by Brenda Hemstead

The Wisconsin Land Information Association (WLIA) has set the course for its quarterly meeting locations for next year. As in prior years, WLIA will move its meetings around the state.

Typically, the quarterly meetings begin on Thursday and include informative workshops, then a “free” evening presentation that is open to non-members. The following day is the general membership meeting that digs into technical topics and policy issues.



Scheduled meetings

- June 6-8, 2001 - Barker’s Island, Superior (Douglas County)
- September 5-7, 2001 - New Richmond Technical College (St. Croix County)
- December 5-7, 2001 - Chula Vista Resort, Wis. Dells (Columbia County)

For additional information visit WLIA’s website at www.wlia.org or call 800/344-0421, or email abarrett@uniontel.net.

World wide event is Nov. 15

GIS Day returns for 2nd run

by Bob Gurda

In 1999, the initial GIS Day got a lot of attention. In Wisconsin, so far at least, it looks like it will be lower key this year. Like last year, the event is staged during Geography Awareness Week. It’s going to be on a Wednesday, November 15, 2000.

Sponsored by a group of national/international organizations, GIS Day is intended to inform and educate the uninitiated. From Aas (in Norway) to Zwijndrecht (in the Netherlands), all sorts of individual events world wide are registered for GIS Day. Around the U.S., GIS Day will be celebrated from Aberdeen (Washington) to Yuma (Arizona).

In Wisconsin...

As of this writing, the number of GIS Day 2000 events in Wisconsin may be down as compared to its first year. The most ambitious plans we have heard of so far are at UW-Milwaukee. For a current listing of registered events anywhere, visit the GIS Day website at www.GISDay.com. You can search by country, city, keyword, or industry.

November 15, 2000, **GIS Day** - sponsored by the National Geographic Society, the Association of American Geographers, and Environmental Systems Research Institute to promote awareness of how GIS is used to deal with real-world applications within schools, businesses, and the general public. Visit www.gisday.com

December 1-4, 2000, **American Society for Photogrammetry & Remote Sensing and American Congress on Surveying and Mapping Fall Conference** will be held in Providence, RI. Contact: Temperance Battee at 301/493-0290, ext. 106 or visit www.asprs.org.

December 6-8, 2000, **Wisconsin Land & Water Conversation Association (WLWCA) 47th Annual Conference** will be held at the Ramada Conference Center in Wausau, WI. Visit www.execpc.com/~wlwca/wlwcacon.html

December 7-8, 2000, **Wisconsin Land Information Association Quarterly Meeting** will be co-sponsored by GITA and held at the Governor Dodge Motor Inn, Platteville, WI. Contact: WLIA at 800/344-0421 or www.wlia.org.

December 19-20, 2000, **Land Use Planning, Smart Growth & Data Access Using GIS Workshop** will be offered by the Land Information & Computer Graphics Facility at UW-Madison, WI. Visit www.lic.wisc.edu/training.htm.

2001

January 8-11, 2001, **Coastal GeoTools '01** will be held in Charleston, SC. Email geotools@noaa.gov or visit www.csc.noaa.gov/GeoTools/

January 24-26, 2001, **The Wisconsin Society of Land Surveyors Annual Institute** will be held at the Holiday Inn in Stevens Point, WI. Call 414/549-1533.

February 27-March 3, 2001, the **Association of American Geographers** will hold their annual meeting in New York City at the New York Hilton. Visit their website at www.aag.org.

February 28-March 2, 2001, **The Wisconsin Land Information Association (WLIA) 13th Annual Conference** will be held at the Radisson Inn in LaCrosse, WI. Contact WLIA at 800/344-0421 or visit www.wlia.org.

March 4-7, 2001, The **Geospatial Information and Technology Association** will hold its annual conference at the San Diego Convention Center in San Diego, CA. Contact GITA at 303/337-0513 or visit www.gita.org.

March 17-21, 2001, **American Congress on Surveying & Mapping Spring Conference** will be held at the Riviera Hotel & Casino in Las Vegas, NV. Visit www.acsm.net/spring01.html.

April 18-19, 2001, **GIS in Illinois Spring Conference** will be held in Urbana, IL. Contact: ILGISA at 815/753-0923 or visit www.cagis.uic.edu/ilgisa.

April 23-27, 2001, **American Society for Photogrammetry & Remote Sensing Annual Conference** will be held in St. Louis, MO. Contact: Temperance Battee at 301/493-0290, ext. 106 or visit www.asprs.org.

To see a more extensive calendar of regional events, and to use hot links to other calendars, visit the SCO website.

14th annual meeting set for spring

La Crosse to host WLIA Conference

by Brenda Hemstead

The Wisconsin Land Information Association will hold its 2001 Annual Conference at the La Crosse Convention Center & Radisson Hotel from February 27 to March 2, 2001. Attendance is expected to be over 600.

The theme is ***The Land Records Story: To Your Community....and Beyond!***

Over the past few years, the land information systems throughout the state have matured into usable tools for all levels of government and society.

Workshops

Workshops will be held Tuesday, February 27—the day prior to the opening of the conference proper. Each workshop offers an in-depth look at a topic or a



hands-on technology experience. Workshops are arranged as half or full-day sessions.

Technical Sessions

Technical sessions are where members share information. This year the sessions will run on Wednesday, February 28 and Thursday, March 1. The presentations will be organized in four areas: Organizations & Policy, Applications, Technology and Data, and Vendors.

Vendor Exhibits

Dozens of organizations will be there to show and explain the latest in software, hardware, data conversion and consulting.

Poster Contest

Posters will be on display throughout the conference with awards given to the best in six categories: base map, small format map, the matic map, map poster, ortho-based map, and black-and-white map.

For further questions concerning the conference contact Jim Johnston, WLIA Conference Chairperson at 715/485-9170 or email at landinfo@co.polk.wi.us or Ann Barrett, WLIA Executive Services Manager at 800/344-0421 or email at abarrett@uniontel.net or visit WLIA's web site at www.wlia.org.

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 five 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), and Ana Rumm, Financial Specialist, 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 and maintains a web site to inform the mapping community.
- inventories mapping practices, methods, accomplishments, experience, and expertise, and further acts as a clearing house 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 15 voting members of the Wisconsin Land Information Board and one of 17 voting members 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.

About our Internet Web site...

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

Here, you will find links mentioned in *Bulletin* articles, 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 check out the SCO's homepage at

www.geography.wisc.edu/sco



About the WISCLINC Web site...

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

www.wisclinc.state.wi.us

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

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 January 5, 2001.

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