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, biology, and mapping.

These and other issues were on the docket at the State Mapping Workshop held in early September at the USGS Mid-Continent 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 head quarters), Denver, CO, and Menlo Park, CA. Each region’s administrator will have four assistants, administrators—one from each of the divisions.

The person responsible for mapping will be titled the Regional Geographer.

Wisconsin, lying east of the Mississippi River, falls into the East regional area. Many activities conducted at the USGS at the national level will be focused at the Reston Applications Center at the Reston location. Previously, our contacts were with the Mid-Continent 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 re-cast 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 part-ner relationships with state and other federal agencies to address regional issues. We are aware of several federal Great Lakes initiatives, for example.

Another issue is that development of information resources (e.g., maps and GIS data bases) may be connected 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 did not like the regional divide 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 geo logical mapping, coastal and marine geological 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 mere mention of mapping and GIS in Groat’s comments, we can only hope that the other activities he highlighted will need strong geospatial data as part of their infrastructure. It is through such direct funding that future USGS mapping activity seems most likely.

(source: USGS press release)

Highlights of this issue:

Future of WISCLINC..................4
Genealogy meets land records....6
Watch where you surf!.................7
WLIE News

by Ted Koch

Since the previous issue of the Bulletin, the Wisconsin Land Information Board (WLIE) met on September 13 and November 26 in Madison. The WLIE’s next meeting will be held in January in Madison. That date and the re main der 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 complies with the ap proval 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 in the government for the year 2000 grant cycle. Under the new program, applicants will have to provide a Strategic Initiative grant to counties for projects or activities that foster state-wide or regional goals.

Metadata standard adopted

At its November 2 meeting, the Board adopted the Federal Geographic Data Committee’s (FGDC) Content Standard for Geospatial Metadata as the metadata standard for the Wisconsin Land Information System (WUIS). 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 digitized data products are available for state agencies and local governments. However, the Board’s action also means that the WUIS will be compliant with the new standard.

The FGDC’s Metadata standard was developed in 1994 and revised slightly in 1998. With some ad di tional agencies, it is expected that the standard will come into force in 1999. In adopting the federal standard, the Board stated that any future revisions to the federal standard will be adopted. The complete FGDC standard can be found at www.fgdc.gov/metadata/contstan.html.

Land Council Up date

by Ted Koch

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

State agency group issues report

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

In the report, SARWG grouped over 150 in-state and state agency administrative issues into 25 clusters, such as Surface Water Quality Management, Wetlands, Transpor tation, Tax Policy, Housing, etc. Within each cluster, the work group analyzed similar issues, conflicts, and data issues. Also, for each cluster, an interaction diagram was developed to analyze program interactions and develop recommendations.

WLIS report sent to Governor

by Ted Koch

A report providing delay in the implementation of the proposed Internet-based Wisconsin Land Information System (WLIS) has been forwarded to the Governor’s Office. 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).

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

Although the Project Team had recommended several options for the WLIS and WLC to consider regarding WLIS 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).

At its September 13 meeting, the WLIE 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 transmit letter signed by the chairs of the WLIE and WLC, was delivered to the Governor’s Office on September 29.

How and to what degree WLIS develops in the near future is now dependent on specific issues contained in 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. This option has some potential in light of the Governor’s Office. The WLC and WLC de cided not to make any specific recommendations on these issues to the Governor.

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USGS sets regional focus...con tin ued from page 1

River (south from its con fluence with the St. Croix). As the re-
gional pattern now stands, spe cial at tion will be needed to han-
dle is sues that span the bor der that Wis con sin and Il li nois
share with Min ne sota and Iowa.

Em pha sis goes to dig i tal prod ucts

Given a short age of funds to deal with all of the po ten tial map-
ing and GIS prod ucts, USGS will be fo cus ing its re sources on
three ar eas: im ag ery, el e va tion data, and hydrography. The
funds avail able for sup port ing re vi sion of the graphic prod ucts
(pa per maps) have been suf fi cient to meet the de mand from
states seek ing to cost-share on a 50/50 ba sis, but the amount of
this work has been min i mal.

USGS con tin ues to eval u ate the emerg ing pri vate sat elite
sys tems that ac quire im ag ery. The agency, along with FEMA,
also con tin ues work with new sys tems (e.g.,LIDAR and
IPS AR) to col lect ter rain in for ma tion.

Along with EPA, the USGS also wants to work to ward a
sec ond-generation na tional land cover data set. They ex pressed
in ter est in work ing with states as part ners in this pro cess.

States air their con cerns

The USGS State Map ping Work shops, which have been held
ev ery 1-3 years for sev eral de cades, in clude a clos ing ses sion
where the states cau cus and then pro vide struc tured feed back to
their hosts. Rick Miller, the GIS Co or di na tor for Kan sas and
the Pres i dent-elec of the National States Geo graphic In for ma-
tion Council, mod er ated the cau cus and pre sen-
tation.

This year, the pre dom i nant con-
cerns were the fol low ing:

• While in te gra tion across USGS
disci plines makes sense, ex ce cut-
ing this plan will be chal leng ing,
es pe cially con sid ering the large
num ber of po ten tial stake-
holders.

• USGS and its part ners need to work out roles for val i-
dat ing data.

• The printed map se ries are all ag ing, the costs are a
pow er ful dis in cen tive to states co op er a ting, and there is
no ex plicit link be tween the re vi sion of pa per maps and
up dates to dig i tal files such as DLGs. With em pha sis
shift ing, does there re main a man dated re spon si bil ity to
main tain the tra di tional map prod ucts?

• States should be more in volved in the pro cess by which
fed eral funds are al lo cated to sup port map ping, since
there are op port u ni ties for cost shar ing and data shar-
ing.

• On part ner ships and co op er a tion in gen eral, other fed-
eral agen cies need to be tapped and the FGDC, OMB,
and NPR should be used for le ver age.

State Cartographer’s Commentary

NSGIC: A brief con fer ence re port

by Ted Koch

Re cently, I at tended the an nu al con fer ence of the Na tional
States Geo graphic In for ma tion Council (NSGIC) held this year
on the north end of Lake Tahoe. In re al ity this meet ing was
held in two states since the Cal i for nia/Ne va da line tra versed
right through the cen ter of the con fer ence ho tel.

This was NSGIC’s tenth an nu al con fer ence and my ninth.
Al ways an en joy able meet ing due to its small size (150-200 at-
ten ees) and ex cel lent pro grams, NSGIC at tracts state GIS co-
or di na tors and man ag ers from forty or so of the states. Fed eral
agen cies such as USGS, FGDC, NASA, BLM, Bu re au of the
Cen sus, and a num ber of pri vate firms also at tend.

One of the con fer ence high lights is al ways the “Roll Call of
States” where a rep re sen ta tive from each state has two min utes
(strictly en forced) to re port on sev eral is sues within the
state. While lis ten ing to the re ports, I make notes about is sues
I want to fol low up on later.

State co or di na tion is now the norm

From roll-call re ports it was nice to hear that nearly ev ery state
now has a for mal GIS co or di na tion body. Of course many
states have had such an en tity for sev eral years, but at least
half-a-dozen states re ported re cent suc cess ful ef forts at es-
ablishing a rec og nized co or di na tion body. Ad di tionally, many
states re ported that GIS has gained a higher pro file—in many
states through di rect con nec tion with the state’s chief in for ma-
tion of fi cer (CIO). At least 10 states men tioned this ar rrange-
ment, and in most the CIO is a cab i net-level po si tion re port ing
di rectly to the gov er nor.

Data de vel op ment is a big story

My Wis con sin Re port cov ered the Wis con sin Land In for ma-
tion (WLIS) Ini tia tive, the com ple tion of the county land in-
for ma tion plans and the sur vey, and the soil map ping ini tive.
Most state re ports men tioned pro gress on data cre ation for vari-
ous themes such as hydrography and trans port a tion. Dig i tal
con tin ued on page 11
Potential is there, but future is hazy

Next-generation WISCLINC Clearing house?
by AJ Wortley

Over the last couple years, the Wis con sin Land In for mation Clearing house has grown from a fledgling node in the Na tional Spatial Data In fra structure (NSDI) to a vigorous partici pant in providing detailed in formation on the qual ity and avail ability of digital geospatial data in Wis con sin.

Over the last 18 months, this evo lu tion has been fur ther un der con tract be tween the Wis con sin Land In for mation Board and the State Cartog ra pher’s Of fice. As this con tract draws to an end in De cem ber, you might ask how far we have come, and where might the WISCLINC Clearing house head in the fu ture with con tin ued sup port.

Up close and personal

Since its incep tion, the con cept of WISCLINC has been mo ti vated by the NSDI vi sion of pro viding a dis trib uted net work of “front doors” to geospatial data dis cov ery on line. This vi sion was in flu enced by the phi los ophy that best ac cess to data—and data about data (meta data)—comes from as close to the source as possible.

With that in mind, we have strived over the past 18 months to not only in crease the to tal amount of search able meta data on WISCLINC, but also the breadth or num ber of par tic ular in put of data in this pro cess—in par tic u lar fo cusing on local con tri bu tors. To that end, WISCLINC has grown to 6 times the level of meta data con tent 18 months ago, or around 300 doc u ments.

Our partici pation levels have also sig ni ficantly in creased, dou bling the num ber of con tri bu tors. And all new con tri bu tors dur ing this growth pe ri od have been county or mu nic i pal-level agen cies. This trend pro mises to con tinue dur ing the next 18 months, as we ex pect to see more staff avail able to as sist in get ting started with meta data from around the state. So, don’t hes i tate to take ad van tage of the last few months of our con tract dur ing which we have more staff avail able to as sist in get ting started with meta data, be it a first-time con tri bu tion or up dates to exist ing re cords.

The fact is: meta data is here and its hum ble in fra struc ture—dis trib uted in for ma tion—to not only in crease the to tal amount of search able meta data, but also cre ate and up dated a vari ety of refer ences to meta data ar ti cles, tu to ri als, and other help ful re sources.

On ward and up ward...

So, as our con tract to ex pand the Wis con sin Land In for mation Clearing house nears its cul mi na tion, the ul ti mate ques tions that re main are: what lies in the near fu ture for this bur geon ing elec tronic data base of Wis con sin’s spa tial data hold ings? and, who will con tinue to main tain the Clear ing house as that fu ture ap proaches?

With plan ning un der way for a Wis con sin Land In for mation System (WLIS), there will un doubt edly be a role for meta data and clear ing house-like func tions.

On the ho ri zon but even closer is the Wis con sin Land In for mation Board’s de ci sion to com mit stra tegic grant ini tia tive funds to ward meta data de vel op ment. All of these signs point to ward a role for WISCLINC in the fu ture.

In the near term, we will con tinue to build the foun da tion with meta data from around the state. So, don’t hes i tate to take ad van tage of the last few months of our con tract dur ing which we have more staff avail able to as sist in get ting started with meta data, be it a first-time con tri bu tion or up dates to exist ing re cords. Come and par tic i pate in the evo lu tion of WISCLINC into a next-gen eration clear ing house.

... more meta-musings

Metadata’s popping up everywhere
by AJ Wortley

Ah, meta data—whether you once cringed at its men tion or wel comed the new con cept—the word (and its im pli ca tions) are here to stay. If you do a sim ple search on the In ternet, you’ll find that the meta data idea has be come deeply em bed ded in the evo lu tion of on-line re source in dex ing, dis cov ery, and dis tri bu tion—far be yond its geospatial ap pli ca tion that we know best.

Meta data is now a cor ner stone in the on-line en deav ors of fields as di verse as tra di tional and dig i tal li brar ies, large web site man age ment, geo spa tial data man age ment, and more gen erally, knowl edge man age ment and in dex/search/re trieval of dis trib uted in for ma tion.

In for mation straight from the source...

The fact is: meta data is here and its hum ble base in fra struc ture is be ing cre ated now. In the near fu ture, meta data cre ation, up-

con tin ued on page 5...

Wisconsin Mapping Bulletin

Fall, 2000
USGS re leases na tional land cover data
by Bob Gurda

The lower-48 states have a new land cover da ta base, pro duced by the U.S. Geo log i cal Sur vey in co op era tion with the U.S. En vi ron men tal Pro tec tion Agency. The Na tional Land Cover Dataset (NLCD) was pro duced by in ter pret ing 1992 Land sat the matic Map per im ag ery. The pro ject was car ried out at the USGS EROS Data Cen ter in Sioux Falls, SD.

Goal is to pro vide access to all
PLSS note book scans in work
by Bob Gurda

Over a span of 30 years in the mid dle of the 19th cen tury, gov ern ment sur vey ors laid out the Pub lic Land Sur vey Sys tem across Wis con sin. As they pro ceeded on the task of mark ing town ship and range lines, and then the sec tions within that frame work, their trav els took them to ev ery square mile in the state. The note books the sur vey ors cre ated as they did their work are a gold mine of in for ma tion for con tem po rary sur vey-

cont in ued on page 10...

cont in ued on page 11...

Met ad ata... con tin ued from page 4
dating, and man age ment will be come in creas ingly au to mated. And met ad ata it self will be come in creas ingly stan dard ized not only in gen er al struc ture but also con tent as we look to au to ge ner ate much of the cru cial in for ma tion about a re source through au to ex tra ction of these char ac ter is tics.

Leg a cy is n’t ex trac ted eas ily
But what won’t be re trie vable or ex tra ct able are the val iant be gin nings of these data sets.... the old, end of the 20th cen tury, early GIS pi o neers’ notes on how and why par tic u lar data was first col lected and then com piled and mapped in dig i tal space.

These first hand ac counts are the leg a cy in for ma tion that un for tu nately must be man u ally re corded by a data set orig i nal sur vey or or cus to dian for that in for ma tion to be car ried on. If this does n’t hap pen, though, chances are there will be no one out there scan ning GIS an a lys ts’ note books to dis cover their ini tial meth od ology, their trav els took them to ev ery square mile in the state.

From this stand point, a re newed in ter est in high est qu al ity large-scale data. In ad di tion, it is an in vest men t in the la bor of love that is the be gin nings of yet an other chap ter in ap pli ca tion of lo cal ad di tional ci tation de tails... and the list goes on. We can cor rect a co or di nate sys tem pa ram e ter if we can read what co or di nate sys tem you used, but we can not in sert why you chose a COGO meth od, nor the ac cu ra cy to wise de cision-making.

Focus on the deeper nar a tive
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cont in ued on page 10...

cont in ued on page 11...
Re-creating history through land records

Surfing the web for ancestor’s lost lands
by AJ Wortley

From time to time, people ask us about his or her land ownership or origin that relates to their family history. Usually these people are in the process of researching their family history. Sometimes it is reallly out there that may be re-assembled in a virtual map setting in cyberspace.

In this vein, I recently helped an individual locate a piece of land which a relative had cited as having been the first school house in the area and previously owned by a distant cousin somewhere in Dodge County. You may be able to access the land records and find a similar record by following the steps below.

His tor i cal and land re cords sources

Physically on the ground, identifying the location, and geographically referenced in our records are the most reliable first approach to this historical search. The first such of a kind is a historical society. We have the state or county and the first school house in the area and possibly owned by a distant cousin somewhere in Dodge County. You may be able to access the land records and find a similar record by following the steps below.

For this example, the Dodge County Land Information Office, at the courthouse in Juaneau, might be able to track this historical search. The first such of a kind is a historical society. We have the state or county and the first school house in the area and possibly owned by a distant cousin somewhere in Dodge County. You may be able to access the land records and find a similar record by following the steps below.

Turn ing to the web

Beyond the physical channels available to do this research, there is another approach to this historical search. The first such of a kind is a historical society. We have the state or county and the first school house in the area and possibly owned by a distant cousin somewhere in Dodge County. You may be able to access the land records and find a similar record by following the steps below.

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See if you can find it...

“Cashing in” with GPS
by Bob Gurda

Coupled with the declining prices for consumer-grade GPS units, this spring’s lifting of Selective Availability (SA) by the U.S. Government has spurred the growth of a new form of outdoor recreation called geocaching.

OK, this isn’t about cash, but about a form of cache. It’s become chic to collect some interesting objects, hide them somewhere out on the land scape, and then use a web site to publish the geographic coordinates of the location.

This provides a challenge for other people to try to find the cache that you hid. What video proof that some one found your cache? How about a digital photograph, sent to you by e-mail?

Try a web search for “Geocache”, and you’ll be on your way (but no snipe hunts, okay?).
The following (all of which are incorrect):
dangerous."
field, yet the topics presented involve quite technical matters.
its proprietary appears to be only minimally educated in the
words mud dies an explanation that could be crystal clear.
cases the statements technically aren’t false but poor choice of
One site which was brought to our attention contains all sorts of
in a fairly narrow technical realm like mapping.
our office brought home just how careful you need to be—even
you ought to begin wondering. A couple of recent experiences in
liveshould be obvious on a site, else
at attention to the credentials of those who provide web sites to
is no longer economically critical.
by surfing the web, yet what’s out there doesn’t all meet the
are working hard to educate their students to evaluate the cre-
tal standards of what we used to be able to assume was reliable in
A recent major newspaper article revealed that school teachers
eral things on which a coordinate system is based). NAD 83 (up through 1982) was based en tirely on sat el-
lites. (?)
An other site we ran across states that “a da tum is a co or di-
nate system.” (Of course, the way these terms are usually
One site in question would lead one to believe the
cred men tials of those who provide web sites to the pub lic.
liber is no longer economically critical.
As a result, you—the web page viewer—need to pay close
at 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 to be wondering. A couple of recent examples in
our office brought home just how careful you need to be—even
in a fairly narrow technical field.

Wel come 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 in no central web
surfers. Even typically, the presence over sight role of the pub lisher
is no longer economically critical.

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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 to be wondering. A couple of recent examples in
our office brought home just how careful you need to be—even
in a fairly narrow technical field.

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
prove facts, and does a reasonable job in many ways but also
contains too many statements that are false. In some other
cases the statements lack credibility but poor choice of
words may die 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
proponent appears to be only minimally educated in the
field, yet the topics presented in volve quite technical matters.
Maybe this is a case of that old maxim “a little knowl edge 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 rectan gular shape. (?)
- NAD 83 (up through 1982) was based entirely on satellite data. (?)
- The answer, of course, is both true and false. While
there is a vast amount of useful and reliable information
that may have been culled, the cost of re-printing
if errors were discovered was very high, so it was only smart
if errors were discovered was very high, so it was only smart
...
Grass roots initiative maps sustainable practices

Green Maps feature the green sides of cities

by Anna Weitzel

Want to know where all the farmers’ market kiosks in Milwaukee County are? Or recycling centers? Take a look at the Milwaukee Green Map, either on paper or online. This map is just one of many Green Maps featuring the ecologically and culturally significant spaces within cities around the world.

Local maps in a global context

The mission of each Green Map project is to highlight the connections between open space and human-designed features in an urban environment. In this way, the maps celebrate a city’s natural and social resources.

Also, they address local needs within the context of sound environmental practices. For example, on Milwaukee’s Green Map you will find thrift shops (for recycled goods), community gardens, and bike trails. The maps not only point to specific resources but also present a general picture of how far a city has come in its ecological and social efforts.

The Green Maps System (GMS) is the framework upon which over 100 of these local map projects have been started. Volunteers in the community direct the research, design, and publishing of the map, often enlisting the help of school children and other local organizations. In turn, the GMS provides the mapmakers with some guidance and tools to get started. One such tool is a set of map icons depicting various resources from scenic vistas to stores selling reused products, and other ecologically significant areas like wetlands and Superfund sites.

Green Maps in Wisconsin

The Milwaukee Green Map project was started in 1997 and was led by Matt Groshek of Education Design Link. You can see a simple scanned version of the map at www.wisconline.com/greenmap/milwaukee/. Clicking on any of the icons on the image map will take you to a description of that resource.

According to the Green Maps System site, there are projects underway in Madison and Racine as well. Visit www.greenmap.com to learn more about the Green Maps System and link to mapping projects around the world.

Volunteers assist remote lake analysis, continued from page 7

Part of a regional initiative

The Satellite Lake Observatory Initiative (SLOI) is part of the Upper Midwest Regional Earth Science Applications Center. That center, funded by NASA, involves universities in Wisconsin, Minnesota, and Michigan. SLOI is co-directed by the Environmental Remote Sensing Center at UW-Madison.

For the full story, including sample images and analysis, visit the SLOI web site at bidris.ersc.wisc.edu/sloi/pub/. (source: Wisconsin 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 every day layer in their GIS systems, the demand will grow for sharper and updated images. At the same time, tools for processing and handling DOPs are getting better.

A major trend is emerging: em powering 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 historic 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 terrain cover from the photos, so we’ll have a series of maps over time.

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

Soft ware to do the differential rectification that converts a scanned aerial photo into a DOP has always been quite expensive—some times over $100,000. Yet cause we could n’t afford t o 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 typ ically 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 cam era 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 reproducible from the older flights.

Until there is some company 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 pro ided it free to any one in the university.

I see the primary market as people who want to either convert their digital photos into DOPs, or 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 process a DEM from one on digital navigation systems to another, and a digital DOPQ 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 te tabish the orientation, and 15 minutes for post processing (all based on a 25-micron scanning resolution). The program will also handle multiple image sets in a strip or block; the ad just men t takes about 1 minute per im age. After that, you can produce in di vidual im ages and then make them together.

This kind of per for mance re quires a rela tively fast com puter, and lots of RAM is im por tant. But, this is no lon ger out of reach for many organizations.

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

Satellite imagery has re ceived a lot of at ten tion, but un til there is some com petition in the mar ket place we won’t know what the real cost is going to be.

At the same time, large for mat dig ital cam eras are be ing built, and with on-board GPS and in ter tial nav i gation sys tems we can nail down the orientation of the camera. Fur ther, LIDAR may be come a prac ti cal way to col lect ter rain in for ma tion at the same time. From that kind of technology package we may see systems that can collect and process dig ital images very quickly.

What is your opinion of image compression?

It can be very helpful by sav ing lots of disk space. How ever, not only does it slow down processing, but it tends to soften some important things in an image. For making new DOPs, people should use un compressed 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 re for mat is su cient to keep metadata. We need to track the lin eage of these images files so the people will un der stand what they are looking at. Short of some fancy sys tem to han dle the track ing, the im portant thing is to keep good records. I’ll be in ter ested to see the re suits of the DOP cat aloging project that your office is starting to work on.

Fall, 2000
**Q:** What old maps of Wisconsin are easily available?

**A:** By doing 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 State 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 office in Madison at 608/264-6565.

We have just heard of another source for early maps of the Wisconsin area. It’s a website that is part of a genealogy network. Make a visit and you can view and print a diverse set of Wisconsin area maps. It’s a website that is part of a genealogy network, and is certainly worth a visit for those wanting to see maps of 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 larger than the region that includes Wisconsin. Visit this site at www.rootsweb.com/~usgenweb/maps/wisconsin/.

**Q:** The Brown County Coordinate System—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 contract for the Wisconsin Department 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 establish a new coordinate system.

Had there been no pre-existing county Coordinate System in use in Brown County, the DOT project would have created a new Coordinate System from the beginning.

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.

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**Land Cover......continued from page 5**

The new national data base 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 satellite imagery that has a cell size of 30 meters. The Wisconsin coordinate system has, at its most de-tailed level, about 50% more categories than the national product uses a variety of existing spatial data bases (e.g., census and wetlands) to create the classification, and then uses moderate-high-altitude, leaf-off NAPP aerial photo to graphs 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 have used the WISCLAND effort. 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 Preliminary Land Cover Data (NLCD) program. 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](http://www.dnr.state.wi.us/org/at/et/geo/data/wlc.htm)
Web site to get overhaul

by Anna Weitzel

If you have visited our web site’s History of the SCO page, you know that in 1994 we introduced an electronic bulletin board containing mostly in for mation on maps. That DOS-based system was the precursor to our web site which went on line in 1996. Since then, many pages and sections have been added, but the gener al structure and de sign of the site has remained the same. Now we’ve de cided to make some ma jor changes.

Not only has web technology ad vanced greatly since 1996, but the dis cus sion about good de sign and com muni ca tion has be come as wide spread as the web it self. Here at the SCO we’ve been gradu ally learning these new tech nolo gies and, more re cently, dis cussing 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 appear in the stages.

In the mean time...

With the help of civil en gi neer ing grad u ate stu dents Chris tie Miller, we have re vised our pages about the Global Po si tioning 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 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

SCO Grad Assistants Line-up

by AJ Wortley

With au tumn in full swing, two new grad u ate stu dents have set tled in to their pro ject 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 dents Tara Roffler, from the IES/Water shed Man age ment Pro gram. Woody and Tara joined the WISCLINC staff in Sep tem ber to work on the clear ing house pro ject as we com plete our ini tial con tract for work in this area.

Tara Roffler has since been pre lim i nary work on the new SCO pro ject: Wis con sin Digital Ortho photo 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 dents as they sup port our pro ject-based work and sup ply di verse in sight into new so lu tions.

Keeping in touch with prog ress

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

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 El e va tion Pro gram, the Western Governor’s As soci ation Ca das tral Data Ini ti ative, 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 sp onsoring a ser ies of four work shops in volving 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.

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New stu dent staff as sumes du ties

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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 pro vide 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/scopub) 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.

Familiar DOT product now on the web

by Bob Gurda

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

These county maps are not in a GIS or CAD for mat. They owe their heritage to earlier days of cartography when maps were drafted by hand and printed with black ink on white paper. These pdf 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.

Gift book 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 map ping. 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 Ambrosiaks’ 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, 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.


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

Version 1.7 in the works

Wisconsin Mapping Bulletin

by Bob Gurda

The coordinate conversion software package WISCON is under going an eighth minor upgrade. Version 1.7 may be available in the next few months.

WISCON transforms coordinates of points and lines from any of the commonly used coordinate systems in Wisconsin in cluding all of the county coordinate systems. WISCON uses the hori zontal datum 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 or der 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 access the downloadable software.
People & Organizations

Halvorsen, Hempel take new roles

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 National Mapping Program. 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 being 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.

Sandsness steps down

WLIG 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 Wiscon Land Re cords Com mit tee in the 1980’s. The Land Records Committee conducted much of the study and developed records on men and things that lead to the creation of the Board and the Land Information Program.

Group drafts organizational plan

Structure for GeoData Alliance proposed

by Bob Gurda

It’s a nice idea: Get everybody to gather 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 last 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”).

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) Pro file, FGDC-STD-002.7-2000. The FGDC endorsed the SDTS CADD Pro file in March 2000; however, the standard has only recently been published for distribution.

The SDTS CADD Pro file supports exchange of geospatial data contained within CADD systems with other geoprocessing systems. CADD software makes up a large portion of the Geo graphic Information System (GIS) market place. 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.

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

(source: FGDC)

Suppports data exchange between systems

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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 been published for distribution.

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(source: FGDC)
**Digital orthos for every one**

**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 Thurs day & Fri day, **December 7 & 8**. This quarterly meeting is being co-sponsored by the Wisconsin Chapter of the Geospatial Information & Technology Association (GITA). As always, any one is welcome to attend.

**Full-day work shop**

On Thurs day, December 7th, a full-day work shop will be held on “Digital Orthos – 2nd Generation” addressing the technical issues related to integrating, re-placing, and updating older orthophotos with newer ones. Additional topics to be covered in clude: emerging approaches, DEM’s/DTM’s, cost con siderations, metadata for access and distribution, size and compression, using satellite imagery, and change detection.

Through a group exercise at ten dees will an alyze various digital orthopho tographs 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 Thurs day 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. Pre-sen tations will also in clude how a variety of people can use digital orthophotos for many purposes. This event is free and open to non-members.

**Information galore on Friday**

The next morning’s pro gram ($25 WLIA/GITA member, $35 non-member, and in cludes lunch) be gins with up dates on WLIS, grants, and state budget initiatives. Fol low ing will be a pre-sen tation from Wisconsin Department of Natural Resources (DNR) outlining the pro posed changes to the Wisconsin Wetlands Inventory Program and a pre-sen tation from Wisconsin DOT explain ing the Height Modernization Program.

A lively dis cus sion on digital orthophotos addressing top ics related to: cost recovery/maintenance, compression, resolution vs. cost, and fund ing/cost sharing will be shared through a panel with audience participation.

The meet ing will con clude 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](http://www.wlia.org).

**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 organiza tions, GIS Day is intended to inform and educate the uninformed. From Aas (in Norway) to Zwijndrecht (in the Netherlands), all sorts of individual events worldwide 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 events, visit the GIS Day website at [www.GISDay.com](http://www.GISDay.com). You can search by country, city, key word, or industry.
No vem ber 15, 2000, GIS Day - spon sored by the Na tional Geo graphic So ciety, the As soci ation of Amer i can Geo graphers, and En vi ron mental Sys tems Re search In sti tute to pro mote aware ness of how GIS is used to deal with real-world ap pli ca tions within schools, busi nesses, and the gen eral pub lic. Visit www.gisday.com.

De cem ber 1-4, 2000, Amer i can So ci ety for Pho to gram me try & Re mote Sensing and Amer i can Con gress on Sur vey ing and Map ping Fall Con fer ence will be held in Pro v idence, RI. Con tact: Tem perence Bat tee at 301/493-0290, ext. 106 or vis it www.asprs.org.

De cem ber 6-8, 2000, Wis con sin Land & Water Con ver sa tion As soci a tion (WLWCA) 47th An nual Con fer ence will be held at the Ram ada Con fer ence Cen ter in Waus au, WI. Visit www.execpc.com/~wlwca/wlwcacon.html.

De cem ber 7-8, 2000, Wis con sin Land In for ma tion As soci a tion Quar terly Meet ing will be co-spon sored by GITA and held at the Gov ernor Dodge Mo tor Inn, Platteville, WI. Con tact: WLIA at 800/344-0421 or vis it www.wlia.org.

De cem ber 19-20, 2000, Land Use Plan ning, Smart Growth & Data Ac cess Using GIS Work shop will be of fered by the Land In for ma tion & Com puter Graph ics Fa cility at UW-Madi son, WI. Visit www.lic.wisc.edu/training.htm.

2001

Jan u ary 8-11, 2001, Co astal GeoTools ‘01 will be held in Char le ston, SC. E-mail geotools@noaa.gov or vis it www.csc.noaa.gov/GeoTools/

Jan u ary 24-26, 2001, The Wis con sin So ci ety of Land Sur vey ors An nual In sti tute will be held at the Hol i day Inn in Stevens Point, WI. Call 414/549-1533.

Feb ru ary 27-March 3, 2001, the As soci a tion of Amer i can Geo graphers will hold their an nual meet ing in New York City at the New York Hilton. Visit their web site at www.aag.org.

Feb ru ary 28-March 2, 2001, The Wis con sin Land In for ma tion As soci a tion (WLIA) 13th An nual Con fer ence will be held at the Rad is son Inn in La Crosse, WI. Con tact WLIA at 800/344-0421 or vis it www.wlia.org.

March 4-7, 2001, The Geospa tial In for ma tion and Tech nol ogy As soci a tion will hold its an nual con fer ence at the San Diego Con ven tion Cen ter in San Diego, CA. Con tact GITA at 303/337-0513 or vis it www.gita.org.

March 17-21, 2001, Amer i can Con gress on Sur vey ing & Map ping Spring Con fer ence will be held at the Ri vi era Ho tel & Ca sino in Las Ve gas, NV. Vis it www.acsm.net/spring01.html.

April 18-19, 2001, GIS in Illi nois Spring Con fer ence will be held in Ur bana, IL. Con tact: ILGISA at 815/753-0923 or vis it www.crrgis.illinois.edu/ilgisaa.

April 23-27, 2001, Amer i can So ci ety for Pho to gram me try & Re mote Sensing An nual Con fer ence will be held in St. Louis, MO. Con tact: Tem perence Bat tee at 301/493-0290, ext. 106 or vis it www.asprs.org.

14th An nual Meet ing Set for Spring

La Crosse to host WLIA Con fer ence

by Brenda Hemstead

The Wis con sin Land In for ma tion As soci a tion will hold its 2001 An nual Con fer ence at the La Crosse Con ven tion Cen ter & Rad is son Ho tel from Feb ru ary 27 to March 2, 2001. At ten dance is ex pected to be over 600.

The theme is The Land Re cords Story: To Your Com mu nity....and Beyond! Over the past few years, the land in for ma tion sys tems have ma tured into us able tools for all lev els of gov ern ment and so ci ety.

Workshops

Work shops will be held Tues day, Feb ru ary 27—the day prior to the open ing of the con fer ence proper. Each work shop of fers an in-depth look at a topic or a hands-on tech nol ogy ex pe ri ence. Work shops are ar ranged as half or full-day ses sions.

Tech ni cal Ses sions

Tech ni cal ses sions are where mem bers share in for ma tion. This year the ses sions will run on Wednes day, Feb ru ary 28 and Thurs day, March 1. The pre sen ta tions will be or ga nized in four ar eas: Or ga ni za tions & Policy, Applica tions, Tech no logy and Data, and Ven dors.

Vendor Ex hibits

Dozens of or ga ni za tions will be there to show and ex plain the lat est in soft ware, hard ware, data con ver sion and con sul ting.

Poster Con test

Posters will be on dis play through out the con fer ence with awards given to the best in six cat e gories: base map, small for mat map, the matic map, map poster, ortho-based map, and black-and-white map.

For fur ther ques tions con cern ing the con fer ence or con tacts Jim John stone, WLIA Con fer ence Chair per son at 715/485-9170 or email at land info@co.polk.wi.us or Ann Barrett, WLIA Ex ecutive Ser vices Man ager at 800/344-0421 or email at abarrett@uniontel.net or visit WLIA’s web site at www.wlia.org.

To see a more ex ten sive cal en dar of re gional events, and to use hot links to other cal en dars, visit the SCO website.
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 Hemplstead, 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 website 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 the WISCLINC Web site...

A second Internet resource is the online Wisconsin Land Information Clearinghouse (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.