ILLINOIS GIS NOTES

DeKalb County Government GIS

Where We've Been and Where We're Going

By Joan Berkes-Hanson

In the last *Illinois GIS Notes,* then-President Gail Krmenec challenged members to share their experiences, insights, and some of their GIS project "do's and don'ts" with other ILGISA members. As DeKalb County Government prepares to roll out its Enterprise GIS, this article highlights the major components of its development and implementation. We review the "road" DeKalb County has traveled and highlight "points of interest," including accuracy and staffing issues, user-requested "side trips," and Internet access.

When DeKalb County Government set out to build a geographic information system, we were equipped with the equivalent of the basics of a "road plan." We knew our starting point:

- We had a paper mapping system for all 33,000+ parcels in the county that we maintained internally;

- We had agreement among the Planning, County Clerk & Recorder, Administration, and Supervisor of Assessments departments that sharing information—especially digital information—was a good thing;

- Our largest municipality, the City of DeKalb, was ready and eager to expand its existing digital map to a GIS;

- We recognized the benefits of an updated digital soil survey; and last, but certainly not least,

- While we were building our GIS, we wanted to simultaneously develop a new county-wide property tax program/application.

Inside this issue...

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Evanston GIS on the Internet
How We Host Our Own Website

By Pat Keegan

GIS-enabled websites have seen tremendous growth over the past few years. It is very easy to understand the benefits a GIS site offers, but it is not so easy to understand how to make it happen. This article briefly presents why the City of Evanston decided to maintain its own website and how we did it.

In 1999 the City of Evanston had a strong desire to have a municipal Internet presence. We already had a great deal of success with an Intranet and felt we could provide many city services and a wealth of information with a customizable and flexible website. It quickly became evident that this would require easy access to a web server and would also require the web server to have access to our internal network.

For example, we wanted people to be able to retrieve the land use and historical landmark status for any property. This requires a GIS application to locate a property and then access our internal city database where we maintain the attribute information. If we were to use a web hosting company, we would have to copy our database and geography to a remote server every time the information changed.

The Editor's Corner

By Ruth Anne Tobias

ILGISA's new website is now up and running—and very nice it is too! Click on over and take a look!

The association has three good ways to communicate with members and the rest of the world interested in GIS happenings in Illinois:

- Our conferences/workshops in the spring and fall
- Our newsletter in the winter and summer
- Our new and improved website at **www.ilgisa.org**

We hope that the membership will enjoy all three, and that each will contribute to members' knowledge about what's hot in GIS. We hope to reach prospective members as well, and to promote growth in numbers of practitioners and participants in GIS activities throughout Illinois—already tied for second among the 50 states in the advanced use of GIS technology.

Our conferences and workshops are our primary learning experiences. They are a chance for the association to bring in experts to help practitioners focus on what's new, and to let our members who have had interesting and useful experiences tell the rest what they did and how they did it.

Our newsletter serves as a venue for case studies, educational columns, and tips for success that the membership can use in their own GIS work. It also provides information, ideas, and contacts for those practitioners who have not been able to attend a conference.

And our website will be our gateway to the larger world of GIS users, as well as an internal organ for member information. It will always be a work in progress, but we plan to use it to provide conference registration and overviews; information about our board members and other important people; and links to useful GIS sites. For members only, we may have membership lists, and perhaps a bulletin board service for getting questions answered and problems solved. Let us know what you think!

Ruth Anne Tobias is Editor of Illinois GIS Notes and a Research Associate with the Center for Governmental Studies at Northern Illinois University.

Visit ILGISA's New Website at www.ilgisa.org

By Jim Carter

Thanks to the work of Jim Bash, ILGISA had a website for many years through CAGIS at the University of Illinois, Chicago. For many reasons it was time to leave that site and move on.

Last summer we purchased the name "www.ilgisa.org." For website design assistance, we met in June with Hella Tomczak of Vision21 Enterprises, a web design firm specializing in Internet business consulting, web development, maintenance, and website hosting.

Hella is the company's principal, and brings with her 20 years of local government experience, both in management and technology.

It was a productive meeting, and we contracted with her to design and maintain our pages. Hella came to the Fall 2001 meeting to learn more about us.

I have been our liaison with her, having written many of the original pages, and have built on those pages to create the new ones.

The ILGISA Welcome page comes up with a composite image reflecting our many interests. A navigation bar allows viewers to click on *About Us*, *Services*, and *Links*. Under these buttons we have details about the organization and how to become a member, access to relevant forms, details on future conferences, and details about the current board and our committees.

Also accessible is a narrative describing our history, a timeline giving an overview of every meeting since 1990, an index of all issues of *Illinois MapNotes* and *Illinois GIS and MapNotes*, and links to relevant pages.

We want our links to be to GIS sites related to Illinois, but we need help identifying additional links that should be on our pages. To build and maintain pages with many links requires a dedicated individual—we are still looking for that individual. Is that you?

These pages will never be finished, for there is always more that can be done. Should we have a members-only section? If so, what should it contain? How do you limit access to those who are current members? Should we post a membership directory for the public? Would you want your name and address there for everyone to see? Should we implement a Sustaining Members program and let those members have a special presence on our site? Good questions for the future. But for now, let's relish our new image.

Dr. Jim Carter is a professor of geography at Illinois State University and a past President of ILGISA.

If we hosted our own site, we could access the live information. This knowledge (and the fact that it would be really cool to have our own web server) led to the decision to host our own website.
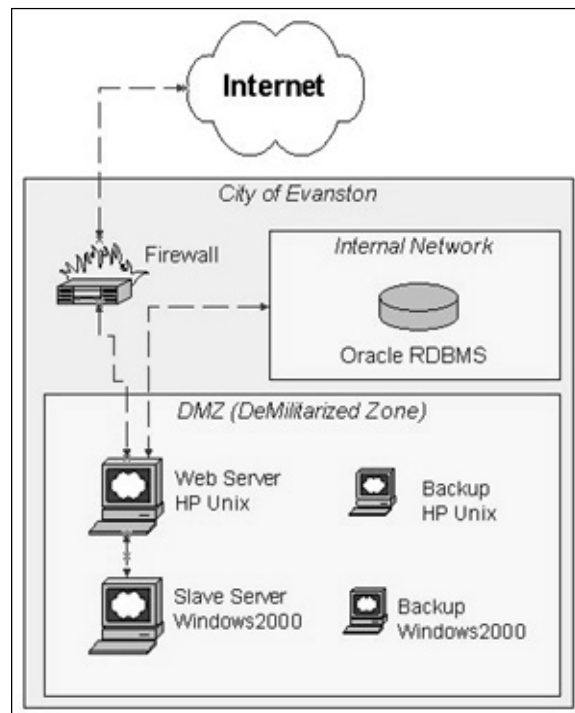
The most serious downside to hosting a site is the skill sets needed to pull it off properly. Our configuration called for a network administrator, a Unix web administrator, a Windows web administrator, a web developer, and most importantly, a map developer. Months went into designing, configuring, securing, and assembling our site before we had anything to show for it.

We had experience administering both Unix and Microsoft servers and were very reluctant to use Microsoft servers. Our internal Microsoft web servers had to be rebooted often, and we were leery of their security. However, we realized that many of the services we wanted to provide required the Microsoft environment, and other services were simply easier to produce on a Windows box.

Our Unix administrator had experience successfully securing Unix servers so we decided on a proxy Unix/Microsoft configuration (see schematic). This way, the highly secure and stable Unix server is on the front line and the Windows server is placed in a supporting role and only used when needed. The Unix box directly handles all requests, which in turn is the only machine that can make requests to the Windows box. The end user never has the opportunity to interact with the Windows server.

Of the four computers needed, we felt only the main Windows box needed to be powerful. We were able to reuse two old Unix boxes that ran our GIS software back in the command-line days and purchase one new Windows server.

Although we have taken much action to prevent attacks, we know the hackers are much smarter than we are. We have prepared for this with a backup line of web servers waiting to replace the front line

Internet

City of Evanston

Firewall

Internal Network

Oracle RDBMS

DMZ (DeMilitarized Zone)

Web Server HP Unix

Backup HP Unix

Slave Server Windows2000

Backup Windows2000

and by saving full server images on tape periodically. We also monitor our servers and network with a bit of paranoia. Apache provides an error log, which documents all unsuccessful requests, and Internet Information Server (IIS) creates a log file of all requests. Both of these are emailed to the administrators every morning and manually reviewed for suspicious patterns.

We were very surprised our 7-year-old Unix box could handle all the traffic. It has been extremely stable and provides

reasonable performance. Our Windows box is very focused on mapping, providing about 10 different map services. It can handle most map requests quickly but will bog down to a 6-second response time on large ortho-photography requests.

We also learned how important security is. We have uncovered trails left by multiple attackers who were trying to gain access to our servers. We also receive up to 5000 virus attacks per day that originate from other infected machines on the Internet. Luckily for us, most of the viruses are attacking Windows machines and our frontline Unix server stops them. I found the "IIS 5.0 Security Checklist" and the "URLScan Security Tool" to be extremely helpful tools in securing Microsoft web servers (available on Microsoft's website).

We were most surprised by the city's desire to provide endless web services, which require a wide variety of technologies to be used on the server. For example, we prototyped an application to allow Internet-enabled cell phones to retrieve the boot eligibility of cars. This required a Java program to access an internal database and modification of the web server to handle Wireless Markup Language content.

In hindsight, we had a larger-than-average up-front investment to set up our site. However, it is proving to be beneficial based on the ease with which we can add new technologies and the ease of maintaining and monitoring our site at **www.cityofevanston.org**.

Pat Keegan is GIS Manager for the City of Evanston.

(continued from page 1)

As we prepared to make the first leg of our road trip, we had high expectations. County administrators decided that the project would be managed internally by one full-time GIS Coordinator reporting to the Finance Committee of the County Board (rather than a single existing department). The GIS Coordinator was essentially the "chauffeur," charged with driving all users and their departments' needs to their destinations.

Throughout the trip, the GIS Coordinator was to balance the demands of internal users while keeping an eye on the larger view of the DeKalb County community, including municipalities, schools, emergency responders, and other agencies and organizations.

It was also agreed that consultants would be used for advice on major issues, and that we would complete the bulk of the work internally. A GIS Committee composed of department heads would provide input and direction to the GIS Coordinator.

As clear as we were about the load of expectations we were carrying—we were also clear about our final destination. The mission that was to be accomplished while traveling the road to GIS in DeKalb County was to build "the best GIS in Illinois." One simple goal. One hundred twenty-five thousand dollars were appropriated and—nearly seven years ago—the journey began. It was a smooth ride...

...for about a week. Then someone asked, "How accurate a GIS should we create?"

We checked our road map. It referred us to the owner's manual.

We found information on the relationship between cost and accuracy—we knew that "more accurate" meant "more money," but there were no clear answers. We found references to the accuracy of tax parcel maps, but not to GIS. We looked to our history for an answer. While we knew our paper maps, when laid side-by-side, were not a geographically perfect match, we knew the text and attribute information on those maps was *very* accurate.

We also knew that if we drew every parcel of land based upon the legal descriptions on file in our Recorder's Office dating to the mid-1800s, we would either occupy our neighboring counties' land or fall short of our own county's boundaries—or both.

With an eye on both cost and time, we heeded the advice of a GIS expert. We built a control network for the production of our orthophotos: 30 surveyed control points plus the subsequent GPS occupation of all monumented section corners.

After scanning all of our paper maps, we fitted the raster images over our digital orthophoto base utilizing our control network and known section points for "anchors." Having settled our accuracy issues, we were back to a smooth ride...

...for about another week. Then the trip's challenges turned to staffing. As we moved through the process of converting raster images to vector lines, our greatest challenge was attracting and retaining employees willing

to work enough part-time hours at the hourly wage we offered to move the project forward at the pace we wanted.

We benefited from a diverse workforce including high school and college students, professionals, work-at-home moms, and retirees. But DeKalb County data conversion was not their primary or full-time focus—we competed with school, work, and other activities.

Recognizing the need to accelerate our pace, we sought to outsource a portion of the annotation of our maps. The vendor charged us on a per-parcel basis, which prompted us to offer our part-time employees the same payment option.

When we changed to a per-parcel payment method, our in-house productivity soared. Employees were able to double their income while our expenses remained less than half the cost of out-sourcing.

On the "road to GIS", DeKalb County opted to conduct its own needs assessment study. The money it saved was directed to the acquisition of digital orthophotos that became the GIS base layer.

Thus began one of the most focused legs of our trip. We put our heads down and concentrated solely on converting our data to a digital form...

...for about a week. Then one of the passengers said: "Let's not wait until we get to our final destination to start using GIS, let's use it now in its 'not-done-yet' form."

That desire—to share digital data from the earliest stages of our project development—prompted

a series of "side trips" for our GIS vehicle. Although we did not have all of our parcel-level data converted, we did have street centerlines. Those centerlines

Approximately 90% of DeKalb County's data conversion was completed in-house by temporary, part-time employees.

enabled us to produce precinct maps for the elections office and municipal maps with street indexes for home health nurses.

When our Sheriff's Office saw our "Home Health Maps," they ordered a set for every squad car. Then our county's fire protection districts saw the maps, and they ordered several sets, then the public saw our maps...

We now have an official "road-side stand" offering the hot-selling, notebook-bound *DeKalb County Street & Road Guide*. Pure GIS? Not exactly. A worthwhile side road taken to share geographic data? Absolutely.

Another side trip for DeKalb County's GIS office was coordination of the expansion of the county's local-area network into a wide-area network to connect more than 250 county users via fiber backbone. What emerged was a department that supports, both in terms of hardware and software, the sharing of information. Again, a significant stretch for GIS—but certainly a benefit to the county.

Additional significant side trips include our census-driven county board redistricting project; the identification of "safe zones" where registered sex offenders may not live; and the expansion of our GIS data to include the

display of individual ground photos of buildings (the capture of which has been a multi-summer "foot-trail adventure" for students and retirees).

So as not to be detained by our side trips, and to maintain forward movement of our overall goals, we've formed project-based intergovernmental agreements with the Northern Illinois University Geography Department. We've also tapped into the university's significant pool of talented graduates to staff our office. We created the position of GIS Analyst after we were well along the road. The addition of "driver-capable" talent mid-way through our journey has enabled us to consider alternate routes to our destination.

One such route is the method we will use to serve data to our users. When we first began our trip, we had hopes of including *all* of our users. However, our vendor's advice was to identify only a

select group to eventually "view" our data and to budget for the purchase of "viewer" software for each of those users. In addition to the viewer software, the select group would need training in order to use the product.

Not deterred by this potential limited-access "road block," we plodded along. During the years of our plodding (and many side trips), our vendor developed software to enable viewers to access GIS data via their Internet browsers.

This major shift of emphasis— from effort and expense at the viewer's end to configuration and design on the "server" end—has changed the type of road on which we are traveling. With minimal training and expense, the talent and hard work of DeKalb County GIS staff has transformed the two- to four-lane road on which we were traveling into an infinite-lane highway with
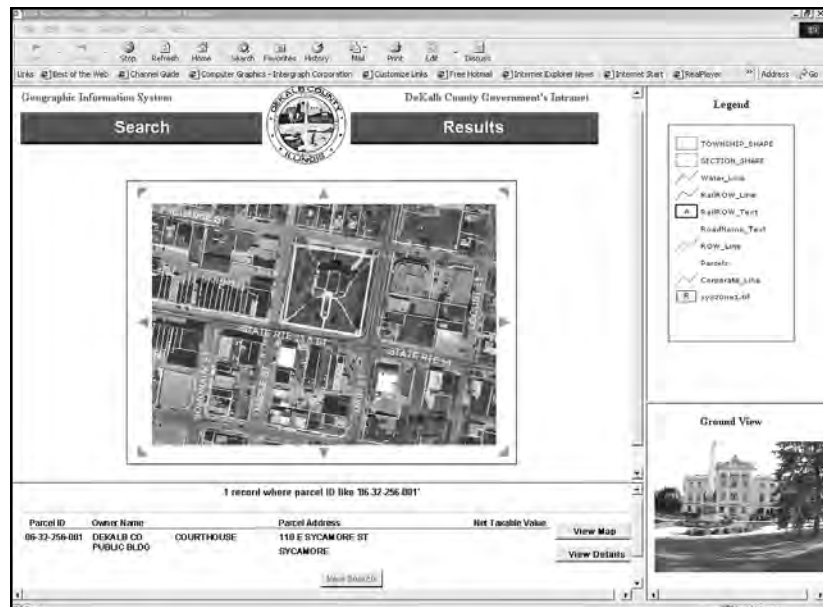
A simple initial search screen will greet users and allow them to enter specific information they want to display. This screen capture displays both ground and aerial photos of the DeKalb County Courthouse.

For Your Information...

Vertical Datums in Illinois

By Chris Pearson and Case Grintjes

> *Have you ever considered what it means to say that Charles Mound, the highest peak in Illinois, has a height of 1235 feet? Where is this measured from?*

How do we define zero height or zero elevation?

The zero surface to which elevations or heights are referred is called a **vertical datum**. Traditionally, surveyors used the average (or mean) sea level as the definition of zero elevation, because the sea surface is available worldwide.

Mean sea level (MSL) is determined by continuously measuring the rise and fall of the ocean at "tide gauge stations" on seacoasts for a period of about 19 years. This averages out the highs and lows of the tides caused by the changing effects of the gravitational forces from the sun and moon which produce the tides. **Mean sea level** then, is defined as *the zero elevation for a local or regional area.*

Fine, but what do we do in Illinois, where we are a long way from the sea coast?

Away from the coast there is no tangible surface of the ocean from which to measure height, so here we introduce the concept of a geoid. A **geoid** is *a surface where all objects have the same potential energy as they would for global mean sea level*. We cannot directly see the geoid surface, but we can map it under the continent by using spirit leveling, which allows surveyors to connect two points with the same potential energy.

How can we use the geoid as a reference surface for measuring elevation?

There are two main reference surfaces currently in use in the United States. Both attempt to follow the geoid in continental areas and give us a system of benchmarks with known heights that we can tie surveys into. The two surfaces are the National Geodetic Vertical Datum of 1929 (NGVD29) and the North American Vertical Datum of 1988 (NAVD88).

What are NGVD29 and NAVD88?

The major difference between them is that in NGVD29, a mean sea level from a total of 26 tide gages was held fixed all the way around the coast of the contiguous 48 states. In NAVD88 mean sea level was determined at only one point, Fathers Point in Quebec. This change was introduced to prevent local variations in mean sea level relative to the geoid from introducing errors into the vertical datum.

These differences can be quite substantial. Local mean sea level on the west coast is about 1m above the geoid; on the east coast it is 10-20 cm below. This appears to be caused by the effects of prevailing westerly winds, which pile water on the west side of North America causing local sea level to be high, while blowing water away from the east coast, causing sea level to be low.

New Illinois State Geodetic Advisor

Chris Pearson took the position of National Geological Survey (NGS) Illinois State Geodetic Advisor in June 2001. As Geodetic Advisor Chris advises and assists in the field of geodetic surveying, monument control, and the NGS database of control monuments in the state of Illinois.

During the last few years Chris has worked in New Zealand, where he was involved in environmental and engineering applications of GPS and GIS. He became the only New Zealand GPS-certified trainer.

Chris has extensive experience with all aspects of GPS, from differential GPS for mapping and GIS input to static and kinematic techniques for accurate (sub-cm) positioning. He has worked with numerous organizations in the public and private sectors.

Chris has a PhD from the University of Otago, New Zealand in the area of earth deformation measurements. He did a year of post-doctorate work in GPS processing at Columbia University in New York.

Another difference between NGVD29 and NAVD88 is the amount of leveling used in the adjustments. A total of 106,000 km of leveling data were used for NGVD29 while a little over 1 million km were used in the NAVD88 adjustment.

How do I convert between NGVD29 and NAVD88?

Because of the distortions introduced in NGVD29 by holding multiple tide gages fixed, it is warped in a complex way with respect to NAVD88. As a result there is no simple equation relating the two vertical datums. VERTCON, a free program at http://www.ngs.noaa.gov/ TOOLS/Vertcon/vertcon.html, can be used to convert them.

Figure 1 shows a contour map of the differences between NGVD29 and NAVD88. Note that in Illinois the difference between the two systems is quite small compared to farther west where the difference is well over 1m.

So going back to Charles Mound... There are two surfaces from which its height can be measured, and each reference surface will produce a different
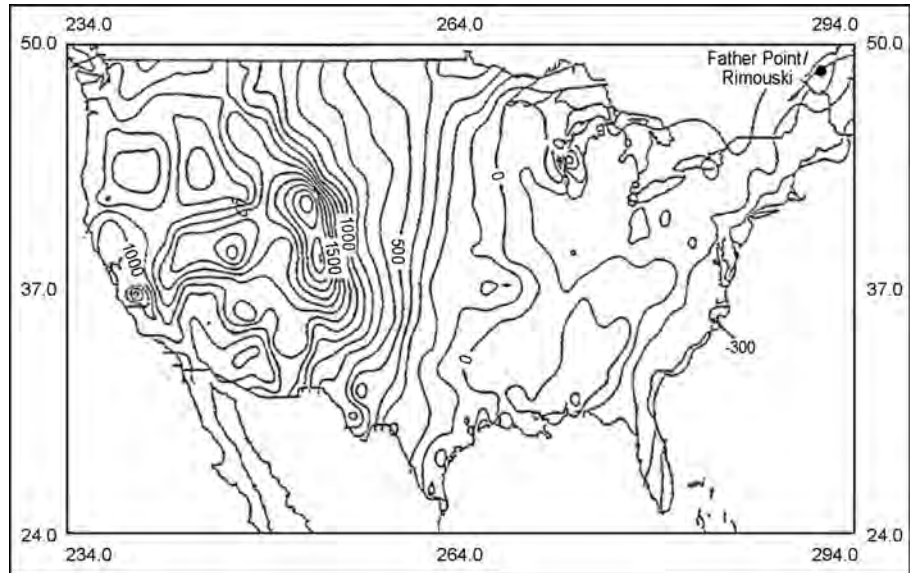
Figure 1. Contour map showing height difference between NGVD29 and NAVD88. (units=mm)

height. As users of geographic data it is up to us to ensure that we know to which reference surfaces all of our heights are referenced. Unfortunately, both systems are currently in use. While the National Geodetic Survey and the State of Illinois have shifted over to NAVD88, many local jurisdictions continue to use NGVD29.

Chris Pearson (Chris.Pearson@noaa.gov) is NGS Geodetic Advisor for Illinois (217-524-4890). Case Grintjes (grintjescj@nt.dot.state.il.us) is Engineer of Aerial Surveys with the Illinois Department of Transportation.

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enough "on ramps" to accommodate the entire county.

Our current model allows for a single, standardized set of data to be centrally maintained and managed. DeKalb County taxpayers will have direct, hands-on access to information via browsers in public kiosks, with Internet availability also possible.

As users become fully aware of the system's capabilities and request specialized applications, our GIS staff will customize

applications to meet their specific needs.

The success of our system will be based on two major factors:

- The ease with which our "users" become "drivers" of the system; and
- Our ability to work through existing organizational structures to keep data current and to maintain the level of data integrity we've built.

When we began our road trip, we had a vision of where we were headed. We encountered accuracy

and staffing issues, side trips, and data access issues along they way. Each of those issues enabled us to customize the trail we were traveling to accommodate unique needs. As we prepare to take a major step by serving data countywide, we anticipate new paths— and we know we'll have many more interesting stops along the way...

...probably in about a week.

Joan Berkes-Hanson is Information Management Director with DeKalb County Government (815-865-1643, jberkes-hanson@dekalbcounty.org).

Geographic Information Systems Yesterday, Today, and Tomorrow

A conversation with Adena Schutzberg

Adena Schutzberg, keynote speaker at the Fall 2001 conference, is Senior Advisor for the Ultimate Map/GIS Directory website at tenlinks.com and Editor of the online GIS newsletter, *GIS Monitor.*

Adena has ten years experience using, developing, and marketing mapping and GIS products and services. She's worked as a CAD/GIS manager in a consulting firm and held positions at ESRI and Cadcorp. She currently runs a GIS consulting business.

An industry expert, Adena draws on her knowledge and experience to discuss location-based services, CAD/GIS integration issues, and GIS on the Internet.

As Editor of the GIS Monitor, what do you see as the opportunities and challenges of publishing an email newsletter, or "e-newsletter"?

Email newsletters are great—they are quick to publish and very inexpensive compared to their print counterparts. Most come out far more often than the traditional "monthlies" we are used to in hard copy.

The frugality certainly makes the *GIS Monitor* possible—there is no postage, no printing costs, so all energy can go into content.

I love the timeliness of *GIS Monitor*. I can cover stories in real time. During the discussion of the new top-level domain, .geo, I provided running commentary right up to the ICANN decision. I covered the GIS community's role in September 11—something print publications could not hope to do.

It's almost required that GIS vendors, GIS publishers, and consultants put out a newsletter of some kind. Can you think of a company/publisher in GIS that doesn't have an electronic publication?

Some, like *GIS Monitor,* are strictly text with links to Web pages. Others are in fancy HTML with graphics and other niceties. Some are delivered in Adobe's portable document format, PDF.

The real challenge, as with any business, is bringing in revenue. Most newsletters are free and are supported by advertising.

Do you think that the GIS industry has failed at providing an increased productivity in business applications when compared with government and natural resources applications?

It's hard to say. The application of GIS to business had its heyday in the early 1990s. I was at the first GIS in Business conference held in Boston in 1993. (It was a big deal for ESRI—this was the first time we built the "new" trade show booth outside of California!) The whole education process seemed quite elementary. That show folded a few years ago, and this year the only Business GIS-focused publication closed up shop.

It seems to me that GIS for business had split to high-end business applications—including customer relationship management from the likes of SAP—and low-end applications—like Microsoft's MapPoint or Caliper's Maptitude —leaving no "middle ground."

I don't think there is a question of providing productivity, but somehow the productivity falls in a different place within the business arena than perhaps in government or natural resource management.

Location-based services (LBS) have been getting a lot of press recently, however they are not quite yet ubiquitous in the United States. What are your thoughts on the widespread adoption of location-based services in the U.S. in the near term? In the long term?

In the short term things are fairly bleak. Only one vendor made even a partial implementation to meet the FCC deadline of Oct. 1, 2001 for locating mobile phones within a reasonable distance for emergency purposes.

It's going to be a while before U.S. mobile phones know where they are. Once they do, the responsibility falls to whoever is going to market these services to businesses and consumers.

To date, I think they've focused on the wrong services. Will people actually pay to use their mobile phone as a giant yellow pages to find a pizza place? I'm not sure. Will they pay it to get help when they get a flat? I think so—look at all those AAA memberships! Will people pay to know when they are near their friends? I'm not sure. Will they pay to get updated information about the traffic on the route home? Definitely.

You began your career, after studying geography, in the computer-aided design (CAD) field. How did you make the transition into GIS?

I've got a story about CAD. I never touched CAD or GIS in school. I did however take the required cartography, statistics, and programming courses. When I started my first job, my supervisor understood that I'd make

maps. They handed me a box of AutoCAD 9 and told me I'd be using it. After a while I figured it out and really enjoyed making layouts to mark where environmental issues turned up on due diligence studies.

Moving to GIS should have been easier, but it was quite difficult. We did use a CAD-based GIS but it was a big step beyond my understanding of CAD. Even today, the "step up" is still quite significant.

What do you see in the future for the "integration" of CAD and GIS, or do you see them as mutually exclusive technologies?

CAD and GIS integration just did not make the splash we all hoped it would. The GIS companies like Intergraph and ESRI thought they'd sell lots of "add-ons" to the basic CAD packages. The CAD vendors, Autodesk and Bentley, thought that they'd grow their user bases. But the number of users never exploded. Why? I maintain that although you can in fact combine CAD and GIS, the result, at least today, is not more than the sum of the parts. Moreover, the result is far more complex than either of the parts. There is no synergy. Until we find a true synergy, CAD-based GIS will remain an "also ran."

During your keynote address to ILGISA you stated that no single thing has made GIS more visible than Internet mapping. What do you see in the future for Internet-based GIS? Do you foresee a future where virtually all GIS application functionality will be available over the Internet?

I would not be surprised if pretty much everything we do in GIS

today can be made available over the Internet. Whether it *will* or not remains to be seen. Is there a reason, for example, to have a map production application run over the Internet? I'm not sure.

The visions put forward by the Open GIS Consortium and countries trying to build a national spatial infrastructure paints end-users pulling data and services from all around the world together in a browser. I like the picture, but it sounds a long way off.

I think Internet GIS, like GIS moving to databases, will slowly become hidden in the bigger picture. Oracle and others argue that spatial data is just another data type to be put into a relational/object-oriented database.

On the Internet, spatial data may just be another data type. We are part way there, now. When you go to a website to find the nearest coffee shop, you don't need to know too much about maps, do you? It's not a new format (mostly today, it's a raster picture) but it answers the question.

Sherrie Taylor
has joined the Illinois GIS Association as the new Executive Director.

Sherrie graduated from Northern Illinois University in 1999 with a bachelor's degree in political science and a minor in statistics. Currently she is finishing a master's degree in public administration with special interest in technology and human services.

Sherrie works at the Center for Governmental Studies (CGS) where she fulfilled her internship. She is now employed full time by CGS to assist with various policy research projects, data analysis, and ILGISA activities.

ILGIC Restructured

By Sheryl Oliver

The Illinois Geographic Information Council (ILGIC) met on December 14, 2001 after an 18-month hiatus while a transitional plan was being constructed. The reason for revisiting the ILGIC structure was to provide a more effective framework for addressing geographic information technology issues and strategically implementing them statewide.

Since its inception in July 1995, ILGIC did not have the authority to put strategies into action. The situation changed when on February 19, 1999, Governor George Ryan created the Illinois Technology Office (ITO) in the Office of the Governor. The ITO works with staff from multiple state agencies and outside advisors to collaboratively define strategic directions and put new applications in use.

Mary Barber Reynolds, Chief Technology Officer for the State of Illinois, places geographic information issues as one of her top priorities for coordination and development.

Another change that took place was the retirement of Representative Tom Ryder, Co-Chair and founder of ILGIC. He has been replaced by Representative Tom Berns of the 104th District. Representative Berns fully understands ILGIC's mission—he is an engineer, surveyor, and planner—and is committed to moving geographic information activities forward in Illinois.

ILGIC has adopted a new functional model. The Steering Body of the council consists of Reynolds, ITO; Director Brent Manning, Co-Chair, DNR; Representative Berns, Co-Chair, 104th District; committee chairs; and DNR staff. The four committees are Standards, Framework, Local Government Consortium, and Clearinghouse/public access/web.

The **Standards Committee** will work with the other committees to develop guidelines and standards of various types.

The **Framework Committee** will work on how to strategically develop and maintain the basic foundation layers necessary for organizations to add their own spatial information and attributes. This committee will focus on a statewide street centerline file (ILGIC members voted to proceed with the process outlined at the December 14 meeting).

The **Local Government Consortium** will provide a forum and venue for local governments implementing GIS through outreach, initiatives, and guidelines. The committee will also collaborate with other ILGIC committees where issues affect local government.

The major challenge of the **Clearinghouse Committee** is how to populate and maintain a statewide clearinghouse of geographic information and how to serve it to an array of users.

The ILGIC website is under reconstruction but can be seen at http://dnr.state.il.us/orep/ilgic/toc.htm.

Sheryl Oliver is GIS Coordinator for the Illinois Department of Natural Resources and ILGIC User Advisory Committee Chair.

Fall 2001 Conference Review

Enthusiasm was high but attendance at the conference on Nov. 5 and 6 was down a little from last fall. Here's how the numbers stacked up against last year's event.

ILGISA Fall Conference	2000	2001
Workshop Participants	163	150
Total Participants	230	189
New member Registration	81	64
Non-member Participation	40	64
Vendors	20	24

The changing of the guard took place during lunch-time ceremonies on the second day of the conference. Gail Krmenec became ILGISA's Past President, Larry Gunderson took the helm for 2001-2002, and Ken Lovett is now the President-Elect. Newly elected board members Kingsley Allen, Nina Savar, and Zorica Nedovic-Budic were introduced and are profiled on the opposite page.

If you didn't attend the conference keynote address, you missed another dynamic speaker in Adena Schutzberg. Read this industry expert's take on where GIS has been and where it's going in her interview on page 8.

The behind-the-scenes "Master of Ceremonies" at the conference was Sherrie Taylor, ILGISA's new Executive Director, who is briefly profiled on page 9.

And don't forget—the conference location for the spring meeting is in Bloomington, Illinois this year. See you there!

Board Member Profiles

ILGISA board members are elected from the membership and serve two-year terms on the eight-member board. Kingsley Allan, Nina Savar, and Dr. Zorica Nedovic-Budic took office at the fall conference, filling the seats vacated by Jim Carter, Jim Bash, and Randall Nydegger.

Kingsley Allan is Associate Professional Scientist at the Illinois State Water Survey (ISWS) in Champaign, part of the Illinois Department of Natural Resources. His work there includes map making, modeling, and database-building projects for various state and federal agencies. He is currently making landscape animations that incorporate GIS and scientific models for the Illinois Rivers Decision Support System. Kingsley also authors and maintains a 50-page GIS help site at ISWS. Prior to joining ISWS in 1993, Kingsley worked for consulting firms in New Jersey, Idaho, and Utah. He has a Geography degree from Utah State University and is pursuing a graduate degree (off and on) at the University of Illinois.

He is a strong advocate of data sharing and helped publish the first CD-ROM of statewide GIS data for Illinois. He is also an active GIS software trainer and recipient of an ILGISA service award. An active ILGISA member, Kingsley's contributions to the organization include teaching workshops, planning sessions, and serving on the awards committee at past conferences.

He is a member of the Chicago Metropolis 2020 Technical Advisory Committee, Illinois Geographic Information Council User Advisory Committee, and Illinois Association of Floodplain and Storm-water Managers.

Nina Savar has been GIS manager for the Northeastern Illinois Planning Commission (NIPC) since 1995. Nina was hired in 1986 to process census data following post-graduate work in geography at the University of Illinois at Chicago.

Nina started NIPC's GIS program in 1988 and continues to direct the program. She has worked on many GIS projects in northeastern Illinois and on behalf of the state. With Jim Bash of UIC/CAGIS, Nina created an online metadata clearing-house and conducts ongoing federally and state-funded metadata workshops in Illinois and around the country. Nina formed and helps direct the Northeastern Illinois Arc Technology User Group, in which she organizes collaborative data efforts around TIGER and digital orthophotography and works to promote data coordination within Illinois.

Recipient of an ILGISA Service Award in 1997, Nina has been active in ILGISA since its first Illinois conference in 1990 as speaker, moderator, session organizer, poster coordinator, and workshop presenter.

Dr. Zorica Nedovic-Budic is an Associate Professor of urban planning and GIS at the University of Illinois at Urbana-Champaign. Her doctoral dissertation work examined the human and organizational factors in the implementation of GIS in local governments. Her subsequent research and teaching builds on this initial focus and continues to evolve around the issues of GIS diffusion, technology transfer, and evaluation of its impact in urban planning.

Another research area is a comparative study of urban development and planning practice. Both GIS-related and planning research interests have extended to include developing countries and countries in transition from communist to democratic and market-based regimes. Zorica has also been involved in several research projects on developing spatial data infrastructures at the local, regional, and national levels.

Zorica participates in both regional and national GIS communities. Locally, she participated in activities of the Illinois GIS Association as speaker, workshop instructor, and committee member, and she is a gubernatorial appointee to the Illinois Geographic Information Council. Nationally, she is a URISA board member, a delegate and Research Management Committee member of the University Consortium of Geographic Information Science, and is co-editor of the American Planning Association Journal's book reviews.

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Calendar of Events

February 20-23
IPLSA 45th Annual Conference
Springfield, Illinois
www.iplsa.org

April 9-10
ILGISA Spring Conference
Bloomington, Illinois
www.ilgisa.org

March 17-20
GITA XXV
Tampa, Florida
www.gita.org

November 4-5
ILGISA Fall Conference
Lisle, Illinois
www.ilgisa.org

GIS in Illinois

Fall 2001 Conference

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