

2005 FALL CONFERENCE

November 14-15, 2005


# GIS *in Illinois*



**“Kickin’ up the Heat!”**

Credit Card Registration is Available Online at [www.ilgisa.org](http://www.ilgisa.org)

## “Kickin’ up the Heat!”

The Illinois Geographic Information Systems Association will be holding its fifteenth annual fall conference on November 14-15, 2005 at the Oak Brook Marriott in Oak Brook, Illinois. The era of innovation and integration has influenced the GIS Community forcing new methodologies, solutions and creativity to keep up with this constantly demanding world in which we live. In order to prepare for the future it is necessary to analyze what to do with all this data, how should it be minated and to whom, and at what cost? This conference will help to probe those answers as well as stirring your creative side to not only sharpen your skills, but how to broaden the beneficial aspects of our profession.

Come network with your peers and exchange ideas! Sometimes the best ideas begin with a simple conversation or a single PowerPoint slide during a presentation. So don't let anything hold you back and come KICK UP THE HEAT with all your GIS colleagues!



This is the seventh ILGISA conference offering a workshop for K-12 educators across Illinois to help 'educate the educators' about GIS and GPS technologies and how they can be incorporated into the classroom. This is not a workshop for practitioners, although you are welcome to stop by and find out what the Illinois GIS Association is doing to give back to communities. Feel free to mention it to those you believe may be interested. Further information on the teacher conference can be found at: <http://www.ilgisa.org/teachers.htm>. This workshop is free of charge—the only requirement is that participants register ahead of time to reserve their seat and project materials. The GIS2GPS Team has graciously offered to provide this workshop in conjunction with our fall conference. Further information on the GIS2GPS Team can be found on their web site at <http://www.gis2gps.com>.

There will be thirty exhibitors on display with lots of goodies! There is plenty of room to visit with each of the exhibitors, along with convenient tables and good food. These conferences would not be possible without their participation, so please do spend the time with them to learn about the latest and greatest in the market today. The Poster prizes and announcements will take place within the exhibit hall.

If you have any questions, please give Sherrie Taylor a call at 815-753-0925, or send an e-mail to [taylor@niu.edu](mailto:taylor@niu.edu). We are always glad to help, and speaking for the Board of Directors and the Conference Planning Committee, we value your feedback and input on the planning of these events.

Thank you and hope to see you in November!

### The Fall 2005 Conference Planning Team

Chris McGarry, Co-Chair, Winnebago County 

Pat Keegan, Co-Chair, City of Evanston

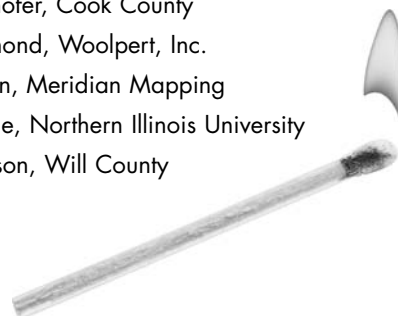
Tanya Anthofer, Cook County

Rick Hammond, Woolpert, Inc.

Bob Brutvan, Meridian Mapping

Rich Greene, Northern Illinois University

Greg Johnson, Will County



## about ILGISA

The Illinois GIS Association, a non-profit and non-commercial professional association, hosts the conference. ILGISA exists to provide GIS professionals with opportunities for sharing experiences and participating in educational programs.

## MEMBERSHIP

If you are not an ILGISA member, but would like to become a member, you can download a membership form from the ILGISA web site ([www.ilgisa.org](http://www.ilgisa.org)) and mail it in with payment of \$30.00 (\$10.00 for students with proof). Or, if you plan on attending the conference, you can register as a member and pay for your dues with your conference registration as all ILGISA members receive a reduced registration fee. If you are already a member, but are not sure of when your membership expires, please contact Jenny Gray at 815-753-0921 or [jlgray@niu.edu](mailto:jlgray@niu.edu). You can also check your membership status online at the "Members Only" area of [www.ilgisa.org](http://www.ilgisa.org). Membership entitles you to copies of the ILGISA membership directory, conference discounts and the semi-annual newsletter, *Illinois GIS Notes*.

## ACCOMMODATIONS

The conference will be held at the Oak Brook Marriott, 1401 West 22nd Street, Oak Brook, IL 60523 Room rates are \$109 plus tax for a single or double. Reservations must be made by October 31 to guarantee these rates. For reservations please call 800-228-9290 or 630-573-8555. Be sure to indicate that you are with the Illinois GIS Association to receive the discounted room rate and every room booked with the ILGISA room rate helps reduce the overall cost of the conference.

## CONFERENCE at a GLANCE

### Monday, November 14

- 8:00 – 9:00** Registration & Continental Breakfast
- 9:00 – 12:00** **Workshop:** Introduction to GIS – Full day  
**Workshop:** Field GIS for Public Works – Half day  
**Workshop:** Performance Management – Half day  
**Workshop:** Fundamentals of Map Design – Full day  
**Workshop:** GIS Quality Assurance and Quality Control – Full day  
**Workshop:** Autodesk – Half day   
**Offsite Workshop:** Using GIS for Spatial Analysis with Application Examples from Local Government, Business, and Natural Resources -  Day at NIU-Naperville Computer Lab
- 12:00 – 1:00** Lunch
- 1:00 – 4:00** **Workshop:** Introduction to GIS – Full day  
**Workshop:** ArcGIS Network Analyst – Half day  
**Workshop:** Getting Started with MapServer – Half day  
**Workshop:** Fundamentals of Map Design – Full day  
**Workshop:** GIS Quality Assurance and Quality Control – Full day  
**Offsite Workshop:** Using GIS for Spatial Analysis with Application Examples from Local Government, Business, and Natural Resources - Full Day at NIU-Naperville Computer Lab 
- 4:00 – 7:00** Poster Displays and Exhibitor Reception
- 6:00 – 7:00** Open ILGISA Board Meeting
- 7:00 – 9:00** User Group Meetings



### Tuesday, November 15

- 8:00 – 3:30** Exhibits and Poster Displays
- 8:00 – 9:00** Registration and Continental Breakfast
- 9:00 – 10:00** Opening Session
- 10:00 – 10:30** Break
- 10:30 – 11:45** Concurrent Sessions
- 12:00 – 1:15** Lunch
- 1:15 – 2:30** Concurrent Sessions
- 2:30 – 3:00** Break in the Exhibit Hall/People's Choice Poster Awards
- 3:00 – 4:00** Concurrent Sessions

# monday NOVEMBER 14

## Introduction to GIS – Full day

*Presenter: Carmi Neiger, ESRI and Greg Johnson, Will County*

Are you new to GIS? Are you having difficulty navigating the stormy seas of technology buzzwords and acronyms? Do you want a better understanding of what it takes to make GIS work for your organization? If so, then this session is for you. Geographic Information System (GIS) technology is being used by city and county governments, natural resource agencies, consultants, university researchers, and many others to collect, analyze and model data from a number of sources, and to produce maps and graphics. This session will provide an introduction to GIS with an emphasis on fundamental concepts, software functionality, hardware requirements,  creating an organizational structure supportive of GIS. The goal of the session is to provide a better understanding of many facets of GIS. The format of the session includes PowerPoint slides  and demonstrations using GIS software. Class discussion will be encouraged so that your hot button issues can be addressed.

*Skill level of audience: This session targets novice GIS practitioners as well as those who hire, manage and support them.*

## Field GIS for Public Works – Half day morning

*Presenter: ESRI Minneapolis Staff*

The goal of the workshop is to provide attendees with examples of field-based GIS in a municipal or county GIS environment. The workshop will include examples and demos of GIS data models, data collection, data check-in and check-out, QA/QC, and other implementation considerations in the context of Public Works.

*Skill level of audience: All*

## ArcGIS Network Analyst Workshop – Half day afternoon

*Presenter: ESRI Minneapolis Staff*

This workshop will provide an overview of ArcGIS Network Analyst capabilities and functionality, including routing capabilities (such as finding the least cost route across a city, finding the closest emergency vehicle or facility, or identifying a service area around a location), an explanation of network datasets, and examples (including demos) of application scenarios.

*Skill level of audience: All*

## Getting Started With Mapserver – Half day afternoon

*Presenter: Jon Scarbrough, Where 2 Get It* 

The University of Minnesota Mapserver application is one of the most widely used open source mapping software tools used today. This workshop is designed to introduce you to the Mapserver software. Specifically, we will cover the components required for running mapserver, mapfiles and how to manage data layers and creation of a simple HTML query template for returning map query results. The result will be a fully functioning Mapserver application. Additional links will be provided for further investigation about Mapserver.

## Performance Management – Half day morning


*Presenter: Leslie G. Rienzie-Sculfield, The Rienzie Group, Inc.*

There are several key components in the performance management cycle. The cycle begins with setting a clear concise direction toward the goal; providing adequate training and coaching of your peers and staff; monitoring progress and be critical of feedback; correcting any problems that may arise and motivating individuals toward the goal; and finally recognizing great work and learning ways to improve for the next cycle. This is a 1/2 day session that covers coaching, training, counseling, mentoring.

## Fundamentals of Map Design – Full day

*Presented by: Ted Koch, and Jim Lacy, WI State Cartographer's Office, Univ. of WI-Madison*

It's easier than ever to produce a map. It's also easier than ever to miss the mark and end up with a poor map. If you are designing and producing maps, but are unsure of the effectiveness of the final product, then this workshop is for you. You will learn the basic principles of map design including the design process, communicating intended messages, design controls, visual variables, symbolization and evaluating and critiquing the design of your maps and maps produced by others. With all the effort you put into building data for mapping and analysis, you need to be ready to achieve your desired impact through well-designed output.

Please bring maps to the workshop produced by you or others in your organization. Through an interactive group exercise we will analyze maps produced by all workshop participants. The topics to be covered include: 

- Planning and communicating better with maps
- Objects of design
- Designing for applications and situations
- Developing a critical eye for map design
- Understanding visual variables

- Graphic symbolization including the use of color, text, and patterns
- Map layout
- Understanding map design controls and limitations
- Designing for output options and methods

### AutoDesk – Half day morning



Presenter:

Engineering design and geographic analysis are extremely important to the organizations that employ CAD and GIS. These distinctive technologies deliver mission critical answers and excel at discipline specific-tasks that the other performs poorly or not at all. However, there is increasing demand for CAD and GIS software that is well integrated. Integration helps professionals throughout a project lifecycle to exchange data and collaborate more efficiently.

Professionals design, map, and analyze infrastructure constantly, from roads and utilities to land development and land ownership. These professionals rely on digital geographic and design data to perform their tasks. Furthermore, data is not static; it moves and evolves, from creation to editing to management. Today, engineering, GIS, surveying, and IT departments are collaborating and sharing geographic and design data more often and more smoothly. Integrated CAD and GIS solutions make a whole organization more effective and profitable, not just a single department.

Key topics surrounding this discussion include:

- CAD and GIS, while distinct technologies with discipline-specific tools, are inseparably linked by one thing – the very infrastructure they both portray and analyze,
- Integrating data between CAD and GIS software, and
- Organizations profit when data moves smoothly, without errors or precision loss, back and forth between a CAD and GIS.

### GIS Quality Assurance and Quality Control – Full day

Presenter: *Danielle Hopkins, ESRI-Redlands*

Data is the foundation of every successful GIS. In order to ensure a reliable foundation for their GIS, organizations should have a well-designed quality assurance (QA) plan with quality control (QC) procedures that are integrated with the generation and maintenance of GIS data. This workshop deals with error and quality in GIS data and provides practical guidelines for creating a complete quality assurance plan. Participants learn techniques for efficient and consistent verification of data integrity from both internal and external sources. Quality control workflows are presented with an eye towards ever-improving technology.

### Using GIS for Spatial Analysis with Application Examples from Local Government, Business, and Urban Planning - Full Day at NIU-Naperville Computer Lab

Presented by *Dr. Rich Greene, NIU Geography*

GIS can facilitate spatial analysis of a range of problems faced by local governments, businesses, and urban planners. This workshop will apply ArcGIS 9.1 to the analysis of some common questions faced by these three sectors of the GIS community. Methods of integrating current land information with recent demographic and economic information will be used to conduct the spatial analyses. Analytical techniques will be introduced with these data, and participants can experiment with them on their own data and local areas after the workshop. Techniques will include, but not be limited to, spatial dispersion analysis of assessed values for local government, gravity models and trade area delineations for business decision-making, and spatial overlay queries for urban planners. Participants receive a copy of the book "Exploring the Urban Community: A GIS Approach" which includes the workshops exercises and a CD with all of the GIS data.

### Important Information About The NIU-Naperville Workshops



The offsite workshops will be held at the Northern Illinois University Naperville campus. Direct, hands-on instruction will take place in one of the computer labs. The Naperville campus is located at 1120 East Diehl Road. There is plenty of free parking available. These workshops are full day, so registration, breakfast and lunch will be served at that location. You do not need to travel to the hotel for check-in. You are, however, strongly encouraged to come back to the hotel for the evening festivities!

### Map and Poster Gallery

Hurry and submit a poster or map for this year's fall contest! We hope to have lots more display space, so we need you to fill it up. There will be People's Choice Awards given on November 15th with prizes donated by our exhibitors. The poster displays will be open from 4 – 7 pm on the 14th and all day on the 15th. Let the rest of the ILGISA community see what good work you are doing in celebrating GIS. Any individual or organization intending to present a poster display should contact: Amy Krause, Center for Governmental Studies, Northern Illinois University, DeKalb, IL 60115, 815-753-0162, or email: [akrause@niu.edu](mailto:akrause@niu.edu).

**User Group Meetings**

ILGISA will host User Group Meetings on Monday evening at 7 p.m. There is no charge to attend. Check the web site for further information on who will be providing a user group session.

User meetings provide a great opportunity to get to know others, to share and generate new ideas, and to meet with your software/platform vendor.

**tuesday  
NOVEMBER 15**

The day will begin with an opening session that includes introductory remarks by the ILGISA President, Kingsley Allan, followed by the keynote address by Bruce Oswald.



**Implementing GIS Coordination in NYS – A Collaborative Approach**

Bruce Oswald, former Chair of the New York State GIS Coordination Program from 1996–2005, will discuss the collaborative approach taken in New York State to implement their statewide GIS

Coordination Program. He will review major initiatives implemented by the program as well as the lessons learned and the keys to their success. Lastly, he will illustrate the benefits that a successful program can have for all sectors of the GIS Community.

Mr. Oswald recently retired from the NYS Office of Cyber Security and Critical Infrastructure Coordination as their Assistant Director and Chief Information Officer. He was responsible for the implementation of New York’s cyber security and statewide geographic information system programs as well as its critical infrastructure coordination efforts in response to the terrorist attacks on the World Trade Center. Bruce also served as the Chair of the NYS GIS Coordination Body from 1996 – 2005. The NYS GIS Coordination Program was developed using a collaborative approach to problem resolution and provided a full partnership between local government, State agencies and the private sector. Bruce is currently participating on the National Academies’ National Research Council Committee on “Planning for Catastrophe: A Blueprint for Improving Geospatial Data, Tools, and Infrastructure.”

**“HOT” SESSIONS**

Please refer to the Illinois GIS Association web site at [www.ilgisa.org](http://www.ilgisa.org) for updated information on session content and presentations.



**sessions  
10:30 - 11:45 AM**

**DATA DISTRIBUTION HABANEROS**

**E-Docs Asset Management**

*Presenter: Brian Bakker, Aerial Services, Inc.*

Spatially enabling and managing historical & current important design plans, photos & critical documents. Using GIS & the web to share and manage.

*Skill level of audience: Intermediate*

**Take Your Data to the Web**

*Presenter: Scott Hameister, The Sidwell Company*

This will provide a high level overview of the options available to bring GIS data to the World Wide Web. Options covered will include custom programming and development and software applications already designed for the task. Software covered may include Autodesk MapGuider, ESRI ArcIMSr, and mPower IntegratorT.

*Skill level of audience: Beginner*



**Data Sales & Distribution: a roundtable discussion**

*Panelists: Chris McGarry, WinGIS, Greg Johnson, Will County, Tom Nicoski, Kane County, Mark Toolson, Champaign County, Joye Baker, Adams County*

The Illinois Freedom of Information Act explicitly excludes GIS data. Accordingly, governmental agencies may charge fees for GIS data; however, there is considerable disparity across the state regarding what data is available and the costs to obtain it. This roundtable discussion is intended to provide an opportunity to ask questions and learn how various agencies provide data to interested parties. Bring your agency’s data sales policy and/or pricing to share.



## KUNG PAO CASE STUDIES

### GIS in the Building Department - Custom, Enterprise Land Management and Permitting Solutions [Case Study]

*Presenters: Jerry P Davenport, AICP, MRP, JD, and Ben Davenport, MCAD with The Davenport Group, and Amy Furfori, AICP, MRP and Tim Brophy from the Village of Montgomery*

GIS, when combined with SQL Server and Visual Studio .NET, can tackle such complex jobs as a customized land management and building permit program. The Village of Montgomery during the past year put in place an integrated, computerized permit program, a land records management program and a full GIS system, replacing an assortment of various paper and stand-alone computerized systems. The new system tracks land records, such as changes in ownership or address, splits and combinations, accesses County tax records and Water Department billing, handles on-line processing of building permits, including calculating fees, keeps track of the review of those permits by Planning and Engineering, keeps a complete record of all inspections, synchronizes that information with the enterprise database and processes all enforcement actions. The presentation will:

1. Discuss the impetus for the enterprise system
  - a. The problems the Village was experiencing
  - b. What was hoped to be accomplished
2. Discuss the overall structure of the system.
  - a. The parcel based aspects
  - b. The maps and views available to the user
  - c. Movement keys
3. Discuss problems with land records
  - a. Interrelationship with County Tax records
  - b. Interrelationship with Other Village record systems.
  - c. Address how to update the system
  - d. Address the user interface with this aspect of the system.
4. Discuss problems with managing contractors
5. Discuss problems with the permit program
  - a. Discuss the organization of that part of the system. What shaped the decision as to what would be the critical fields of information.
  - b. Discuss information collected - changes from the old system.

*Skill level of audience: Intermediate*

### Boone Creek Watershed: Growth Management Study

*Presenters: Rima Roy and Roger Dahlstrom, NIU-RDI*

The study analyses planned development within the watershed and presents alternate scenarios for development within the component

communities. The best hypothesis behind the study is that there is a positive relation between environmentally sensitive and fiscally responsible land development.

*Skill level of audience: Intermediate*

### Implementation of Illinois Dept. of Revenue's Bulletin 810 Farmland Assessment Initiative in Peoria County

*Presenter: Greg K. Sachau, Tri-County Regional Planning Commission*

Discussion of progress towards meeting Bulletin 810 requirements in Peoria County. Focus on Cadastral data layer development, Farmland use layer creation, and implementation of FARMS software (Sidwell).

*Skill level of audience: Beginner*

## JALAPA TRANSPORTATION

### Developing a GIS from Light Detection and Ranging (LIDAR) Data to Improve Rail Congestion in Chicago

*Presenters: Robert J. Marros and Alex Kavanagh, HNTB Corporation, HNTB Corporation*

HNTB is leading a project to develop engineering base mapping derived from Light Detection and Ranging (LIDAR) data for the Association of American Railroads' CREATE Program. CREATE, an acronym for the Chicago Region Environmental and Transportation Efficiency program, seeks to modernize freight and passenger rail infrastructure throughout the Chicagoland area. This presentation will focus on using LIDAR to develop engineering base mapping, including conversion from shapefiles to Microstation using Safe Software's Feature Manipulation Engine (FME), as well as methods for data extraction, accuracy and data management.

*Skill level of audience: All skill levels are welcome.*

### Deployment of a Web-Based GIS Routing Application to Enhance Community Understanding during Design and Construction of a Complex Interchange

*Presenter: Jeff Barnett, CH2M Hill*

The Marquette Interchange is a complex interstate highway interchange in downtown Milwaukee, Wisconsin. Because of greater-than-expected traffic volumes, the current interchange has exceeded its useful life and will be reconstructed. A key concern of reconstruction was the potential impact on the community during construction, which is scheduled to extend over a period of 4 years, from mid-2004 to late 2008. The community expressed a need for easy-to-understand



information about construction activities and traffic limitations at any given date. This presentation will provide an overview of a geographic information systems (GIS) application developed to meet the community's needs; the application helps drivers obtain custom driving directions through the interchange during construction. The presentation will cover the development of this application including project history, technical approach, and lessons learned. The MapIt application, which provided custom driving directions through the interchange during construction, was developed using Web-based GIS technologies and integrated into the project's public information Web site. Users heading into downtown Milwaukee can identify their starting point, destination address, and anticipated year and month of travel. The application returns a map of the suggested route and driving directions based on anticipated construction activities during the travel period, allowing the driver to avoid closed ramps or mainline segments. This application demonstrates the value of GIS beyond transportation planning to include support through the construction phases. This tool has provided effective communication to the public on construction activities for the Marquette Interchange.

*Skill level of audience: Beginner or Intermediate*

#### **Data Conflation**

*Presenter: Mark Kinkade, Illinois Department of Transportation*  
IDOT with project collaborators, GIS Solutions, Inc, NAVTEQ and ESRI are working to develop and implement a statewide digital base road network. This project will provide a critical data layer for IDOT that will integrate IDOT data with the NAVTEQ road network. The project will result in the development and implementation of a single, unified road database suitable for use by all functional areas of IDOT as well as other government agencies in Illinois. This project will also provide assistance to IDOT in on-going implementation efforts and enterprise-wide GIS application development.

*Skill level of audience: Intermediate*

#### **SOCIETAL GIS NUTMEG**

##### **Kernal Density Surface Analysis of Low Birth Weight Births in Lake County, IL**

*Presenter: Marty Du Bois, Lake County Health Dept.*

This study was initiated to better focus intervention efforts aimed at reducing low birth weight births in Lake County. It employed kernel density surface analysis to assess the clustering of low birth weight birth events in a group of four Lake County municipalities. These municipalities were chosen as the focus of this investigation because

their rates of low birth weight events were computed to be 1 or more standard deviations above the mean for the 52 municipalities in Lake County.

*Skill level of audience: Beginner to Intermediate: Some knowledge of spacial analysis would be helpful, but not critical to understanding the discussion.*

#### **Mapping Supermarket Access and LINK Card Utilization in the Chicago Area**

*Presenter: Daniel Block, Chicago State University*

Low income and minority areas are often assumed to have much lower access to supermarkets than higher income areas. New research in the Chicago area indicates that this is often the case, but the patterns are more complicated than is usually assumed. This presentation will discuss results from the Northeastern Illinois Community Food Security Assessment, a GIS and survey based study of food access in the six-county Chicago metropolitan area. It includes mapping of supermarkets, smaller groceries, LINK card usage, food pantries, and farmers markets.

*Skill level of audience: Intermediate*

#### **The Development of GIS Education: Progress in the Last Decade**

*Presenter: Rich Schultz, Elmhurst College*

Since 1995, there have been a staggering number of developments in the area of geographical education. The advent of GIS into the mainstream has caused a great number of colleges and university programs in the Chicago area to re-consider their previous thoughts on putting all of their efforts into strictly studying geography from a regional standpoint. Program developments are hereby summarized for various institutions in the Chicagoland area and instill the notion that spatial awareness is no longer a stranger in the urban educational environment of Chicago. It will explore how employers are seeking college graduates with abilities in GIS and remote sensing techniques in addition to the traditional skill sets of the past. A sampling of college and university level programs will be presented and explored in terms of how their philosophies behind geography education have altered in the past ten years.

*Skill level of audience: Beginner*



# 1:15 - 2:30 PM

## CAYENNE DATA DISTRIBUTION

**On-Line Access to 2005 Orthophotography for the State of Illinois at the Natural Resources Geospatial Data Clearinghouse**

*Presenter: Sheena Beaverson and Robert Krumm, ISGS*

Work has begun to enable on-line access to orthophotography for the state of Illinois. Imagery was collected using USGS specifications during the leaf-off period of spring, 2005 for two distinct data collections. These collections include Chicago Urban Area orthoimagery at a 1x1 foot resolution on natural color film, and 96-county National Aerial Photography Program orthophotography at a .5 x .5 meter resolution on black and white film. This session will provide a detailed overview of the nature of the data and discuss the status of the data distribution effort. Data files will ultimately be served in the public domain at the Illinois Natural Resources Geospatial Data Clearinghouse at [www.isgs.uiuc.edu/nsdihome](http://www.isgs.uiuc.edu/nsdihome).

*Skill level of audience: Intermediate*

## Geospatial One-Stop - New and Improved

*Presenter: Dick Vraga, U.S. Geological Survey*

This presentation will discuss the developments in the Geospatial One-Stop portal (GOS-2) and their benefits for users. There will be a demonstration.

*Skill level of audience: Beginner*

## GIS Data Sharing and Standards Utopia

*Presenters: William Faedtko and Jeff Luteyn DuPage County, Dennis Gilbertson, Village of Lisle, Larry Gunderson, City of Naperville, Karen Robbins, Village of Downers Grove*

A number of municipal, township, and county agencies in the DuPage County area are working together on a pilot program that would create a 'perfect world of GIS' where data would be compliant with national GIS standards and could easily be exchanged and used by all of these agencies.

*Skill level of audience: Intermediate*



## ENTERPRISE JALAPENOS

**GIS and E911 Integration: What You Need to Know**

*Presenter: David Haines, R.A. Smith & Associates*

This presentation will cover what GIS professionals need to know when you considering E911 computer aided dispatch systems. Too often, the geographical side of dispatch systems are over-generalized and specific GIS requirements are left out of RFPs. The type of questions GIS professionals should ask vendors and dispatchers before selecting a system will be discussed.

*Skill level of audience: Beginner*

## Cook County Shield: Homeland Security Initiative

*Presenter: Alan Hobscheid, Cook County Dept. of Office Technology *

Overview of Cook County's Project Shield including a summary of the County's efforts to incorporate GIS into its Homeland Security Initiative.



## A Functional GIS

*Presenter: Thomas S. Nicoski, Kane County*

This presentation describes the components I have found to be essential to a Functional GIS. One of the most important components is a solid foundational structure such as hardware, software, staffing, location and funding. Another is a well-designed maintenance program that includes the day-to-day GIS production. One component that is always difficult to put together is a distribution policy for both public and private users. And of course you have to have a built in support network to keep things running smoothly. Another is project management and implementation, which if not done right, could cause havoc with all the other components. And finally, due to technology constantly changing, it is essential to have an on going research and development and training program in order to be ready for the future.

*Skill level of audience: Intermediate*

## EMERGING "HOT PEPPER" TECHNOLOGIES

**Surveying solutions using Photogrammetry and LIDAR together**

*Presenter: Cody Buhrmeister, Western Air Maps, Inc.*

Western Air Maps combined traditional photogrammetry and airborne LIDAR technology to survey densely covered terrain for the US military during their first LIDAR project. Under contract with the US Army Corps of Engineers-Kansas City District (KCD), WAM used LIDAR scanning and conventional aerial photogrammetry to develop an accurate topographic and planimetric picture of a 4,600 acre training facility at the Fort Riley Army Base in Kansas. The project schedule



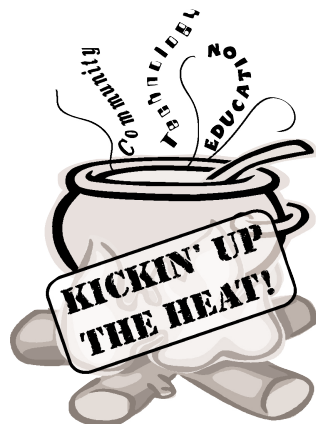
required aerial acquisition during July with full leaf-on vegetation. A large portion of the terrain was covered by dense native prairie tallgrass. WAM surveyors also had to stay within marked safety zones, as the range contained unexploded ordinance. The project served as a training ground for future LIDAR work at Western Air Maps, and proved that a combination of traditional surveying, photogrammetry, and LIDAR offers an effective solution for mapping dense, diverse environments.

*Skill level of audience: Intermediate*

### Ground Based Raster Imagery -- The Next BIG Thing

*Presenters: Laurence Rohter, Illinois Institute of Technology and Antonio Callado, Animagraph Arte Digital, Illinois Institute of Technology*

This is meant to be a graphic, informal and thought provoking discussion about the potential for better use of ground based raster imagery within GIS applications. Aerial photography has grown to be a very sophisticated data layer for GIS, evolving into comprehensive coverage and scaleable attributes. In the same way, ground based photography can evolve into providing high quality information that is similarly location based. At the high end of the potential for Ground Based Raster Imagery is the example of what the English Railway has achieved – 16000miles of multicamera videos integrated by inertial measurements. The result is terabytes of digital data, multiple views of interest, approximately 1 to 2 feet apart, and the ability to make measurements within the photos, accurate to an inch. A working example of this Survey system will be given. Photologging is a quite common practice for highway departments. Typical coverage is about 50 feet apart. While current techniques can include registration of location, the data is not well integrated into the typical GIS user packages. There may be connection by hot-link/cross-reference, or there may be a custom viewer. There is even opportunity for some novel uses when 3D viewer capabilities are utilized. Examples of some of these novel types of presentations will be demonstrated. (e.g.



Photos in context(Arc Scene), and photos as surround(Quest).) Also low end usages for surveying several Illinois trails will be demonstrated. Finally, it is known that the technologies will grow and allow for bigger and faster, but there is also a need to make other improvements for usage. One example to discuss would be to have a ground based equivalent of a 'geo-tiff', where all registration information including heading, and scaleability traits, would be self-contained.

*Skill level of audience: Beginner*

### Python Programming with ArcGIS

*Presenter: Todd Schuble, University of Chicago*

Python Programming for ArcGIS will outline new scripting capabilities with ESRI software. Users who are familiar with Avenue or AML will find this offering very informative, along with beginners who may be looking for a way to do more advanced analysis. Scripting in ArcGIS actually begins with ModelBuilder, a module of ArcGIS. A drag and drop interface will allow you to outline what needs to be done in a flow diagram. That flow diagram is then translated into a Python script taking a lot of typing out of the process. Once in a Python format, optimization may begin. Looping procedures, table editing, tool interface creation, etc. are all possibly much as they were in ArcView 3\* and ArcInfo Workstation. Python syntax is very easy to learn. Users need only a short time to become acclimated to the environment. Study references and online links will be provided to the audience.

*Skill level of audience: Beginner or Intermediate*

### “APPLICATIONS OF GIS” HOT SAUCE



#### Regional Planning with GIS and Beyond: Deriving the 2040 Regional Framework Plan

*Presenter: Jignesh Mehta, Northeastern Illinois Planning Commission*

The presentation will illustrate 'behind the stage' process and the GIS prep-work to launch the region-wide exercise in GIS based participatory planning that resulted into the 2040 Regional Framework Plan for the Chicago region. The Web-based GIS tools used in more than 13 cluster workshops involved 272 municipalities and six counties to derive future growth centers, corridors and green areas, which formed the backbone of the regional plan. The presentation will also discuss the aspects that a GIS team needs to deal with while working with the local community members and planners.

*Skill level of audience: All*





### GIS - The Ideal Analysis Tool for Rezoning

*Presenter: Jerry P Davenport, AICP, MRP, JD, DavenGIS*

GIS is the ideal tool for analyzing the major factors in a rezoning. According to Illinois case law, municipalities are directed to consider a half dozen or so factors (the LaSalle test) when they are rezoning property - these include consistency with land uses and zoning in the general area, suitability of the site, trends of development, and the effect of the change on adjacent property values. In many instances, the municipality's staff, the staff of other agencies, the zoning board and the presenter will all have different ideas as to the boundary of general area and the classification of particular properties. GIS allows the presenter to precisely assemble and analyze the data. It allows a consistent methodology and treatment from one case to the next. The outputs - a written report with maps and testimony using GIS as a tool in the board or courtroom - are dramatic. Bringing GIS into the boardroom has special advantages - it allows the decision-makers to participate in the process. He or she can posit different 'what ifs' - change the boundary of analysis, change the coding of a parcel, etc. GIS will change the nature of the proceeding making it more rational, less emotional. The presentation would seek to:

1. Help the user identify the information needed in putting together the analysis.
  - a. Problems in collection.
  - b. Problems relating to mapping.
2. Identify important geographic aspects - coordinate system, scale.
3. Discuss coding and analysis of land uses.
4. Discuss the same regarding zoning.
5. Discuss the depiction of natural constraints.
6. Discuss the depiction of other suitability constraints.
7. Discuss the interrelationship of land uses, zoning and natural constraints.
8. Discuss alternatives in how to present the themes using GIS software.
9. Discuss making the case from the analysis.
  - a. Combining factors
  - b. Handling statistics (what the numbers mean).

*Skill level of audience: Intermediate*



## 3:00 - 4:00 PM

### DATA DISTRIBUTION CHIPOTLE

#### Slippy Maps - How to Create Your Own Google Style Maps

*Presenters: Jon Scarbrough, Steve Woodbridge and Paul Baker from Where2GetIt*

There is no doubt that Google has changed the landscape of online mapping. This presentation will provide you with an overview of the technologies needed to create the new 'slippy' maps. Using open source tools and the Tiger data set, you can produce 'slippy' maps on your web site.

*Skill level of audience: Intermediate*

### Behind the Scenes of Chicagocrime.org, and How to Use Google Maps

*Presenter: Adrian Holovaty, The Washington Post*

I'll give a behind-the-scenes tour of my [chicagocrime.org](http://chicagocrime.org) site, which is a freely browsable database of crimes reported in Chicago that uses Google Maps extensively. It was one of the original Google Maps 'hacks.' Afterward, I'll give a tutorial on how to embed custom Google Maps in Web pages.

*Skill level of audience: Intermediate*

### ENTERPRISE CHILI PEPPERS

#### Streamlining the Asset Maintenance Management Process through Systems Integration: The Naperville Story

*Presenters: Steven Sushka, Woolpert, Inc. and Larry Gunderson, City of Naperville*

Through analysis & consultation, the City of Naperville's Department of Public Utilities - Water (DPU-W), Water Distribution & Collection Division (WD&C) documented their current maintenance workflow and how it could specifically be improved upon through systems integration. As a result, they worked together with their consultant and undertook the task of implementing Azteca's Cityworks software and integrating it with the City's existing GIS and HTE systems to help streamline their asset maintenance management process. The main components of this project included:

- Recommendations for improving their existing GIS in light of upgrading to ESRI's 9.1 release with specific emphasis on the ArcSDE configuration & geodatabase design
- Recommendations for improving their current Cityworks configuration in light of Azteca's 4.3 release and need for multiple department involvement



- Cityworks configuration and HTE integration workshops
- Initial Cityworks rollout and testing
- Training
- Additional recommendations for work flow improvement

*Skill level of audience: Intermediate*

### Geodatabase Replication: Spreading your Data Around

*Presenters: Chris McGarry, WinGIS and Xun Zhang, Bruce Harris & Assoc.*

What do you do when one organization manages dynamic data, but another organization needs to view the data? This problem has been solved by every major database management system through data replication. What if the data you need is complex spatial data stored in an ArcSDE geodatabase? This session will provide an overview of database replication and some helpful tips and tricks for implementing both snapshot and transactional replication of an ArcSDE geodatabase with SQL Server.



### CAJUN RASTER TECHNOLOGIES

#### 3 Inch Color Aerial Orthophotography for Skokie



*Presenter: Mark Haugen, Village of Skokie*

Similar presentation given at MAUG meeting on April 29, 2005 on West Nile Virus Funding, Contract Specs, Quality Control Issues, Recommendations and examples of errors.

*Skill level of audience: General*

### Illinois Mapping Advisory Committee

*Presenters: Dr. Donald Luman, Illinois State Geological Survey and Dick Vraga, U.S. Geological Survey*

The Illinois Mapping Advisory Committee (IMAC) was established in 1975 and designated by the U. S. Geological Survey as the primary contact for input and recommendations regarding USGS mapping programs and priorities in Illinois. This IMAC session will focus on topical issues that are of current interest to Illinois mapping professionals.

- "USGS National Geospatial Programs Office: NGPO - A Bold Step for the National Spatial Data Infrastructure"
- "2005 Illinois Statewide Orthophotography Project: Update, Imagery Examples, Data Distribution and more..."
- "2004 NAIP Statewide Color Infrared DOQQs: Availability, Imagery Examples, What Are They Good For?"

*Skill level of audience: General*

### UTILITY GIS CURRY POWDER



#### Project Cost Considerations for Utility Mapping

*Presenter: Donald G. Groesser, PLS, SEC Surveying and Ajay Jain, PE with Smith Engineering Consultants, Inc.*

When and why to consider survey grade locations in creating your Municipal Utility GIS.



#### Effectively Managing JULIE Locate Tickets

*Presenter: Aaron Zwiefelhofer from Varion Systems, a division of GeoAnalytics*

Managing utility locate tickets, commonly known as JULIE tickets in Illinois, has become an increasingly difficult task for local government as well as private utilities. As budgets shrink, resources to manage these tickets appropriately are lost. While external demands expand at a rapid rate, these agencies must find ways to manage locate tickets more effectively and efficiently. Some organizations are beginning to leverage work order software and GIS to streamline the process. This presentation will explore the common issues associated with managing JULIE tickets, as well as the use of modern technology to solve these problems. Case studies from the City of Lake Forest and the White House Utility District in Tennessee will be examined.



## REGISTRATION INFORMATION

Registration forms included in this brochure can be mailed with payment or purchase order number. You can also download registration forms from the web site at [www.ilgisa.org](http://www.ilgisa.org) to fax or mail, or you have the option of registering directly online if paying by VISA, MasterCard, American Express or Discover. For further information you can call the conference hotline at 815-753-7922 to listen to taped answers to frequently asked questions, or reach a phone agent during business hours.

Registrations accepted by mail, fax, or online (online registration with credit card only) prior to October 24th will receive the early-bird discount. Registrations after that date will pay the regular registration fee through November 1st. After November 1st, registrations received will be considered on-site and will be assigned to workshops based upon the order you arrive at the conference and availability of seats. Any individual registering on-site must do so with cash, check or credit card that day. If you are paying with a purchase order, you must include the FEIN# for it to be accepted.

Students must be at least half-time students and need to include a letter from their department chair with the registration form. Student registration includes Monday night and Tuesday conference activities only.

Mailing address: Northern Illinois University  
Outreach Services – Registration  
DeKalb, IL 60115

Hotline: 815-753-7922

Fax: 815-753-6900

Register online: [www.ilgisa.org](http://www.ilgisa.org) (Visa, MasterCard, American Express or Discover)

Refunds: A full refund will be issued if written request, by fax or mail, is received by NIU Outreach Services – Registration and post-marked on or before November 1, 2005. No refunds will be issued after that date. If you cannot attend, you may send a substitute. If you do not send a substitute and you do not attend yourself, you are still responsible for notifying Registration before the deadline for the refund to be processed. Please allow 6-8 weeks for refunds to be processed.

## QUESTIONS ABOUT THE CONFERENCE?

Conference Hotline: (815) 753-7922

ILGISA Web Site: <http://www.ilgisa.org>

• Sherrie Taylor, Logistics Coordinator & General Inquiries



Phone: 815-753-0925

Fax: 815-753-2305

Email: [taylor@niu.edu](mailto:taylor@niu.edu)

• Amy Krause, Exhibits & Poster Contest Coordinator

Phone: 815-753-0162

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Email: [akrause@niu.edu](mailto:akrause@niu.edu)

• Jenny Gray, Membership Coordinator

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• Registration

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