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# New Beginnings for GIS

Special Thanks to the Spring 2009 Conference Planning Team

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ILLINOIS GIS ASSOCIATION  
2009 SPRING CONFERENCE  
"NEW BEGINNINGS FOR GIS"  
APRIL 28-29, 2009

CREDIT CARD REGISTRATION IS AVAILABLE ONLINE AT  
[WWW.ILGISA.ORG](http://WWW.ILGISA.ORG)

## CONFERENCE HIGHLIGHTS

The Illinois Geographic Information Systems Association (ILGISA) will be holding its fifteenth annual Spring Conference on April 28-29, 2009, at the I-Hotel & Conference Center in Champaign, 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. Join us as ILGISA moves into the future...New Beginnings for GIS—throughout the state of Illinois! This event will feature structured workshops, technical sessions, panel discussions, technology demonstrations, project updates, as well as federal and state speakers.

Highlights include:

- KEYNOTE SPEAKER: Greg Wass, Illinois' Chief Information Officer, will address the state of GIS in Illinois from the CIO's perspective.
- A varied selection of workshops both hands-on and lecture style. New this year will be a Geocoding event as well as an off-campus LiDAR workshop.
- Over a dozen full tracks of conference sessions covering a wide range of topics, including a track devoted to student research, GIS Q&A's and a career panel discussion. Close to 40 individual presentations to choose from to attend!
- A poster competition among GIS users, both professional and student level.
- A student presentation competition for both undergraduate and graduate student competitors will take place on the second day of the conference with valuable prizes awarded to the outstanding presentation as judged by a panel of GIS experts.
- An exhibit hall featuring a variety of Exhibitors showcasing their latest GIS related hardware, software, products and services. Please make sure to spend time with them as they are the leading edge of GIS applications and upcoming technology.
- Silent Auction benefiting the newly formed ILGISA Endowment Funds.
- An Exhibitor reception featuring a selection of complimentary hors d'oeuvres, a cash bar and much, much more!
- Free wireless throughout the conference center.

Please join us as we move into this new facility and look to expand the educational offerings of ILGISA. We hope to offer to you quality learning, networking and socializing experience.



## WHO SHOULD ATTEND?

- Government officials who implement GIS for a variety of applications. Federal, state, county, city and local officials are all welcome.
- Surveyors, engineers and land management specialists who use GIS technology.
- People who want to utilize and/or publish GIS data over the Web.
- Business, real estate, banking and insurance specialists who need to understand and access GIS data.
- Public and private utility representatives who use GIS technology for infrastructure management.
- Consultants who provide GIS services, hardware or software.
- People in agriculture, health care and other fields using GIS.
- University faculty and students interested in new GIS technology and research applications.
- Individuals interested in obtaining GISP certification credits towards their GIS professionalization and/or CEU credits.
- Individuals or organizations interested or concerned with homeland security or emergency preparedness.
- Managers who supervise GIS technology or staff.
- GIS professionals in any discipline.

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. The only thing holding you back is the parameter of your own imagination! So come join us and explore the endless opportunities.

There will be at least 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 spend time with them to learn about the latest and greatest in the market today. Poster prizes and announcements will take place within the exhibit hall.

If you have any questions, please give Executive Director, Tracy Rogers a call at 815-753-2090 or send an e-mail to [trogers@niu.edu](mailto:trogers@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 April!



## ABOUT ILGISA

The Illinois GIS Association (ILGISA), 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.

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 \$50.00 (\$10.00 for students with student ID). If you are already a member, but are not sure of when your membership expires, please contact Tracy Rogers at 815-753-2090. 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 I-Hotel & Conference Center, 1900 S. First Street Champaign, IL 61820. ILGISA has rooms blocked with a rate of \$119 plus tax for a single or double. Reservations must be made by March 26, 2009 to guarantee these rates. For reservations please call 217-819-5000. Be sure to indicate that you are with the Illinois GIS Association to receive the discounted room rate, code **ailg**. You may also register directly on-line by visiting our website and clicking on the link to the hotel.

Registration fees will be as follows:

TUESDAY WORKSHOPS	BY OR ON MARCH 31	AFTER MARCH 31
ILGISA Member Full Day	\$175.00	\$200.00
ILGISA Member Half Day	\$87.50	\$100.00
Non-Member Full Day	\$250.00	\$275.00
Non-Member Half Day	\$125.00	\$137.50
Student Full Day	\$75.00	\$100.00
Student Half Day	\$37.50	\$50.00
WEDNESDAY CONFERENCE	BY OR ON MARCH 31	AFTER MARCH 31
ILGISA Member	\$175.00	\$200.00
Non-Member	\$250.00	\$275.00
Student	\$75.00	\$100.00

## IMPORTANT DEADLINES & DATES

Online Conference Registration Begins February 27  
 Early Registration Rates Ends March 31  
 Hotel Block Rates Ends March 26  
 Workshop Day April 28  
 Conference Day April 29



CONFERENCE AT A GLANCE

## TUESDAY, APRIL 28

8:00 – 9:00 Registration &amp; Continental Breakfast

9:00 - 12:00

- WORKSHOP: Understanding Survey Datum's for GPS Mapping Projects
- WORKSHOP: GIS Manager's Perspective
- WORKSHOP: Introduction to the Creation and Analysis of Surfaces
- WORKSHOP: GIS: Beyond Map Making
- WORKSHOP: Introduction to the GPS System
- WORKSHOP: Reaching Out - Managing Public Information & Getting Out the Message

12:00 – 1:30 Lunch at Houlihan's

1:30 - 4:30

- WORKSHOP: Project Management Basics for New Project Managers
- WORKSHOP: Introduction to Spatial Concepts
- WORKSHOP: "Hands ON" Demographics and Census Mapping – You must provide your own laptop and extended battery
- WORKSHOP: GPS Geocache Event -- "Hands ON" You will be outside in and around the University campus utilizing GPS
- WORKSHOP: Geospatial Informatics
- WORKSHOP: Fundamentals of Economic Development and Land Use Planning: Conflicting or Parallel Goals—Exploring the Role of Government
- WORKSHOP: Emergency Management, Practical Applications from September 11, World Trade Center Attacks: Report from Ground Zero

1:30 – 7:30 Poster Displays and Exhibitor Hall open

4:30 - 7:30 Exhibitor Reception

7:30 – 8:30 Open ILGISA Board Meeting

8:30 – 11:30 Closed ILGISA Board Meeting &amp; Dinner

7:30 – 9:30 User Group Meeting (arrangements must be made ahead of time for room use—please contact the Executive Director of ILGISA if you wish to host a User Group Meeting.)

ALL DAY WORKSHOP LiDAR--"Hands ON" this will take place off site of the Conference Center.  
**Registration is limited to the first 30 individuals that sign-up.**

8:30 - 11:30 Morning Session

11:30 12:30 Lunch

12:30-3:30 Afternoon Session

## TUESDAY, APRIL 29

8:00 – 3:30 Exhibits and Poster Displays

8:00 – 9:00 Registration and Continental Breakfast

9:00 – 10:00 Opening Session and Key Note Speaker

10:00 – 10:30 Break

10:30 – 12:00 Concurrent Sessions

12:00 – 1:30 Awards Luncheon

1:30 – 3:00 Concurrent Sessions

3:00 – 3:30 Break in Exhibit Hall/People's Choice Poster Awards/Auction Wrap-up

3:30 – 5:00 Concurrent Sessions

# TUESDAY, APRIL 28

## WORKSHOPS

### FULL DAY WORKSHOP

#### LiDAR--HANDS ON--

*Presented by Robert W. Merry, PS, RLS, Aero-Metric, Inc.; Jamie Young, Sanborn Map Company; Jennifer Whitacre, MJ Harden A GeoEye Company; Steve Kasten, Surdex; Bryan Luman and Richard Knodel, Lake County GIS/Mapping Division*

This all day LiDAR Workshop that begins with an educational (101) morning session. You will find out what LiDAR is, how it works, what the applications are, the cost benefits and how it compares with other mapping technologies. The afternoon session will be conducted as a "hands-on" opportunity at the University of Illinois - GIS Lab. Attendees will have an opportunity to manipulate LiDAR Data and learn how to derive derivatives from it. Participation is limited to the first 30 individuals that register.

### HALF-DAY MORNING WORKSHOPS (9:00 AM - 12:00 PM)

#### GIS BEYOND MAP MAKING

*Presented by Kelly McGee, Spatial Connections*

This workshop will discuss issues related to the "Map Making Plateau" that many organizations face when implementing GIS. In today's economy it is more important than ever to leverage the capabilities of GIS to get the most cost saving benefits possible. While being able to produce maps on demand without out sourcing provides a small level of cost savings, GIS has much further reaching costs saving possibilities.

#### GIS MANGER'S PERSPECTIVE

*Presented by Curt Hinton, Geographic Technologies Group*

This workshop will focus on learning the fundamentals for providing a manager's perspective to GIS solutions which is key to the success for any enterprise GIS. The Understanding Series for GIS Managers is formulated to supply GIS Coordinators, IT Directors, and anyone in a GIS Management position with the tools necessary to properly implement and maintain a successful GIS program. The GIS Manager's Perspective workshop will offer:

- In-depth and hands-on descriptions of successful enterprise-wide GIS systems
- Ways to insure your organization's GIS success
- Funding models
- The 16 Returns on Investment (ROI)
- Quick GIS success stories
- GIS applications with tax parcels, address points, street centerlines, and aerial photography
- Enterprise tools for GIS
- ESRI's ArcGIS Server application discussions
- The benefits of ArcGIS Server to your GIS

#### INTRODUCTION TO THE CREATION AND ANALYSIS OF SURFACES

*Presented by Curtis Abert, INRS, Illinois State Geological Survey*

GIS data involves much more than points, lines, or polygons. Surface data can be easily created and analyzed with many GIS tools. Surface data can be defined as any kind of data that has continuous values in any given area. Examples include land surface elevations, temperature values, rainfall, distance from a location (such as an airport), or concentration data. Surfaces can be generated from various kinds of input data such as points or contour lines. With the introduction of LiDAR data, high-resolution land-surface elevation is becoming more common, but what can you do with it? This workshop will show how to create surfaces using several common interpolation techniques as well as show examples of various uses of surface data.

## HALF-DAY MORNING WORKSHOPS CONTINUED... (9:00 AM – 12:00 PM)

### INTRODUCTION TO THE GPS SYSTEM

*Presented by Chris Pearson, National Geodetic Survey*

This workshop is designed to acquaint GIS professionals with the basic principles that make GPS work, the errors the system is subject and (where possible) how to avoid them. We start with a discussion of the basic positions that GPS can give and the accuracies involved. We then provide a non-mathematical description of how autonomous positions are derived and how some simple tricks (differential correction for low accuracy GPS, ambiguity resolution for high precision GPS and initialization for RTK) can increase the precision of GPS positions **by** a factor of 1000. We then discuss the types of errors that GPS is subject to with particular attention to the atmosphere and multi-pathing and discuss how users can reduce these errors where possible. We close by describing major changes to the GPS system which are either projected or underway and how these may affect users.

### REACHING OUT - MANAGING PUBLIC INFORMATION & GETTING OUT THE MESSAGE

*Presented by Mike Green, Retired Northbrook Police Chief and Cheryl Fayne dePersio, Director of Communications, Northbrook, Illinois*

This workshop will guide participants through a study of the theory, principles and practices of organizational public relations in the complex environment of leading in the public. Participants will engage in active learning exercises and discussion to help them understand the theories that make-up a strong public relations/public information program. The workshop will also explore the power of knowing and understanding what the media's needs are and how to use them effectively. Topics include how to do interviews and presentations and the difference positive communication skills can make in leaving others with a strong professional impression.

### UNDERSTANDING SURVEY DATUM'S FOR GPS MAPPING PROJECTS

*Presented by Todd W. Horton, PE, PLS, Parkland College*

Overview of mapping datum's and their relationships, GRS80, NAD83, WGS84, State Plane Coordinates, NAVD88, Geoid03, CORS, HARN, history of datum adjustments, proper datum use, data and metadata interpretation, common datum use problems.



## USER GROUP MEETINGS

ILGISA will offer rooms to exhibitors' for User Group Meetings on Tuesday 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 and on what software platforms. 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.

## HALF-DAY AFTERNOON WORKSHOPS (1:30 PM – 4:30 PM)

### GEOSPATIAL INFORMATICS

*Presented by Peter Bajcsy, Rob Kooper, Luigi Marini and Michal Ondrejcek, NCSA/UIUC*

The audience will learn about the process of going from raw geospatial data to information and to knowledge. The presentations will go over open source technologies developed for integration of geospatial data, data-driven modeling using machine learning techniques, visual data explorations, workflow execution and web publishing using Google Map and other services.

### GPS GEOCACHE EVENT

*Presented by Lanny Schnipper and Britt Gill, Seiler Instrument*

A Geocache is a “treasure hunt” using GPS equipment. It combines navigation with GPS and answering trivia questions at various points along the course. Learn how to use GPS for navigation, meet new people, and have fun. Participants will be outside for the majority of this workshop. Please come prepared for rain or shine.

### “Hands ON” Demographics and Census Mapping

*Presented by Marilyn Sommer, MSommer MapWorks*

Bring your laptop and get hands on experience creating maps that will reflect application of demographic and census analysis data. We will focus on developing mapping strategies utilizing access to Tiger Files. This workshop requires your own personal laptop computer and extended battery.

### Emergency Management, Practical Applications from Sept 11, World Trade Center Attacks: Report from Ground Zero

*Presented by Michael J. Fagel, Ph.D., CEM*

What really happens at a disaster? A look at emergency management at ground zero. How GIS makes a difference. What type of GIS information is needed when a disaster strikes?

### Introduction to Spatial Concepts

*Presented by Carmi Neiger and Dr. Rich Schultz, Elmhurst College*

Bored with asset inventories? Tired of being called a data janitor? Spatial analysis is the process of transforming spatial data into actionable information. Your GIS provides a broad spectrum of geoprocessing tools from simply spatial joins to advanced geostatistics which can unlock the knowledge hiding within the complex matrix of data. This workshop covers planning an analysis project, and an overview of spatial analysis for the beginner or those new to GIS and the effective communication of your spatial results. Demonstrations and “real world” examples from a range of investigations reveal how to turn your GIS into a true decision support system. Geared for those desiring a broad overview and new to spatial concepts as well as students.

### Project Management Basics for New Project Managers

*Presented by Molly Mangan, Even Keel Strategies*

An overview of the basic principles of good project management for the new project leader. Topics include: 1) Defining & Managing Scope 2) Managing the Project Sponsor 3) When Trouble Strikes. 4) Tips and Tools

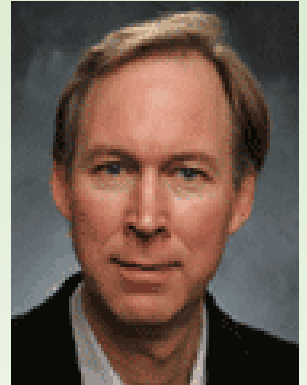
### Fundamentals of Economic Development and Land Use Planning: Conflicting or Parallel Goals— Exploring the Role of Government

*Presented by Roger Dahlstrom, Assistant Director and Senior Research Associate, Center for Governmental Studies, Northern Illinois University*

This workshop will present insights into economic development and the role governments increasingly play in this critical piece of community health. Recent trends and debates in approaches, tools and the relationship between land use decisions, planning, zoning and other regulatory frameworks will also be covered. The workshop will provide participants with key concepts and models of Economic Development and Land Use Planning, which, coupled with realistic expectations and strategies, will equip participants with a foundation or supporting their own existing economic development strategies, or implementing changes where needed.

# WEDNESDAY APRIL 29

The day will begin with an opening session that includes introductory remarks by the ILGISA President, Pat Keegan, followed by the keynote address: "The state of GIS in Illinois, from the perspective of our State's Chief Information Officer" by Greg Wass, CIO for the State of Illinois. As State CIO, Wass is tasked with developing and managing the state's strategic technology plan and coordinating application development for all agencies under the Governor. He is leading cross-boundary efforts that will transform Illinois government and allow greater collaboration and resource sharing among state agencies. Join us as we look to the future of GIS in Illinois!



## MAP AND POSTER GALLERY

Hurry and submit a poster or map for this year's Spring contest! We will have more display space, so we need you to fill it up. There will be People's Choice Awards given on April 29th with prizes donated by our exhibitors. The poster displays will be open from 1:30 – 7:30 PM. on the 28th and all day on the 29th. 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: Tracy Rogers, Executive Director via email: [tlrogers@niu.edu](mailto:tlrogers@niu.edu).

Poster Authors will be available during the Exhibitor Reception on Tuesday evening from 5:30 – 6:30 PM to field questions and discussion from viewers.

### Posters registered to date:

Champaign-Urbana Area Bicycle Map, Leonard Walther, Northern Illinois University, Department of Geography, Cartography Lab, and the League of Illinois Bicyclists

Air Monitoring Sites with Proposed Olympic Competition Venues, Kent Cook, Illinois EPA - Bureau of Air

Local Health Preparedness and Disaster Response, Awais Vaid & William Brown, Champaign County Public Health District

Mapping the Geospatial Education Community within the Nation's Community College, Cody Stewart, Lake Land College

An NCSA Open Source Tool for Mapping Spatiotemporal Information to and from OGC KML Data, Yong Liu, NCSA, University of Illinois at Urbana-Champaign



## CONCURRENT SESSIONS

ILGISA is pleased to present the largest selection of paper and research presentations in its Spring conference history. Due to the number of sessions and breadth of coverage we ask that you 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. Pre-registration for sessions is not required. A variety of GIS related information will be presented throughout the day. Individual sessions may be comprised of one to three individual presentations and discussions. All sessions are hosted by a moderator to facilitate question and answers. Session times are scheduled throughout the day, following the keynote presentation.

Actual times are: 10:30 AM – 12:00 PM; 1:30 PM – 3:00 PM; and 3:30 PM – 5:00 PM.

\*\* Please note that Student GIS Presentations will be judged for awards by a panel from the ILGISA Education Committee. Students are encouraged to submit presentations via the website until April 1, 2009.

## COLLABORATION

### THE ART OF BUILDING A CONSORTIUM

*Presented by Jason Krueger, Ayers Associates*

An association of governments can achieve much more than individual governments can “going it alone.” Large-scale, collaborative projects are a progressive, cost-effective way to acquire valuable geospatial data. Ayres Associates will highlight several recent consortium projects- how they were formed, how they are managed, and the products and services that were acquired.

### BACOG WATER RESOURCES INITIATIVE – VISUALIZING GROUNDWATER WITH GIS

*Presented by Joy Hoeffler, Barrington Area Council of Governments*

Water resources are becoming a more important issue for local and regional government bodies. It is critically important to understand the location and characteristics of aquifers to protect natural resources and residents who rely entirely on these local aquifers to supply their water. This presentation demonstrates how GIS is being used to visualize local groundwater resources in the Barrington area. BACOG has classified borehole data from public and private well logs and created a 3D model in ArcScene using Spatial Analyst and 3D Analyst extensions. In the past several years this model has been used to advise new well sites, locate potentially vulnerable water supply areas, and locate areas of critical recharge to inform environmentally-sound decision making. This presentation will provide a short procedural overview of how the model was created using GIS and define future groundwater goals.

### NORTHEASTERN ILLINOIS COUNTIES GIS COOPERATIVE PROGRAM UPDATE

*Presented by Bill Faedtke, DuPage County; Keith Caldwell, Lake County; Alan Hobscheid, Cook County; and Tom Nicoski, Kane County*

The counties in the Chicago metropolitan area have been working together over the past several years to develop common data exchange standards and share their GIS expertise. During the past year this group has expanded to include three additional counties on the outer edge of the metro area. This presentation will provide an update of the progress of the group’s efforts and how we are expanding our work to include coordination with State and Federal agencies.

### PARTICIPATORY GIS IN THE UPPER SANGAMON WATERSHED: GEOVISUALIZATION, COLLECTIVE DECISION-MAKING AND ENVIRONMENTAL GOVERNANCE

*Presented by Miriam A. Cope, Phd. Graduate Student, University of Illinois*

This research examines the impact of participatory GIS on collective decision-making for agricultural and environmental management at the watershed scale. In partnership with the Agricultural Watershed Institute (AWI) in Decatur, IL, we test participatory GIS methods in two groups of stakeholders, farmers and professionals, and generate suitability maps with each group to determine optimal locations for growing biofuels in Central Illinois. Using pre and post GIS surveys, we test for individual level differences in attitudes towards developing a biofuels market following the participatory GIS process. In terms of the mapping, we hypothesize that differences in local knowledge and identity between the two groups will result in different suitability maps. Our conversation reports on the differences in knowledge generated in the PGIS and the shifts in attitudes towards biofuels at the individual scale. This project is ongoing and results will be used by the AWI for the purpose of developing environmental management plans and furthering education and outreach activities in improving water quality for the region.

## DATA & MODELLING

### DEVELOPMENT OF PATTERN RECOGNITION AND GENERAL MODEL CONCEPTUALIZATION

*Presented by Yu-Feng Forrest Lin, INRS, Illinois State Water Survey*

Groundwater recharge and discharge (R&D) rates and patterns are difficult to characterize, and currently no single method is capable of estimating R&D rates and patterns for all practical applications. Therefore, cross analyzing results from various estimation methods and related field information will likely be superior to using only a single estimation method. We have developed a Geographic Information System (GIS) software package, called the Pattern Recognition Organizer and Groundwater Recharge and Discharge Estimator for GIS (PRO-GRADE), to help hydrogeologists estimate R&D in a more efficient way than conventional methods. The PRO-GRADE uses numerical methods and image processing algorithms to estimate and visualize shallow R&D patterns and rates in GIS. The PRO-GRADE provides the user an efficient platform to compare the R&D estimation with other GIS data or maps. The software packages are free to download at: <http://www.sws.uiuc.edu/gws/sware/>

### ILLINOIS LAND COVER MAPPING; USDA, NASS CROPLAND DATA LAYER

*Presented by Patrick Willis, USDA, National Agricultural Statistics Service*

The USDA, NASS Cropland Data Layer (CDL) Program provides crop specific statewide land cover information on an annual basis. The Illinois CDL Program began in 1999 and has recently gone through several procedural changes that make this a new and improved land cover product. This data is available free to the public. More information can be found at <http://www.nass.usda.gov/research/Cropland/SARS1a.htm>.

## DEVELOPMENTS IN AERIAL IMAGERY

### STREAMING AERIAL IMAGERY VIA WMS

*Presented by Genie Hays, LizardTech, Inc.*

What is WMS? Who has it and how is it used? I will demonstrate through various applications how to access aerial imagery using WMS.

## ENTERPRISE GIS

### MATURITY MODEL FOR ENTERPRISE GIS

*Presented by Molly Mangan, Even Keel Strategies*

How do you define an "Enterprise GIS"? This maturity model framework charts the characteristics of GIS within an organization as it evolves into a true enterprise asset. Understand where your organization fits, and the steps needed to embark on the next stage.

### WEB-BASED GPS FIELD DATA COLLECTION

*Presented by Lanny Schnipper, Seiler Instrument*

Until recently, it was necessary to bring back GPS units to a central computer for processing. Updates to forms and software required that field users knew how to operate GPS office software. This presentation will cover advances in moving the flow of GPS field data for GIS applications out to the Internet. Now, field users need to only have Internet access and synchronize their GPS unit with their laptop. The CartoPac Field server-based solution for GPS allows multiple users to have access to the same settings and data. Take a full relational database in the field and greatly streamline data collection for a specific application. Eliminate the need to duplicate databases and operate seamlessly with a variety of GIS databases, including ESRI. This presentation highlights specific user stories and also shows a demonstration of the technology.

## EMERGING TECHNOLOGIES

### USING FEMA HAZUS SOFTWARE IN RISK ASSESSMENT ANALYSIS OF LOCAL HAZARD MITIGATION PLAN

*Presented by Leanne Brehob-Riley, Champaign County Regional Planning Commission*

Champaign County is mid-way through the process of developing a multi-jurisdiction natural hazard mitigation plan that is intended to meet FEMA requirements. As a part of the risk assessment portion of plan development, the Champaign County GIS Consortium utilized FEMA HAZUS software to analyze the risk assessment data regarding flood and earthquake natural hazards. The Champaign County Hazard Mitigation Plan project team reviews the challenges and advantages of developing a multi-jurisdiction hazard mitigation plan. The Champaign County GIS Consortium reviews challenges associated with using HAZUS software for Level 2 and Level 3 analyses.

### THE CONFLUENCE OF GOOGLE AND GIS IN PUBLIC AND PRIVATE SECTOR WEB APPLICATIONS

*Presented by Paul M. Sill and Luke Douglas, Forum Analytics, LLC.*

Is Google becoming a full blown GIS engine ready to compete with the likes of ESRI, Microsoft, or MapInfo? This session will explore how to bridge the gap between the expectations Google Maps has created for the pedestrian map viewer and the robust spatial processing requirements of true geographic information systems analysis. While business GIS web solutions will be used to illustrate key points, the basic underpinnings of this session will cross both public and private sector lines and provide value to anyone struggling to create more compelling deployment solutions for basic end-users of spatial information.

### DECIMETER-ACCURACY GIS FOR MAPPING APPLICATIONS

*Presented by Lanny Schnipper, Seiler Instrument*

It's now possible to obtain decimeter (10cm/4in) horizontal and vertical accuracy using a mapping-grade receiver. This presentation will cover the techniques necessary to achieve this level of accuracy. Specific application stories will be presented. Decimeter-level accuracy addresses the area in between the survey-grade and the traditional "submeter" where GIS accuracy is typically defined.

### EMERGING GIS TECHNOLOGIES AT THE UNIVERSITY OF ILLINOIS RESEARCH PARK

*Presented by Daniel C. DoBel, Assistant Manager, University of Illinois Research Park; Charles Linville, Ploughman Analytics; Tad Britt, Compass Systems; and Jeff Terstriep, LeamGroup*

This session will provide an overview of some of the latest technologies being developed by companies in the Research Park at the University of Illinois. The presentation will be MC'd by the Assistant Manager of Research Park and Incubation Facilities and will include an overview of the Research Park along with individual presentations by three tenants in the Research Park representing both start-up and established companies.



## GIS AND PUBLIC SAFETY

### 10 WAYS TO IMPROVE YOUR PUBLIC SAFETY USING GIS

*Presented by Curt Hinton and David Holdstock, Geographic Technologies Group*

This session was designed to give the Public Safety Administrator and GIS Coordinator 10 ways to maximize the investment in 911 and GIS to produce highly efficient and effective mapping tools that depend on accurate GIS data. Attendees will be given the overall scope of how GIS data is used and developed for use in a 911 public safety mapping application such as crime/incident mapping, dispatch, fires and EMS incident mapping, address management, mobile and AVL, and public access tool.

### IMPLEMENTATION OF GIS AND ADDRESSING TOOLS FOR 911 MANAGEMENT

*Presented by Curt Hinton and David Holdstock, Geographic Technologies Group*

This session will focus on the successes and failures of creating GIS data, implementing GIS tools, automation of MSAG clean-up and ANI/ALI synchronization. Optimal processes for 911 centers will be discussed. Three guarantees of what an attendee will learn by participating in your session

- 1) What are the critical GIS layers and how do I get them?
- 2) What are the best GIS tools?
- 3) How do I use these tools to make my life easier?

## GIS & GOVERNMENT APPLICATIONS

### GIS: HOW LOCAL GOVERNMENT ORGANIZATIONS ARE QUANTIFYING THE RETURN ON INVESTMENT (ROI)

*Presented by Curt Hinton and David Holdstock, Geographic Technologies Group*

In the 1990s organizations focused on deploying GIS because it was interesting and sophisticated technology. Some recognized that GIS would allow them to do new things and accomplish more in less time. Local governments saw GIS as adding value rather than reducing costs or saving money. Some organizations bypassed the strategic planning process but did realize benefits immediately. Arguably, for many, GIS was new technology for new technology sake, implemented with "fingers crossed." GIS strategic planning focused on the application and effective use of GIS, rather than on justifying the investment and developing a true business case that quantified ROI. Today's focus is on evaluating GIS before implementation. No matter how technically compelling GIS appears to be, if the business case and the payback are not documented, and all components are not embraced, GIS is flawed from the beginning, with diminished prospects for success. The approach to planning and implementation is changing. Even though organizations are focusing on the strategic, tactical, technical, and logistical issues of GIS, everyone wants the same thing MEASURABLE RESULTS.



### GIS AT DCFS: HOW HAS IT CHANGED THINGS?

*Presented by Richard Foltz, Illinois Department of Children and Family Services*

This July will mark third year of end-user oriented GIS applications. How have they changed things? Have they improved things? This presentation will include an analysis of available data as well as a survey of how GIS has affected basic Department work processes. It'll conclude with a review of new developments in GIS at the Department.

## GIS AND OUR NATURAL ENVIRONMENT

### NATURAL RESOURCE INVENTORIES AND OPEN SPACE PLANS

*Presented by Emily Miller, Christopher B. Burke Engineering West, LTD.*

Our presentation will focus on the process of completing a Natural Resource Inventory for Winnebago County, IL and also an Open Space Study for the Aux Sable Watershed in Kendall County, IL.

### IMPLEMENTATION OF THE ILLINOIS WILDLIFE ACTION PLAN

*Presented by Andrew Hulin, Illinois Department of Natural Resource*

A Predictive GIS Habitat Model for the Illinois Chorus Frog: This presentation will examine the use of GIS in the implementation of the Illinois Wildlife Action Plan's management guidelines and objectives. Based on specific habitat parameters, GIS was used to model and predict suitable habitat locations for the Illinois chorus frog (*Pseudacris streckeri illinoensis*), a critical species as defined by the Wildlife Action Plan. Additional activities detailed in the presentation will include an examination of the entire GIS project cycle, including: predictive model development, sampling methodologies, field support efforts and products, and the delineation of landscape level Conservation Opportunity Areas (COA). Technical procedures, as well as the model's broader organizational and policy aspects will be discussed.

### SPATIAL DYNAMICS OF CWD IN ILLINOIS DEER

*Presented by Marilyn Ruiz, University of Illinois*

Illinois has a small but persistent focus of Chronic Wasting Disease (CWD) in white-tailed deer (*Odocoileus virginianus*) in the northern part of the state. Our work with the Illinois Department of Natural Resources has focused on 1) measuring genetic characteristics of the deer population to assess genetic vulnerability and deer population substructures, 2) quantitative evaluation of the effect of culling on changes in deer density and disease prevalence, and 3) measurement and visualization of prevalence in light of spatial heterogeneity.

## GIS KNOWLEDGE SHARING

### 2010 ORTHO-IMAGERY PARTNERSHIPS WITH THE FARM SERVICE AGENCY

*Presented by David Davis, FSA Aerial Photography Field Office and Diane Mason, USDA-Farm Service Agency*

The United States Department of Agriculture, Farm Service Agency focuses on agriculture areas within a state. National Agriculture Imagery Program (NAIP) is a national cooperative program to provide a vehicle for acquiring full state coverage through cost share partnerships with state agencies. FSA through the NAIP program is offering cost-share partnerships for the 2010 ortho-imagery flight to other Illinois agencies. FSA will fund the acquisition of agricultural areas within state in 2010 and is actively seeking cost share partnerships to complete full state coverage. Potential partners may learn:

- What type of partnership FSA can facilitate
- What are the benefits of partnering with FSA for acquiring ortho imagery
- The cost of partnership
- The technical specifications

If your agency could benefit to share the cost of ortho-imagery come to hear more about the National Agriculture Imagery Program.



## GIS KNOWLEDGE SHARING CONTINUED...

### THE ILLINOIS HEIGHT MODERNIZATION PROGRAM

*Presented by Beverly Herzog and Sheena Beaverson, University of Illinois, Illinois State Geological Survey; Amy Eller, Illinois Department of Transportation; and Chris Pearson, National Geodetic Survey*

The purpose of the Illinois Height Modernization Program (HMP) is to improve elevation data for Illinois through a combination of new bench marks and high-resolution LiDAR data. We have just completed survey on height data in Illinois and will present those results. We will also introduce the program's website, where from which users will be able to obtain height data.

### 2010 ILLINOIS STATEWIDE ORTHOPHOTOGRAPHY: TEMPORAL-SPATIAL-SPECTRAL RESOLUTION CONSIDERATIONS

*Presented by Don Luman, Illinois State Geological Survey*

Planning by federal agencies is underway for an Illinois 2010 statewide aerial photography collection. It has been five years since the last statewide photography acquisition occurred in early Spring 2005. It is important for Illinois stakeholders to review the critical resolution factors surrounding this next collection in the context of changes that have occurred with imaging technology, as well as the current budget climate within the state. A review of past statewide aerial photography collections will be presented, as well as what may be expected for a planned 2010 acquisition.

### THE ENVIRONMENTAL IMPACT OF WORK COMMUTES; AN ORANGE COUNTY, CALIFORNIA CASE STUDY

*Presented by C. Scott Smith, Northern Illinois University*

Much has been written about the geographic patterning of work commutes within and across US metropolitan areas. Scholarly research concerning the spatial mismatch hypothesis, for example, has examined the degree to which differential access to housing opportunities explains variations in employment outcomes. Related research in the urban design tradition (e.g., new urbanism, smart growth, transit-oriented development) has explored land use and transportation connections in order to shed light on the ecological (in)efficiencies of travel behavior. Such research is afforded greater meaning now that cities are increasingly being tasked with monitoring and reducing GHG emissions produced by the transportation sector, a significant source of atmospheric carbon loading. The present study builds upon and extends the aforementioned research by making explicit the environmental impacts of commuting behavior and their underlying social and economic determinants. First, it develops a series of allocation-based linear programs to estimate the volume of greenhouse gases (GHG) arising from the commuting patterns of Orange County workers. Solutions to these linear functions are then used to compare carbon footprints across distinct occupational, industrial and socio-economic groups. This paper concludes with a discussion of how alternative workforce housing configurations and travel choices may effectively reduce transportation-related carbon emissions.



### DIGITAL ORTHOPHOTO QUALITY & TECHNOLOGY UPDATE

*Presented by Tim Bohn, Surdex Corporation*

Don't blame the road crew when the highways in your orthophoto are curvy or just dead end into a farm field! Put on your hard hat and build a better ortho. Learn about the most common problems seen in digital orthophotography, and how the free imagery available on the web may or may not be the right tool for you. We will discuss all aspects of orthophoto projects and how to avoid common mistakes when you plan your next project. Topics will include resources, scheduling, accuracy, radiometry and overall image appearance.

## GIS MANAGEMENT

### SUCCESSFUL GIS PROJECTS - FACT OR FICTION? CAN GIS PROJECTS BE DELIVERED SUCCESSFULLY?

*Presented by Mike Cordum and John Albsmeyer, Capitol Strategies*

What can we do to help our GIS projects be delivered successfully? Despite what you read or hear, GIS projects can be delivered successfully. If you have been experiencing "bad luck" with your projects or need tips or advice to get your projects back on track, you should attend this session. We discuss basic principles and processes that you can take back to your office and begin using right away to help your projects get delivered successfully.

### GIS UNDER AN IT UMBRELLA

*Presented by Micah Williamson, Peoria County Government*

In some organizations, GIS grew out of the grassroots within individual departments, other places created an entire department to "do" GIS. The geo-spatial revolution is not unlike other technological revolutions in the past. Limiting GIS to be a purely mapping function or isolating it to a corner in the assessor's office is denying the power of its importance to the whole of an organization. Let's explore the possibility that current information service departments (IS, IT, MIS, DP) may be the best suited to properly deploy and maintain an enterprise GIS.

### GIS AND FOIA

*Presented by Micheal Zimmerman, Raysa & Zimmermann LLC.*

This presentation will give an overview of the mechanics of the Freedom of Information Act and provide a discussion of the impact of the Act and the potential disclosure of items contained in a local GIS database. Topics discussed will include exemptions from disclosure as well as best practices for FOIA compliance.

### IMPROVING STAFF ACCESS TO GIS WITH MAPSERVER

*Presented by Jenny McBride, The Morton Arboretum*

The Morton Arboretum recently added an interactive web map to their Intranet site. As a result, staff now have access to the institution's GIS data, particularly locations and attributes of accessioned specimens. The web map environment allows untrained staff to access GIS technology and information, which has been quite helpful in some departments.

## GIS PROFESSIONALIZATION

### THE GISCI CERTIFICATION PROGRAM

*Presented by Kingsley M. Allan, University of Illinois INRS-ISWS*

This session will detail the GISCI Certification Program for GIS Professionals. Started on January 1, 2004, this is a recognition program for established GIS professionals. It is a non-examination, portfolio-based system. Strategies for filling out the application as well as detailed information about the history of the effort and the Institute will be provided. Information about certification in relation to licensure and state endorsements of the program will be offered as well.

### CAREERS IN GIS PANEL

Panel discussion with audience Q&A on GIS careers and opportunities. What you need to know, education required, and routes to take for employment.

## INFRASTRUCTURE PROTECTION

### INFRASTRUCTURE DEVELOPMENT AND THE EXPANSION OF THE CITY OF CHICAGO

*Presented by Brian Bettenhausen, Center for Population Economics / University of Chicago and Carlos Villareal, Center for Population Economics*

From the raising of its streets and buildings to the reversal of the Chicago River, large infrastructure projects are one of the hallmarks of the City of Chicago. The character of the city and its expansion were greatly directed through large-scale public infrastructure investments. Mass transportation, sewage and water systems projects implemented in the mid-19th century were fundamental to the formation of the country's Second City. This presentation illustrates the use of GIS technology to integrate myriad historical records to map the construction of these public works at the street level, and determine the effect they had on historical land valuation, city expansion and public health in the late 19th century. This project presents preliminary results from ongoing research at the Center for Population Economics ([www.cpe.uchicago.edu](http://www.cpe.uchicago.edu)) with support from the National Institutes of Health under program project grant P01 AG10120.

### GIS – IMPROVING DAMAGE PREVENTION STATE WIDE

*Presented by David Van Wy and Burt C. McAlpine, JULIE Inc.*

A discussion on how GIS is helping JULIE in its statewide underground utility damage prevention programs and has provided the opportunity for over 1750 JULIE member companies to be more precise and efficient with the over 6.3 million locate requests transmitted annually. JULIE started using GIS and GPS Locations in 2007, prior to GIS JULIE used quarter section and place information to notify its members of dig locations that might be in conflict with their underground facilities.

## NATIONAL SCIENCE FOUNDATION & GIS

### WHAT IS A GIS TECHNICIAN AND WHAT DO THEY DO? RECENT FINDINGS FROM A NATIONAL SCIENCE FOUNDATION STUDY

*Presented by Mike Rudibaugh and Brooke Ferguson Lake Land College - National Science Foundation*

This session will summarize recent findings on the National Science Foundation's increasing interest with the geospatial workforce. Specifically, this session will outline recent results of local events attempting to define what GIS Technicians are relative to skills and knowledge needed to perform in this occupationally high growth industry. Results of these events are to assist in linking rapidly evolving geospatial workforce demands and universities and community college's curriculum/training through the identification of core competencies driving the variety of economic sectors using geospatial technology.

## PRECISION GIS

### LAND SURVEYING FOR GIS PRACTITIONERS

*Presented by Russell Olsen, OLS, Midwest Technical Consultants*

An overview of Land Surveying practices with the object of determining subjects to cover in a 1/2 day workshop at the Fall ILGISA Conference. Questions and comments will be requested and will be the basis of the next program.

### THE FUTURE OF THE NATIONAL SPATIAL REFERENCE SYSTEM – WHAT IT MEANS TO ILLINOIS

*Presented by Chris Pearson, National Geodetic Survey*

This will cover NAD83 and how it is defined, including the NSRS2007 we will discuss vertical adjustment and a discussion of possible future adjustments. Vertical datum's in Illinois and their relationship to NAVD88. We will include an update on the Illinois height modernization program and a discussion of the GRAV-D program and how this might affect vertical coordinates in Illinois. I will also give an update on Geoid 09.



## STUDENT GIS PRESENTATIONS

### IMPLEMENTING GIS TO REDUCE WINTER DE-ICING SALT APPLICATIONS

*Presented by Brian Bartelt, Northern Illinois University*

Anti-icing was implemented as a best management practice in a small municipality to optimize winter road de-icing salt applications. Hydrological simulation was modeled coupling the USEPA's SWMM 5.0.13 with the geographic dataset of the urban drainage network. The annual reduction in dry salt use and chloride demonstrate the cost and material effectiveness of implementing anti-icing.

### PATTERNS OF AGRICULTURAL LAND USE CHANGE,

*Presented by Cynthia Jo Vogel, Northern Illinois University*

In this research, agricultural and urban land use change are analyzed to determine if their pattern of changing location supports John Fraser Hart's 1991 perimetropolitan bow wave thesis. Hart posits that extensive crops (lower value) are replaced by intensive crops (higher value) at the urban fringe as farmers anticipate urban development. At the national scale, this research uses historical data from the Natural Resource Conservation Service, Natural Resources Inventory to map and examine the pattern of cropland change from extensive to intensive crops and then to urban for the coterminous United States between 1982 and 1997. A case study is also presented using satellite images from the National Land Cover Data and U.S. Department of Agriculture, National Agricultural Statistics Service mapping the location of extensive and intensive crops and the pattern of urban change for the 16 county Chicago Combined Statistical Area for the period 2001 to 2007.

\*\* Please note that Student GIS Presentations will be judged for awards by a panel from the ILGISA Education Committee. Students are encouraged to submit presentation via the website until April 1, 2009.

Award Submissions are now being taken for ILGISA's 2009 Awards.



ILLINOIS  
GIS  
ASSOCIATION

**New Beginnings for GIS**

## REGISTRATION INFORMATION

Registration forms included in this brochure can be mailed with payment or purchase order number. You can also download the registration form 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 800-345-9472 to listen to taped answers to frequently asked questions or reach a phone agent during business hours.

Registrations accepted by mail (postmarked date must be before March 31, 2009 to receive discount); fax, or online (online registration with credit card only) prior to March 31 will receive the early-bird discount. Registrations received after March 31, unless postmarked, will pay the regular registration fee and be billed in arrears for any registration errors. After April 20th, 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 wishing to receive discounted member rates for the conference must be current in their 2009 annual dues prior to registration. Verification of membership status can be obtained by contacting Tracy Rogers, Executive Director, at [trogers@niu.edu](mailto:trogers@niu.edu). If your status is in question, please contact her immediately. 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.

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

**Hotline:** 800-345-9472

**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 postmarked on or before April 20, 2009. 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:** (800) 345-9472  
**ILGISA Web Site:** <http://www.ilgisa.org>

### Tracy Rogers, Executive Director

**Phone:** 815-753-2090  
**Fax:** 815-753-2305  
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