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ILGISA
Spring
Conference
April 14 - 15
2010

I-Hotel &
Conference Center
Champaign, IL

Past, Present, and Future...



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GIS

WHERE TO FIND IT:

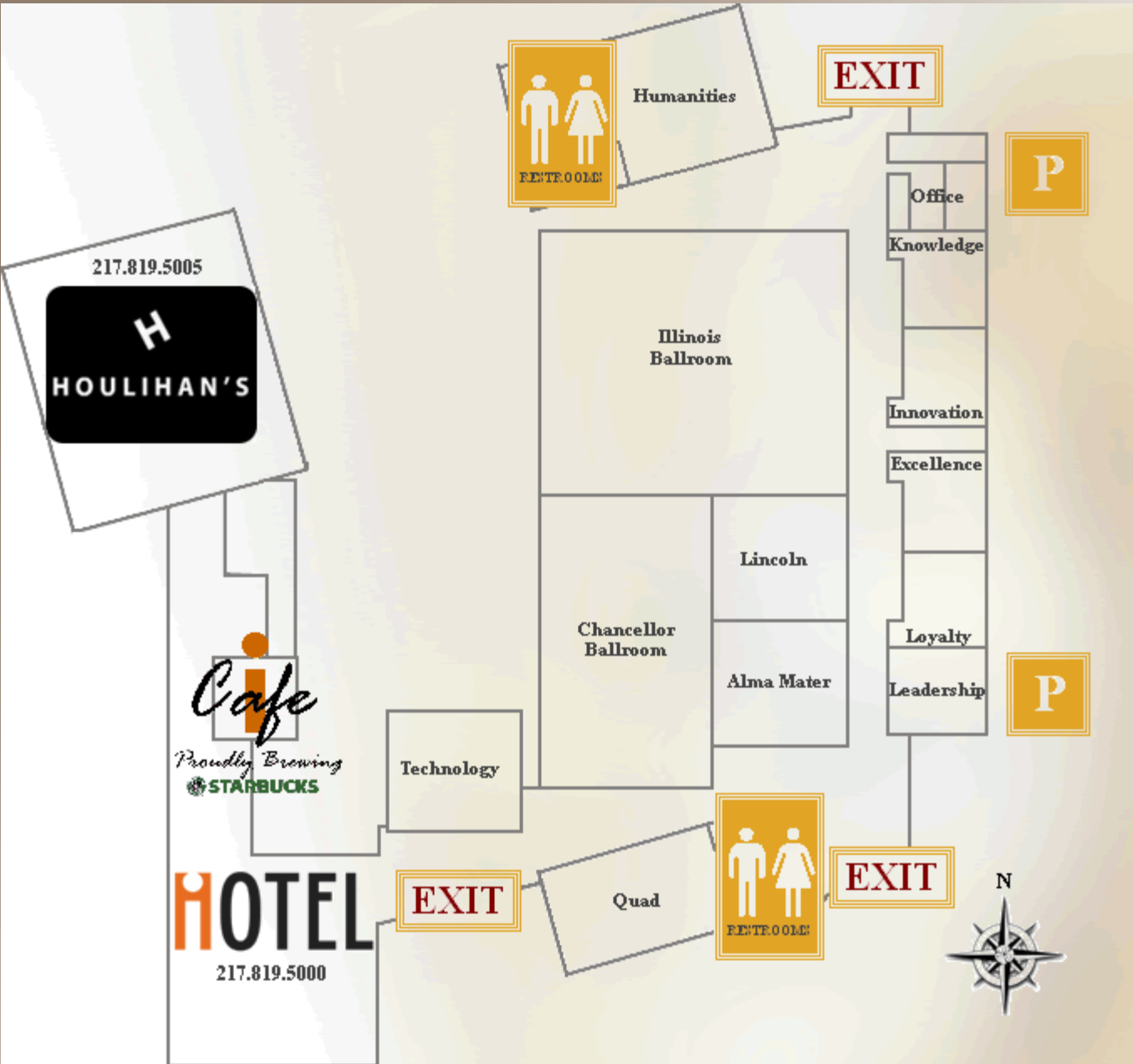
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MAP OF FACILITY



ILLINOIS GIS ASSOCIATION
2010 SPRING CONFERENCE
"BRING YOUR PAST, PRESENT, AND FUTURE TOGETHER WITH GIS"
APRIL 14-15, 2010

WWW.ILGISA.ORG

WELCOME TO THE ILGISA 2010 SPRING CONFERENCE

Welcome to the Illinois GIS Association's seventeenth annual Spring GIS conference. Some 300 practitioners, educators, students, and interested persons are expected to attend this two-day event hosted by ILGISA and sponsored by Silver Sponsor, GIS Solutions, Inc. 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. We are so pleased to have you join us as ILGISA moves into the future...Bring Your Past, Present, and Future Together with GIS—throughout the state of Illinois! Over the course of the next two days you will have the opportunity to participate in structured workshops, technical sessions, panel discussions, technology demonstrations and project updates. We hope that you take the time to participate in the various workshops and sessions provided for you and that you join us on Thursday morning to hear Scott Elrick, from the Illinois State Geological Survey - Coal Section, who will explain his research and how it relates to our lives. Scott received his B.S. degree in geology from the University of Illinois at Urbana-Champaign and his M.S. in geology from the University of California, Riverside. He has been a geologist in the Coal Section at the Illinois State Geological Survey for 10 years. His current studies include the stratigraphy, sedimentation, and climate of the Pennsylvanian, emphasizing the timing and origin of coal in the Illinois Basin. We are very honored to welcome Scot not only because his work is groundbreaking but also because we see how important our profession is to this local Illinois discovery. Take time to mingle with your peers, enjoy the numerous exhibits provided by our vendors, bid in the silent auction in the exhibit hall and share with your colleagues on new initiatives and findings!

Conference Highlights include:

- **KEYNOTE SPEAKER:** Scott Elrick, from the Illinois State Geological Survey - Coal Section, who will explain his research and how it relates to our lives.
- A varied selection of workshops both hands-on and lecture style.
- Over a dozen full tracks of conference sessions covering a wide range of topics 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.
- 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 ILGISA Endowment Funds.
- An Exhibitor reception featuring a selection of complimentary hors d'oeuvres, a cash bar and much, much more!

Enjoy the Conference!

Kevin Gibbs & Mark Toalson, Co-Chairs



ABOUT ILGISA

The Illinois GIS Association (ILGISA) is a non-profit and non-commercial professional association for GIS professionals with opportunities for sharing experiences and participating in educational programs. Geographic Information Systems (GIS) is a technology that has come of age in the information society. The character of GIS that sets it apart from other information technologies is the need to identify 'where.' GIS has evolved from specialized mapping software and joined the ranks of the mission-critical business infrastructure. Today, GIS is all around us. From web-based mapping, to in-car navigation systems, to sophisticated scientific and business analysis, GIS is everywhere.

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) 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*.

WHO SHOULD BE A MEMBER OF ILGISA?

- Government officials who implement GIS for a variety of applications. Federal, state, county, city and local officials
- 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

Join Today!

NOT A MEMBER? CONSIDER JOINING ILGISA!

Not A Member? Consider Joining ILGISA!

To be part of the excitement you need to be a member of ILGISA. We are a professional association of individuals who share a common interest in GIS. Membership is composed largely of those who work in government, both as managers and as technical professionals. As a not-for-profit association, ILGISA strives to provide high-quality programs to keep members informed and to share our experiences in developing, implementing and applying GIS to better understand and manage our collective world. Education is key. Our two annual conferences provide opportunities for you to learn and expand upon your knowledge of GIS and its applications throughout our changing world. Our new website will provide opportunities for you, as a member, to share your resources, research and findings—allowing you to stay on the cutting edge of technology and GIS.

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) and/or visit the ILGISA Membership Booth in the Exhibitor Hall.



WEDNESDAY, APRIL 14

8:00-9:00	REGISTRATION AND CONTINENTAL BREAKFAST-ATRIUM					
9:00-12:00	QUAD ROOM - FULL DAY WORKSHOP- JUST THE BASICS: AN INTRODUCTION TO DATABASE CONCEPTS FOR GEOGRAPHERS					
Room #	ALMA MATER ROOM	HUMANITIES ROOM	INNOVATION ROOM	KNOWLEDGE ROOM	LINCOLN ROOM	
CONCURRENT WORKSHOPS 9:00-12:00	AN INTRODUCTION FOR GEODESY FOR GIS PROFESSIONALS	MOBILE GIS APPLICATIONS	THE GISCI CERTIFICATION PROGRAM	GEO-TAGGING DIGITAL PHOTOGRAPHY	PRO-GRADE: AN ARCGIS PACKAGE FOR WATER RESOURCES RESEARCH	
12:00-1:30	Lunch for full day registrants at Houlihan's					
1:30-4:30	QUAD ROOM -FULL DAY WORKSHOP- JUST THE BASICS: AN INTRODUCTION TO DATABASE CONCEPTS FOR GEOGRAPHERS					
Room #	ALMA MATER ROOM	HUMANITIES ROOM	INNOVATION ROOM	KNOWLEDGE ROOM	LINCOLN ROOM	
CONCURRENT WORKSHOPS 1:30-4:30	HOW LAND SURVEYING AND GIS WORK TOGETHER	GEODESY, DATUMS, AND STATE PLANE COORDINATES	GIS MANAGER'S WORKSHOP	USING GPS FOR GIS DATA MAINTENANCE	WEB GIS MODERNIZATION: MIGRATING FROM ARCGIS SERVER 9.3.1	
4:30-7:30	EXHIBITOR RECEPTION AND POSTER DISPLAYS-EXHIBIT HALL					
6:30-7:30	OPEN ILGISA BOARD MEETING-ROOM-LEADERSHIP ROOM					
7:30-11:30	CLOSED ILGISA BOARD MEETING-ROOM-LEADERSHIP ROOM					
7:30-9:30	USER GROUP MEETINGS					

THURSDAY, APRIL 15

8:00-8:30	REGISTRATION AND CONTINENTAL BREAKFAST								
8:00-4:00	EXHIBITS AND POSTER DISPLAYS								
8:30-10:00	KEYNOTE SPEAKER AND STUDENT AWARDS PRESENTATION								
10:00-10:30	BREAK-EXHIBIT HALL								
Room #	ALMA MATER ROOM	LINCOLN ROOM	QUAD ROOM	TECHNOLOGY ROOM	HUMANITIES ROOM	INNOVATION ROOM	KNOWLEDGE ROOM	EXCELLENCE ROOM	
CONCURRENT SESSIONS 10:30-12:00	THE ILLINOIS HEIGHT MODERNIZATION PROGRAM	LiDAR APPLICATIONS	GIS IN EMERGENCY MANAGEMENT & PUBLIC SAFETY APPLICATIONS	GIS IN HEALTH	IMAGERY	HISTORICAL PERSPECTIVE	GPS & GEOCODING	GIS SERVER	
	THE USE OF ILLINOIS HEIGHT MODERNIZATION PROGRAM ELEVATION DATA (ILHMP) IN WATER RESOURCES	LiDAR ENHANCED SOIL SURVEY (LESS)	HAZUS-MH: FEMA'S METHODOLOGY FOR ESTIMATING POTENTIAL LOSSES FROM DISASTERS	THE COMMUNITY OBESITY MEASURES PROJECT: GIS PROTOCOLS	INTELLIGENT OBLIQUE AERIAL IMAGERY - OVERVIEW, DEPLOYMENT, AND GIS INTEGRATION OPTIONS	USE OF CURRENT GEOGRAPHIC INFORMATION SYSTEM (GIS) LAYERS AND HISTORIC AERIAL IMAGERY TO ADD GEOSPATIAL COORDINATES TO HISTORIC MAPS, FOR APPLICATION IN A CITY GIS	CUSTOM STATEWIDE ENTERPRISE GEOCODING SOLUTION	A DASHBOARD APPROACH TO GAINING INSIGHT INTO ARCGIS SERVER	
	EARTH AS ART II: ENHANCING PUBLIC ACCESS TO ILLINOIS LiDAR	IMPERVIOUS SURFACE MAPPING SAVES TIME AND MONEY	GIS FOR DAMAGE ASSESSMENT, EOC & PUBLIC SAFETY	THE ROLE OF GIS IN THE STATE'S RESPONSE TO H1N1 INFLUENZA	AN EASIER AND FASTER WAY OF STREAMING ORTHOPHOTOS	ANOTHER LOOK AT THE CHICAGO REGION PUBLIC LAND SURVEY BEARING TREES AND VEGETATION INTERPRETATIONS OF ILLINOIS ORTHO-PHOTOGRAPHY	AVOIDING THE COMMON GPS PITFALLS		
	THE USE OF ILLINOIS HEIGHT MODERNIZATION PROGRAM ELEVATION DATA (ILHMP) AT IDOT	MOBILE LiDAR - WHAT IS IT AND HOW IS IT USED?				DIGITIZING HISTORIC MAPS IN McDONOUGH COUNTY			

THURSDAY, APRIL 15



12:00-1:30 LUNCH AND NETWORKING-CHANCELLOR BALLROOM								
Room #	ALMA MATER ROOM	LINCOLN ROOM	QUAD ROOM	TECHNOLOGY ROOM	HUMANITIES ROOM	INNOVATION ROOM	KNOWLEDGE ROOM	
CONCURRENT SESSIONS 1:30-3:00	EXPLORING GIS TOOLS	GIS IN THE CADASTER	MAPS AND MOBILITY	GIS INTERNATIONAL APPLICATIONS	GIS CAREERS/ JOBS	GIS IN AGRICULTURE	TRAINING & TECHNOLOGY	
	ArcGIS SERVER AND GeoPDF SOLUTIONS FOR REMOTE AIRFIELD SUITABILITY DETERMINATION	CADASTRAL GIS SOLUTIONS: SUCCESS STORIES AND EXAMPLES	A NEW GENERATION OF USGS MAPS	IMPACT OF GLOBALIZATION ON CONSUMERISM IN INDIA	ILGISA STUDENT CHAPTERS: NEXT GENERATION OF THE GIS WORKFORCE	TRACKING COMMODITY DATA USING SERVER-BASED GIS	THE ART AND SCIENCE OF TRAINING, PART 1 OF MANY	
	USING ArcGIS TO MODEL WEEKLY AREAL PRECIPITATION WITH RELATIONSHIPS TO FLOODING	GOOD FENCES MAKE GOOD NEIGHBORS - EDGEMATCHING WORK BY THE NEIL COUNTIES	A GIS-CENTRIC APPROACH TO TRACKING MOBILE ASSETS WITH ArcGIS SERVER AND GEOCORTEX FLEET TRACKER	MODELING POPULATION DYNAMICS IN AFGHANISTAN	SKILLSET OF A GIS TECHNICIAN	DEVELOPING A NUTRIENT USE GIS USING AGRICULTURAL STATISTICS DATABASES	ENHANCED SECURITY SYSTEM USING MULTIBIOMETRIC METHODOLOGIES	
	EXPLOITING THE ESRI VERSIONING TOOLS TO UPDATE IMPERVIOUS SURFACES		EXPERIENCES WITH SURVEYING AND MAPPING DELHI SLUMS ON A GEOGRAPHICAL INFORMATION SYSTEM (GIS)	GIS CAREERS/ JOBS PANEL SESSION				

3:00-3:30 REFRESHMENT BREAK IN EXHIBIT HALL, PEOPLE'S CHOICE POSTER AWARDS FOR GIS PROFESSIONALS AND STUDENTS, SILENT AUCTION CLOSING

Room #	ALMA MATER ROOM	LINCOLN ROOM	QUAD ROOM	TECHNOLOGY ROOM	HUMANITIES ROOM	INNOVATION ROOM	KNOWLEDGE ROOM	EXCELLENCE ROOM
CONCURRENT SESSIONS 3:30-5:00	ArcGIS: THE ROAD AHEAD	GIS IN PUBLIC WORKS	IMAGERY	GIS AND FOIA	MOBILE GIS	VERTICAL GIS	REMOTE SENSING	GIS WEB APP MIGRATION
	ArcGIS: THE ROAD AHEAD	GIS-CENTRIC ASSET MANAGEMENT AT THE CITY OF CHAMPAIGN, IL	SMARTVIEW - A NEW DIMENSION IN OBLIQUE AERIAL VIEW IMAGERY	A LEGAL REVIEW FROM A MUNICIPAL PERSPECTIVE	3D MOBILE MAPPING	CASE STUDY: DuPAGE COUNTY-- BENEFITS OF UTILIZING A HEIGHT MODERNIZATION PROGRAM	ASSESSMENT OF OBJECT-ORIENTED FEATURE EXTRACTION TO SUPPORT THE U. S. ARMY CORPS OF ENGINEERS MITIGATION AND RECOVERY LAND COVER MAPPING SERIES	MIGRATING FROM ArcIMS TO ArcGIS SERVER - ATLANTA REGIONAL COMMISSION, ATLANTA, GA
		TOLL BROTHERS SANITARY RECAPTURE	ADVANCED ORTHO IMAGE PROCESSING	SAGE INFORMATION SYSTEMS V. GRUNDY COUNTY SUPERVISOR OF ASSESSMENTS		NEXTMAP® - A NEW NATIONAL ELEVATION LAYER FOR THE US GOVERNMENT PERSPECTIVE	DETERMINING OPTIMAL SPATIAL RESOLUTIONS FOR GIS AND REMOTE SENSING MAPPING	

WORKSHOPS - WEDNESDAY, APRIL 14

WEDNESDAY FULL DAY WORKSHOP

(9:00 AM – 12:00 PM) (1:30 PM- 3:30 PM)

GISP CERTIFICATION CREDITS – 6

JUST THE BASICS: AN INTRODUCTION TO DATABASE CONCEPTS FOR GEOGRAPHERS

Presented by Chris McGarry, City of Rockford



Biographical Information: Chris McGarry has been a GIS professional in the state of Illinois for more than 16 years and currently holds the position of GIS Coordinator at the City of Rockford. In addition to his full-time responsibilities, Chris has taught at Elmhurst College as part of the GIS Certificate program and provides GIS consulting services. He has been responsible for all phases of GIS, including cartography, analysis, database design and management, enterprise application development, and Internet mapping application development. Chris served on the ILGISA Board of Directors from 2003 through 2009, including the office of President. He received a Bachelor of Science degree in Geology (1993) from Illinois State University and a Master of Science in Geology (2000) from the University of Illinois.

WEDNESDAY MORNING WORKSHOP

(9:00 AM – 12:00 PM)

GISP CERTIFICATION CREDITS – 3

AN INTRODUCTION FOR GEODESY FOR GIS PROFESSIONALS

Presented by Chris Pearson, National Geodetic Survey



Biographical Information: Chris Pearson works for the National Geodetic Survey where he is the geodetic advisor for Illinois. He lives in Springfield where he works with the Illinois Department of Transportation to maintain and improve geodetic control in Illinois. He was instrumental in establishing Illinois's height Mod program. He gives numerous short courses and guest lectures in Illinois and surrounding states. He is also responsible for maintaining the model of crustal deformation that NGS uses to correct coordinates and survey data for tectonic motion in the western US. Chris has a PhD from the University of Otago in New Zealand where his thesis concerned the use of survey data to measure of deformation on the New Zealand plate boundary. He also has been a post doctoral researcher in Columbia University and the University of Otago working in crystal dynamics. Chris is adjunct faculty in the department of geography at Northern Illinois University, an adjunct research fellow at University of Illinois at Urbana Champaign and recipient of an IL GIS Association service award in 2009.

WEDNESDAY MORNING WORKSHOP

(9:00 AM – 12:00 PM)

GISP CERTIFICATION CREDITS – 3



THE GISCI CERTIFICATION PROGRAM

Presented by Kingsley Allan, Illinois State Water Survey

Biographical Information: Kingsley Allan has 20 years of GIS experience, and has been a GISP since 2004. He has worked in map making, modeling, 3D visualization, web services, and database building for a variety of projects. Currently he is the GIS Manager for the Coordinated Hazard Assessment and Mapping Program (CHAMP) at the Illinois State Water Survey located on the Urbana campus of the University of Illinois. While serving as ILGISA President in 2006 he was a strong advocate for certification and challenged members to increase the number of GISPs in Illinois to 100, a number we now exceed.



WEDNESDAY MORNING WORKSHOP

(9:00 AM – 12:00 PM)

GISP CERTIFICATION CREDITS – 3

GEO-TAGGING DIGITAL PHOTOGRAPHY

Presented by William Rockwell, Village of Vernon Hills

Biographical Information: Will has been involved in municipal GIS for nearly 10 years. He started as a GIS Technician for the Village of Schaumburg where he worked for over 6 years. He is now the GIS Coordinator for the Village of Vernon Hills.

WEDNESDAY MORNING WORKSHOP

(9:00 AM – 12:00 PM)

GISP CERTIFICATION CREDITS – 3

MOBILE GIS APPLICATIONS

Presenter: David Shaver, Mid-Continent Geographic Science Center, USGS

WEDNESDAY MORNING WORKSHOP

(9:00 AM – 12:00 PM)

GISP CERTIFICATION CREDITS – 3

PRO-GRADE: AN ARCGIS PACKAGE FOR WATER RESOURCES RESEARCH

Presented by Yu-Feng Forrest Lin, Scott. C. Meyer, and Jihua Wang, University of Illinois, Champaign

Biographical Information: Scott Meyer joined the Illinois State Water Survey in August 1989. He earned B.S. with Honor and M.S. degrees in Geology from the University of Wyoming and the University of North Carolina at Chapel Hill, respectively, and is a Licensed Professional Geologist in Illinois. He has professional interest in stream base flow, groundwater recharge, and groundwater issues in northeastern Illinois and is an author or co-author of several publications on base flow and groundwater availability in northeastern Illinois.



WEDNESDAY LUNCH

Lunch is a time to relax, mix, mingle and EAT! ILGISA will be returning to Houlihan's for lunch on Wednesday as we take a break from the workshops and spend some time reconnecting with friends and colleagues. Lunch is included in the registration price for full-day registration (full day or morning/afternoon workshop combination). Lunch will be served in Houlihan's and you will be able to choose between several delectable offerings.



Your dining selection includes coffee, tea or an iced soda, Should you wish to partake in a beer, a glass of wine or a cocktail, you will need to purchase and pay for these items on your own.

For the Meat Lover...Build Your Own Burger

Comes with lettuce, vine ripe tomato and sliced red onion on a whole wheat bun fresh from our oven. Want Cheese? Choose from aged Tillamook cheddar, provolone, gorgonzola or gouda

For those with a Continental Palate...Chicken Parmesan on Focacia

Chicken breast rolled in bread crumbs and flash-sautéed in extra virgin olive oil. With basil pesto, aged provolone, parmesan, marinara

For those close to Mother Earth... Vegetarian-Tuscan White Bean Salad

Goat cheese, tomatoes, white beans, balsamic greens, focaccia crisps

WEDNESDAY AFTERNOON WORKSHOP

(1:30 PM – 4:30 PM)

GISP CERTIFICATION CREDITS – 3**How LAND SURVEYING AND GIS WORK TOGETHER***Presented by Bill Faedtke, DuPage County; and Paul Marchese, Marchese and Sons, Inc. Land Surveyors*

Biographical Information: BILL FAEDTKE is the GIS Manager for DuPage County. He has been with the County for over 35 years. Bill earned a B.A. with a concentration in the management of GIS from DePaul University. Bill's professional experience with the County includes the management of the County's GIS framework databases, the countywide PLSS legal monument system, and a GPS CORS based geodetic survey control network. During his career he has participated in many seminars and workshops to encourage close cooperation between the GIS and professional land surveying communities to improve the accuracy of GIS data.

Biographical Information: Paul N. Marchese is currently the Secretary and Treasurer for Marchese and Sons, Inc. a private land surveying consulting firm in Roselle, Illinois. He started surveying part time in 1969 and became registered in 1979. He is a member of the Illinois Professional Land Surveyors Association and Indian Society of Professional Land Surveyors along with ACSM and NSPS. He is currently serving IPLSA as Chairman for the Legislative Review Committee. Illinois Professional Land Survey No. 2461, Indian Registered Land Surveyor No. 300012, Wisconsin Register Land Surveyor No. 1549 and is also a Registered Real Estate Broker in Illinois. He studied at the College of DuPage and Triton Community College from 1972 to 1974.

WEDNESDAY AFTERNOON WORKSHOP

(1:30 PM – 4:30 PM)

GISP CERTIFICATION CREDITS – 3**USING GPS FOR GIS DATA MAINTENANCE***Presented by Jay Riester and Britt Gill, Seiler Instruments*

Biographical Information: Jay Riester has over 14 years experience in GPS, GIS and Photogrammetry. He provides instructional training classes as well as technical support to our clients on Trimble GPS Mapping products. Jay is also the primary contact for trouble shooting on software and hardware support contracts. Jay graduated from the University of Wisconsin Oshkosh with a Major in Geography. He has extensive experience as a GPS Technician, GPS/GIS Production Supervisor, GPS Field Data Collector and Surveys Assistant performing boundary surveys. Jay is a member of several organizations, such as ST. Louis GIS User Group, (APGA) American Public Garden Association as well as (ASPRS) American Society for Photogrammetry and Remote Sensing and (ILGISA) Illinois GIS Association.

**WEDNESDAY AFTERNOON WORKSHOP**

(1:30 PM – 4:30 PM)

GISP CERTIFICATION CREDITS – 3**GEODESY, DATUMS, AND STATE PLANE COORDINATES***Presented by Todd Horton, Parkland College*

Biographical Information: Todd W. Horton, PE, PLS, is an associate professor and the director of six construction degree programs at Parkland College in Champaign, Illinois, where he has taught surveying topics and construction management since 1998. Mr. Horton has 23 years experience in planning, design, construction, surveying and maintenance of civil engineering projects including commercial structures, residential subdivisions, airfields, utility systems and highways. Mr. Horton is the faculty advisor of the Parkland College Student Chapter of the Illinois Professional Land Surveyors Association. He received his B.S. Civil Engineering degree from the University of Illinois at Urbana-Champaign.

WEDNESDAY AFTERNOON WORKSHOP

(1:30 PM – 4:30 PM)

GISP CERTIFICATION CREDITS – 3

WEB GIS MODERNIZATION: MIGRATING FROM ARCIMS TO ARCGIS SERVER 9.3.1

Presented by Joe Morocco, ESRI Minneapolis

Biographical Information: Joe Morocco is currently a solutions engineer with ESRI, based in the Minneapolis, MN regional office. Joe has been successfully implementing web based GIS technology for over 10 years, working as a consultant and manager in public and private organizations throughout the Midwest.

WEDNESDAY AFTERNOON WORKSHOP

(1:30 PM – 4:30 PM)

GISP CERTIFICATION CREDITS – 3

GIS MANAGER'S WORKSHOP

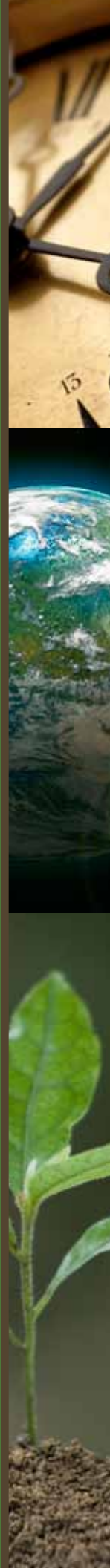
Presented by Curt Hinton, Geographic Technologies Group



Biographical Information: Mr. Curt Hinton, GISP, CEO and co-owner of Geographic Technologies Group, boasts more than 20 years of experience in the use and management of GIS for state, federal, and local governments. As a previous GIS Coordinator for a local government organization, Mr. Hinton has used his knowledge and understanding of local government to effectively consult more than 200 local government organizations in the field of GIS. Mr. Hinton boasts extensive publications and presentations on GIS for local government and has been named GIS Professional of the Year as voted by NC URISA. Along with Mr. Holdstock, Mr. Hinton has received many awards, including URISA Exemplary systems in Government Award, American City and County GIS Excellence Award, and the Florida City and County Management Association.



ILGISA...ALWAYS WORKING FOR YOU THE MEMBER IN ILLINOIS!





KEY NOTE SPEAKER

THURSDAY, APRIL 15, 2010

8:30 AM- 10:00 AM

Chancellor Ballroom

Explore the Past, Present and Future Applications of GIS throughout the second day of the conference. ILGISA is proud to host and recognize **Scott Elrick**, an Illinois State Geological Survey Geologist, for his 2007 discovery of a 300 million year old fossilized forest, found near Danville, Illinois. Widely acclaimed by *Discover Magazine*, this fossilized forest has attracted the attention of the *Smithsonian Institute*, the *Weather Channel*, and the *Discovery Channel*, among others.

Please join fellow conference attendees in welcoming Scott Elrick as he presents on the subject of:

GEOLOGIC SECRETS OF ILLINOIS' FOSSIL RAIN FOREST

ISGS geologist, Scott Elrick will describe the discovery of a 300-million-year-old fossilized forest, found near Danville, Illinois. Photographs of these beautifully preserved and somewhat bizarre plants, many of which are now extinct, will be showcased during the presentation.

This ancient forest is the world's largest intact rain forest from this time ever to be discovered. At just under 10 square miles, the forest's sheer size offers an unprecedented view of ancient forest life and diversity. This rare find, discovered in the roof of an underground coal mine, opens a tantalizing window into the past. The forest plants and their encapsulating geology reveal much about the ancient environmental conditions during the time of their formation and about the coal they left behind. Elrick will describe the geology surrounding this amazing underground discovery and the tectonic and climatic factors that led to the remarkable preservation of this fossil forest.

Scott Elrick was born and reared in Champaign, Illinois. He received his B.S. degree in geology from the University of Illinois at Urbana-Champaign and his M.S. in geology from the University of California, Riverside. He has been a geologist in the Coal Section at the Illinois State Geological Survey for 9 years. His current studies include the stratigraphy, sedimentation, and climate of the Pennsylvanian, emphasizing the timing and origin of coal in the Illinois Basin.





THURSDAY, APRIL 15, 2010
CONCURRENT SESSIONS I - 10:30-12:00 PM

THE ILLINOIS HEIGHT MODERNIZATION PROGRAM- ALMA MATER ROOM

THE USE OF ILLINOIS HEIGHT MODERNIZATION PROGRAM ELEVATION DATA (ILHMP) IN WATER RESOURCES

Presented by David Mick, IDNR Office of Water Resources

ILHMP elevation has been incorporated into most aspects of flood studies at IDNR Office of Water Resources. The availability of this high resolution elevation data and GIS has greatly improved the efficiency and accuracy of traditional water resource analyses. It has also allowed for the development of new GIS applications for mapping National Weather Service river forecasts in near real-time for emergency response. This presentation will demonstrate how ILHMP elevations are being utilized at OWR for: hydraulic model input; floodplain mapping; flood storage calculations; topography hill shading; small project flood studies; and, mapping National Weather Service river forecasts for the Upper Des Plaines River and the Rock River in Winnebago County.

SKILL LEVEL OF AUDIENCE: ADVANCED & INFORMATIVE/TECHNICAL

EARTH AS ART II: ENHANCING PUBLIC ACCESS TO ILLINOIS LiDAR

Presented by Don Luman and Melony Barrett, Illinois State Geological Survey

As part of the Illinois Height Modernization Program, the ISGS Clearinghouse has the primary in-state responsibility for providing public access and distribution of LiDAR elevation data products. To date, LiDAR data deliverables for fifteen Illinois counties have been received at ISGS, and addressing the natural resources applications and data distribution needs during the past year has resulted in a better understanding of the variety of LiDAR data sets. Additionally, testing is underway to improve public access to the increasing volume of high-resolution elevation data. This twofold presentation will showcase selected landscapes from new LiDAR county collections, and also demonstrate a pilot ArcGIS Server web-based mapping service that should provide enhanced access to LiDAR data products.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

THE USE OF ILLINOIS HEIGHT MODERNIZATION PROGRAM ELEVATION DATA (ILHMP) AT IDOT

Presenter Mike Blumhoff, IDOT District 2

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THURSDAY, APRIL 15, 2010

CONCURRENT SESSIONS I - 10:30-12:00 PM

LIDAR APPLICATIONS - LINCOLN ROOM**LiDAR ENHANCED SOIL SURVEY (LESS)***Presented by Dale Baumgartner, USDA, Natural Resources Conservation Service*

In the course of mapping soils, the soil scientist uses a combination of science and art to make the soil map. Soil borings are evaluated by scientific means but soil line placement has been dominated by applying experience, art, and judgment. Many farm programs are based on highly erodible land determinations, and consequently, our soil lines are coming under greater scrutiny. More objective science-based slope determinations are now possible with the advent of LiDAR technology. We have developed a model which uses a series of generalization techniques which will quickly and easily produce an accurate slope map that the soil scientist can use to initiate a soil map update.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & TECHNICAL

IMPERVIOUS SURFACE MAPPING SAVES TIME AND MONEY*Presented by Brian Stevens, Woolpert Inc.*

For years, municipalities and local governments have determined impervious surfaces/land cover through manual methods involving interpretation using stereo-imagery or heads-up digitization from orthophotography. Both methods are time-consuming and costly and are therefore conducted infrequently. To provide a timely and cost-effective approach, Woolpert worked with its client the City of Columbus (Department of Public Utilities) to initiate a method of delineating impervious surfaces via a semi-automated process utilizing ortho-imagery and LiDAR. Fusing ortho-imagery and LiDAR together provides an accurate means of deriving impervious surfaces located throughout the City and enables the City to more frequently update the impervious surface layer. This presentation will cover the existing method used to delineate impervious surfaces and explain the benefits realized from implementing the semi-automated extraction process.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

MOBILE LiDAR - WHAT IS IT AND HOW IS IT USED?*Presenters Doug Fuller and Rob Merry, Aero-metric, Inc.*

We will describe the technical considerations for a mobile LiDAR project and highlight an actual project. Technical personnel as well as managers would benefit from this presentation. Description of the LiDAR equipment used, how it is used, and the benefits will be explained. The project to be highlighted is one that was completed for Illinois DOT.

SKILL LEVEL OF AUDIENCE: BEGINNER & TECHNICAL

GIS SERVER - EXCELLENCE ROOM**A DASHBOARD APPROACH TO GAINING INSIGHT INTO ArcGIS SERVER***Presented by Brock Kingston, Geocortex/Latitude Geographics*

Pressured to demonstrate return on investment with ArcGIS Server? Curious how well your customers interact with your sites? Struggling to pinpoint application bottlenecks or understand where performance-enhancing improvements are required? Learn about how other organizations like yours are doing it! Geocortex Optimizer from Latitude Geographics is a software utility that captures, organizes, and analyzes information about your ArcGIS Server sites and related infrastructure. With Geocortex Optimizer, you can measure and optimize the performance of your ArcGIS Server, understand and communicate how people are actually using your ArcGIS Server applications, and maximize the uptime of your applications. More than a simple data aggregator, Geocortex Optimizer helps you get the most out of your ArcGIS Server investment by providing suggestions and best practices on how you can improve the performance of your GIS server and related services. Learn more about how several different organizations are gaining insight into their ArcGIS Server environment.

SKILL LEVEL OF AUDIENCE: BEGINNER & TECHNICAL

GIS IN HEALTH - TECHNOLOGY ROOM

THE COMMUNITY OBESITY MEASURES PROJECT: GIS PROTOCOLS

Presented by Kevin Gibbs, University of Illinois at Chicago

The Community Obesity Measures Project (COMP) is a nationally representative study of over 200 school enrollment zones in the United States. The project samples food and physical activity environments as well as various local policies and built environment measures. Field teams collect food availability and pricing at food outlets, block by block street segment characteristics, and inventory parks and park programming. This information is then referenced with other studies measuring the health of the school's student population. The project's aim is to show relationships between the health of the students and the communities they live in. This presentation will describe the data sources which were used and the measures that were constructed from the data collected as well as data source validation and the process of assembly and georeferencing of all school enrollment zones.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

THE ROLE OF GIS IN THE STATE'S RESPONSE TO H1N1 INFLUENZA

Presented by Phillip Pittman, Illinois Department of Public Health

During the 2009 H1N1 Influenza outbreaks, GIS was an important tool used to assist public health practitioners and managers in the state's response to the pandemic. The intelligence derived from maps and geospatial analysis were critical tools used for:

- providing situational awareness to responders
- sharing information with outside agencies and with the general population
- guiding public health managers toward decisions to best mitigate H1N1-related morbidity and mortality

This presentation will be informative both to GIS practitioners and to citizens concerned about H1N1 influenza. It will focus on the activities in which GIS in particular was used to assist the public health aspects of the response and on the lessons learned from the experience.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

IMAGERY - HUMANITIES ROOM

INTELLIGENT OBLIQUE AERIAL IMAGERY - OVERVIEW, DEPLOYMENT, AND GIS INTEGRATION OPTIONS

Presented by Jeff Leonhard and Craig Witmer, Pictometry International, Corp.

Intelligent geo-referenced Oblique Aerial Imagery has become a powerful tool for agencies all over the country in recent years. This presentation will give an overview of Intelligent Oblique Imagery, including what it is, how it is different from traditional aerial photography, the advantages of using oblique imagery and what types of tools are available to use Intelligent Oblique Imagery in the GIS environment. Specific applications will be showcased including new web based deployment options that use image tiling technology to deliver imagery over the web in a fast and efficient way. The discussion will also focus on integrating oblique imagery into the web environment with ArcGIS Server as well as other GIS integration options.

SKILL LEVEL OF AUDIENCE: ALL LEVELS & INFORMATIVE

AN EASIER AND FASTER WAY OF STREAMING ORTHOPHOTOS

Presented by John Ruffing, LizardTech, Inc.

An easier and faster way of streaming orthophotos showing examples of how the State of New Jersey Office of Geographic Information Systems and North Carolina One Map were able to provide an easy way of streaming instant State and local compressed aerial imagery fast, instantly and with low cost of resources needed. This presentation should be attended by any personnel interested in learning about solutions available for delivering imagery to local and external end users.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

THURSDAY, APRIL 15, 2010

CONCURRENT SESSIONS I - 10:30-12:00 PM

GPS & GEOCODING - KNOWLEDGE ROOM**CUSTOM STATEWIDE ENTERPRISE GEOCODING SOLUTION***Presented by Mike Maroon, GIS Solutions, Inc; and Dan Wilcox, IDOT*

Geocoding is the process of determining real-world coordinates from the description of a place, usually a street address. These coordinates are locations that can be displayed on a map or used to determine other important location specific information, such as political districts or census boundaries, or perform spatial analysis. People can understand what these descriptions (street addresses, zip codes, city names, points of interest, etc.) mean and how they relate to locations on the earth's surface. A computer must be given geometric representations, real-world coordinates, of these locations. Related functions to geocoding include the validation of addresses, which tests that an address is physically deliverable, and standardization, which ensures that address data is in standard and usable format.

The Illinois Department of Transportation (IDOT) intends to implement a custom statewide enterprise geocoding solution based on GIS Solutions, Inc. Geocoding Web Services. The web service architecture will enable users to incorporate geocoding into business applications where address data is routinely collected and processed. This technology implements the latest tools, techniques, and data to provide the "next generation" of geocoding technology made available to ArcGIS users. This presentation will discuss Coding Accuracy Support System (CASS) Certification address validation and cleansing, matching to parcel point locations, high performance large batch geocoding, and how IDOT's geocoding solution will effect state government.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

AVOIDING THE COMMON GPS PITFALLS*Presented by Jay Riester and Britt Gill, Seiler Instrument*

Mapping-grade GPS units have the capability for submeter, subfoot, and even 4-inch accuracy. However, improper form in the field and improper procedures in the office can make achieving these levels of accuracy very difficult or impossible to achieve. This presentation will cover the most common areas affecting GPS accuracy such as: Productivity vs. precision, averaging positions, properly holding the GPS unit, multipath, using external antennas, different procedures points/lines/areas, special considerations for subfoot accuracy, differential correction, coordinate systems, datum shifts, and more!

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & TECHNICAL

GIS IN EMERGENCY MANAGEMENT & PUBLIC SAFETY - QUAD ROOM**HAZUS-MH: FEMA'S METHODOLOGY FOR ESTIMATING POTENTIAL LOSSES FROM DISASTERS***Presented by Lisa Graff and Brad McVay, INRS, Illinois State Water Survey*

In HAZUS-MH, current scientific and engineering knowledge is coupled with the latest geographic information systems (GIS) technology to produce estimates of hazard-related damage before, or after, a disaster occurs. The Illinois State Water Survey at the Institute of Natural Resource Sustainability is working with the University of Illinois Extension on completing risk assessments for Local Mitigation Plans. An overview of the approach used for risk assessment utilizing FEMA's HAZUS-MH methodology will be covered. Demonstration will include modifying default HAZUS inventory, selecting HAZUS inputs, and completing a HAZUS flood analysis.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

GIS FOR DAMAGE ASSESSMENT, EOC & PUBLIC SAFETY*Presented by Curt Hinton, Geographic Technologies Group*

Natural and manmade disasters are an unfortunate reality that we have to deal with. GIS tools available today allow emergency personnel to save time, lives, and money. This session will focus on how three communities have implemented GIS field damage assessment tools built using ArcGIS Server technology. Additionally, the EOC's for these communities have an ArcGIS Server portal that allows them to view all pertinent data in real time. Their usage of the software will be detailed. This session will be beneficial to all involved with an EOC.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

HISTORICAL PERSPECTIVE OF GIS - INNOVATION ROOM

USE OF CURRENT GEOGRAPHIC INFORMATION SYSTEM (GIS) LAYERS AND HISTORIC AERIAL IMAGERY TO ADD GEOSPATIAL COORDINATES TO HISTORIC MAPS, FOR APPLICATION IN A CITY GIS

Presented by Brandon Haist, City of Champaign Information Technologies Department

Two sources of legacy data are historic aerial photography and maps. Digitized copies of maps were edited with graphics software, then georeferenced to the City of Champaign GIS. Layers utilized included Parcels, Road Centerline, Pavement Boundary, Building Footprints, Current and Historic Imagery. A Root Mean Square (RMS) value of <2 was obtained for most maps. A transparent background symbology eliminated the "white space" of the maps allowing direct overlay onto other layers. Champaign map years have been extended to include the late 1800s through 1924-1951, containing useful information such as businesses, former streets, potential pollution, changing land use patterns, and historic properties. Limitations of maps include original extent, map error, scale, and quality. Presentation will discuss methodology, techniques, and illustrative examples.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

ANOTHER LOOK AT THE CHICAGO REGION PUBLIC LAND SURVEY BEARING TREES AND VEGETATION

Presented by Jenny McBride, Morton Arboretum

The Public Land Survey conducted in the early part of the 19th century provides some of our best baseline data for pre-European settlement vegetation pattern and structure. The conservation value of information about the original distribution of vegetation and tree species is particularly useful for land managers and others involved in restoration. This presentation will review exactly what information was collected by the surveyors, how the Chicago region data has been converted to GIS format, and offer a brief analysis of the forces that shaped the vegetation pattern. A new interactive web map where users can explore this data on their own will also be introduced.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

DIGITIZING HISTORIC MAPS IN McDONOUGH COUNTY

Presented by Keisuke Nozaki, Western Illinois University GIS Center

The WIU GIS Center obtained old plat maps from 1893 to 2006 as well as aerial photos in 1963 in cooperation with the university library. This presentation covers digitizing process of the maps and applications of extracted data.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

THURSDAY LUNCH

Enjoy a leisurely plated lunch on Thursday, April 15, 2010 while networking and reconnecting with your peers. Available lunch selections are:

Porcini-Crusted Salmon

Parmesan & Panko-Crusted Chicken Breast

Grilled Vegetable Tower

Seared Beef Tips



THURSDAY, APRIL 15, 2010
CONCURRENT SESSIONS II - 1:30-3:00 PM

EXPLORING GIS TOOLS - ALMA MATER ROOM

ARCGIS SERVER AND GEOPDF SOLUTIONS FOR REMOTE AIRFIELD SUITABILITY

DETERMINATION

Presented by Rick Marshall, Vertical GeoSolutions, Inc

The US Air Forces's Air Mobility Command (AMC) at Scott Air Force Base near O'Fallon, Illinois, is tasked with the mission to provide global air mobility ... right effects, right place, right time. The command plays a crucial role in providing contingency, exercise, and humanitarian airlift and air refueling support at home and around the world. As a command with a global area of responsibility AMC is focused on analyzing the capabilities of airfields to support our taskings. In this presentation we will discuss teaming efforts between the AMC Installation Geospatial Information and Services Branch and the AMC Airfield Suitability Branch to use ArcGIS Server as a tool to help visualize airfields for suitability determination, mission planning, and aircrew analysis.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

USING ARCGIS TO MODEL WEEKLY AREAL PRECIPITATION WITH RELATIONSHIPS TO FLOODING

Presented by Shane Strobe, Illinois State University

Precipitation events are an important factor involved in flooding events. A direct relationship between precipitation events and flood events has been assumed by many researchers. Weekly areal precipitation data for the summer of 2008, acquired from NOAA Earth Research Laboratory and the National Centers for Environmental Prediction/National Center for Atmospheric research (NCEP/NCAR), was imported into Geographic Information Systems (ArcGIS) and gridded to present a visual geographic representation of weekly areal precipitation totals across the Midwest region. Precipitation maps created in ArcGIS were then used in comparison to actual flooded area reported by the USGS across the Midwest region in the summer of 2008. Modeling weekly areal precipitation events across the Midwest region help give an analytical and graphical representation of precipitation and its direct correlation with flooding. Using ArcGIS to create and display weekly areal precipitation events develops a reliable model for this type of correlation. Studies such as this can result in the reduction of fatalities and injuries, prevent avoidable damage to private, public and industrial property and improve efficiency, reliability in the industries of transportation, agriculture, engineering and floodplain management during future flood events in the Midwest.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

EXPLOITING THE ESRI VERSIONING TOOLS TO UPDATE IMPERVIOUS SURFACES

Presented by Bob Williams, Sanborn Map Company

Exploiting the ESRI versioning tools for data transfer and workflows between an agency and a contractor have proven to be very beneficial to both parties. The ESRI tools were designed for interagency or multi-departmental sharing of a common database and permitting each user to work on their datasets independently. The innovation occurred by "externalizing" the versioning concept and extending the privileges to a contractor during an update scenario. The impervious surface updates were recently provided for the St. Louis Metropolitan Sewer District. The DB replicas, reconciliation and updates allowed for only the changes to be returned to MSD. The impervious surfaces were stereo digitized directly in an ArcGIS Geodatabase. The method allowed the agency to keep working without interruption. In this case, MSD was able to continue the parcel maintenance and impervious surface calculations, without waiting for the contractor. The method proved to be 30% more efficient, increased quality to a 99% first time acceptance rate, and the project was completed 4 months faster than the previous update. The contractor finished the project in late November 2009, with the new use fees mailed to customers in early January 2010. This presentation is useful for managers and technicians.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

GIS IN THE CADASTER - LINCOLN ROOM

CADASTRAL GIS SOLUTIONS: SUCCESS STORIES AND EXAMPLES

Presented by Russell Olsen, MTC, Inc.

From the basic format of a Cadastral GIS, I will look at some recent success stories that have been published. I will present the solutions that can be utilized for a GIS using cadastral management. I will present some of the underlying basis for the survey adjustments and decisions that are typically made during this process, and how this can impact the usefulness and accuracy of the GIS.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

GOOD FENCES MAKE GOOD NEIGHBORS - EDGEMATCHING WORK BY THE NEIL COUNTIES

Presented by William Faedtke, DuPage County

During the past several years, the consortium of counties in the Chicago metropolitan area known as NEIL have been working to standardize GIS data sharing operations. Our primary focus in the past year has been to develop a common series of county border lines that will be used to edgematch features such as roads, parcels, and districts. This presentation will provide an update of the status of these efforts and describe the background work required to make this project a success.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

MAPS & MOBILITY - QUAD ROOM

A NEW GENERATION OF USGS MAPS

Presented by Shelley Silch, US Geological Survey

"US Topo" is the next generation of topographic maps from the USGS. Digital US Topo maps are designed to look, feel, and perform like the traditional paper topographic maps for which the USGS is so well known. However, in contrast to paper-based maps, US Topo maps provide technical advantages that support faster, wider public distribution and enable basic, on-screen geographic analysis for all users. Arranged in the familiar 7.5-minute quadrangle format, US Topo maps are available free on the Web. Attend this presentation for further information about how to download and use US Topo.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

A GIS-CENTRIC APPROACH TO TRACKING MOBILE ASSETS WITH ARCGIS SERVER AND GEOCORTEX FLEET TRACKER

Presented by Brock Kingston, Geocortex/Latitude Geographics

Managing mobile assets via web-GIS brings with it the challenge of unifying multiple technologies, and the promise of flexible, cost-efficient fleet data and a management toolset. If you're interested in combining the underlying power of ArcGIS Server, with a classic set of AVL tools (geo-fencing, reporting, alerts, vehicle follow, search, etc.) to further leverage your organization's investment in GIS data (or an online base map of your choice), and your existing and/or new hardware (vehicle mounted GPS or cell phones), this session will be of interest for you. Engineered with flexibility and usability in mind, Geocortex Fleet tracker gives you the freedom to build your own reports, self-host the application and store the collected information locally for post-event analysis. A case study of York County, SC will be presented. Even if you're not considering an immediate investment in AVL, or have an existing system in place, we'll convey much of the experience we've gained deploying two generations of AVL software for ESRI server technology in this session.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE



THURSDAY, APRIL 15, 2010

CONCURRENT SESSIONS II - 1:30-3:00 PM

GIS INTERNATIONAL APPLICATIONS - TECHNOLOGY ROOM**IMPACT OF GLOBALIZATION ON CONSUMERISM IN INDIA***Presented by Abhiraj Kumar and Amit Kumar*

The paper will emphasize on the impact of globalization on consumerism in India. Globalization process has inherent tendencies of crass consumerism, leading to changes in occupational structure and income inequalities. National laws may prevent some of the harm of consumers but once national boundaries are crossed, consumers can hope for very limited protection. There is strong motivation for reputable business to observe high commercial standards of behavior. Hence, the legislature, the executive, the judiciary, the civil society and the media should come closer in a big way to collectively tackle the menace of free-market and safeguard the rights of consumers as 'principal beneficiary'.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

MODELING POPULATION DYNAMICS IN AFGHANISTAN*Presented by Charles Ehlschlaeger and Marina Sergej, Engineering & Research Development Center*

Unlike the United States' regular and complete national census, Afghanistan hasn't held a proper census since 1979. The current strife there, as well as the current state of Afghanistan's government, makes it difficult to estimate population totals in provinces and regions. Afghanistan and NATO's reconstruction efforts require good measures of population dynamics to ensure that the projects are appropriate and at the proper scale. This presentation will discuss available data products and techniques being used to assist social and cultural behavior modeling in support of the reconstruction.

SKILL LEVEL OF AUDIENCE: BEGINNER & TECHNICAL/INFORMATIVE

EXPERIENCES WITH SURVEYING AND MAPPING DELHI SLUMS WITH GIS*Presented by Rohit Fumar Singh*

The concepts of 'slums' and their definition vary considerably across the states depending upon the socio-economic condition or local perceptions prevailing in the society. There are regional differences in the names by which these slums are known in India. In Delhi, slums are commonly called 'Jhuggi-Jhompari'. Slums are an integral part of Indian population with a poor standard, lack of basic amenities of life; the slum dwellers lead a pathetic life. Their situation demands great attention of the authorities. The term 'slum' signifies a host of negatives – squalor, poor human living conditions, neglect, unhealthy, dirty, criminal, illegal, and encroachers- terms that signify and communicate what represents a slum as seen through the eyes of government agents and those that have their basic needs fulfilled. Government agents often club the arguments pertaining to lack of space and rapidly expanding slum population, further emphasizing their belief that illegal; encroachers on public/private land cannot be provided for (or do not deserve services). However, numerous policies and programmes related to basic services have been announced that call attention to needs of slum dwellers for basic services.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

THURSDAY, APRIL 15, 2010
CONCURRENT SESSIONS II - 1:30-3:00 PM

TRAINING & TECHNOLOGY - KNOWLEDGE ROOM

THE ART & SCIENCE OF TRAINING, PART 1 OF MANY

Presented by Jeff Palmer, Learning & Technical Strategies, Inc.

Six cardinals govern the world of training; the first and most important, "who" will be introduced to those who are or could be trainers or trainees. We'll start at the beginning and define what training is and what it is not, covering some of the most common misperceptions along the way. The trainer's and trainee's role in the process will be explored and we'll end with visual proof of training's nature in your organization and its return on investment. When you return to your desk at work, the elements of training will be much clearer and you'll know what is expected of a trainer and of a trainee. Part 1 is just the foundation, the table, if you will, not the meal; that is to follow.

SKILL LEVEL OF AUDIENCE: BEGINNER & TECHNICAL

ENHANCED SECURITY SYSTEM USING MULTIBIOMETRIC METHODOLOGIES

Presented by Vikas Billa

The automated use of physiological or behavioral characteristics to determine or verify identity. To elaborate on this definition, physiological biometrics is based on measurements and data derived from direct measurement of a part of the human body. Biometric system is the integrated biometric hardware and software used to conduct biometric identification or verification. Various biometric technologies are fingerprint identification, speech recognition, facial recognition, hand geometry, signature-scan, keystroke-scan, palm-scan, etc. An automatic personal identification system based solely on one methodology often cannot meet the system performance requirements. So a combination of two or more methodologies is used to achieve required performance, which is called multibiometrics. In this paper a security system is proposed by means of multi biometric measurement of an individual using Laboratory Virtual Instruments Engineering Works Software (LABVIEW). The security system can be enhanced by combining or integrating more than one biometric parameter of a person for security reasons. Parameters such as finger print identity, facial identity and Speech identity can be useful for verifying the unique identity of an individual. The results of the verification can be useful for various applications related to security issues ranging from workstation and network access, ATM machine, Travels, Airport etc.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

GIS WEB BASED - EXCELLENCE ROOM

MIGRATING FROM ArcIMS TO ArcGIS SERVER – ATLANTA REGIONAL COMMISSION, ATLANTA, GA

Presented by Brock Kingston, Latitude Geographics

Help my web-GIS developer left! Custom code to perform database linking, reporting, search, dynamic symbolization and more – how do we port this over to ArcGIS Server? Learn how the Atlanta Regional Commission made the careful move from ArcIMS to ArcGIS Server while maintaining full consistency with a legacy application combining demographic, transportation, land use and environment planning components.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

THURSDAY, APRIL 15, 2010

CONCURRENT SESSIONS II - 1:30-3:00 PM

GIS IN AGRICULTURE - INNOVATION ROOM**TRACKING COMMODITY DATA USING SERVER-BASED GIS***Presented by Carmen Bremmer and Adam Pfister, Archer Daniels Midland Company*

In a business where volumes of data are collected continuously throughout the day, making sense out of the data could be challenging. Compiling it in such a way as to make better business decisions can be overwhelming. When that business is based on agriculture, one of the best methods of compiling all this data and making sense of it is through the use of GIS technology. ADM is leveraging server-based GIS to deliver hundreds of thousands of records of origination and finished goods data to traders and merchandisers across the US and Canada. This presentation will cover both an overview of the data collected, the types of business decisions made each day and how the Commodity Tracking System has been designed to provide the decision-makers with the information they need; and some of the technical aspects behind the integration and customization of internal data with ESRI's ArcGIS Server on the .Net framework and the Google Maps API.

SKILL LEVEL OF AUDIENCE: ALL LEVELS & TECHNICAL

DEVELOPING A NUTRIENT USE GIS USING AGRICULTURAL STATISTICS DATABASES*Presented by Ryan Williams, PAQ Interactive*

The Nutrient Use GIS (NuGIS) project is sponsored by the International Plant Nutrition Institute. A main initial goal of the project is to produce county-level nutrient budgets and maps for all 48 states in the contemporaneous United States for 1987, 1992, 1997, 2002, and 2007. A nutrient budget is calculated by subtracting Nutrients removed by harvested crops from Nutrients input by fertilizer, plants, and manure. In its current state, NuGIS estimates nutrient budgets for Nitrogen, Phosphorous, and Potassium, using crop production data for 21 crops for 15 years, Livestock production data for 15 animal categories for 5 years, and Fertilizer use data for N, P₂O₅, and K₂O, for 5 years, all for 48 states. We analyzed federal datasets from the USDA-National Ag Statistics Service, US Census of Agriculture, and Fertilizer Control agencies. Recently we've begun to incorporate national land use maps-land cover maps into NuGIS and have built tools to speed the visualization of maps produced with the NuGIS data. We now create maps for crop production, nutrient removal, nutrient input, nutrient balance, efficiency ratios and more at the County, HUC-8 Watershed, Major Hydrologic Region, and national scale. The presentation would focus on the challenges of using these agronomic datasets, having different geographic scales and scopes, spanning 20 years. From a technical viewpoint It would discuss some of the techniques used in getting this data to the map, automating the production of the numerous maps, and the challenges involved with getting data for every county in the US. From a non-technical, more analytical viewpoint it would discuss some of our findings, the basic trends we've seen over 20 years across the geography of the US, and what this information is being used for. It may also discuss some geography of agriculture and how practices differ across the U.S. I think it would be a great fit with another Agricultural data talk (NASS gave one last year about the Cropland Data Layer) or with a physical geography talk. We learned many lessons about working with federal county level datasets, working with data that is sometimes restricted or sporadically reported, and working with large amounts of data. We also learned lessons about customizing ArcGIS to automate map production and are experimenting with connecting the NuGIS model that calculates the Agronomic data to a web based mapping interface.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE



THURSDAY, APRIL 15, 2010
CONCURRENT SESSIONS II - 1:30-3:00 PM

GIS CAREER & JOBS - HUMANITIES ROOM

ILGISA STUDENT CHAPTERS: NEXT GENERATION OF THE GIS WORKFORCE

Presented by Dr. Rich Schultz, Elmhurst College

Designed to provide information for students and faculty members at two- and four-year academic institutions, this presentation offers an introduction to ILGISA Student Chapters, how they can be formed, what purpose they serve, and what benefits might result from establishing a student chapter. Potential employers may be interested in attending as well to see where the next generation of the GIS workforce is coming from.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

SKILLSET OF A GIS TECHNICIAN

Presented by Dr. Mike Rudibaugh, Lake Land College

Mike Rudibaugh, Ph.D., who has been working with the GeoTech team, will discuss the team's findings regarding core competencies associated with the GIS Tech. Position. This presentation will demonstrate and summarize recent findings from the U.S. Department of Labor and GeoTech Team on the possibility of defining the GIS Technician through core competencies shared across occupational sectors using geospatial technology.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

GIS CAREERS PANEL DISCUSSION:

Several GIS Professionals will provide their insights into the GIS field and the hiring process. Perspectives will be offered from both sides of the interview process, ranging from that of a young professional having just recently completed the job finding process to that of seasoned GIS professionals having hired numerous GIS technicians.

THURSDAY, APRIL 15, 2010
CONCURRENT SESSIONS III - 3:30-5:00 PM

GIS IN PUBLIC WORKS - LINCOLN ROOM

GIS-CENTRIC ASSET MANAGEMENT AT THE CITY OF CHAMPAIGN, IL

Presented by Josh Stroessner, Azteca Systems and DeShawn Robbins, City of Champaign Public Works Department

This presentation will illustrate the use of GIS and Work Order Management in the Public Works/Utilities sector - Namely at the City of Champaign, IL. GIS processes include asset inventory which public works and utilities can benefit from if done correctly. The GIS-centric approach presented will illustrate the long-term benefits of an on-going GIS-based work order maintenance management program. A PowerPoint along with an actual demonstration of Cityworks and how it relates to the City of Champaign will be presented.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

TOLL BROTHERS SANITARY RECAPTURE

Presented by Brian Valleskey and Scott Koehler, Cowhey Gudmundson Leder, Ltd.

GIS was used to develop a sanitary recapture model through the collaboration of Cowhey Gudmundson Leder (CGL), Toll Brothers and the City of Elgin. The City requested that all information from the addition of new parcels become incorporated into a GIS based system capable of generating automated reports and in a system that can be easily added to the City's GIS system after recapture is complete. CGL utilized the XTools Extension to produce an automated report writing tool based on the distance of the parcel from the sanitary plant and the specific recapture zones involved for that particular trunk sewer. The model produces a summary printout file for Toll Brothers to bill the parcel owner and serves as a record for the City of Elgin. The model encompasses five (5) recapture zones (roughly 11,500 acres) in western Elgin.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

THURSDAY, APRIL 15, 2010
 CONCURRENT SESSIONS III - 3:30-5:00 PM

IMAGERY - QUAD ROOM

SMARTVIEW – A NEW DIMENSION IN OBLIQUE AERIAL VIEW IMAGERY

Presented by Brad Fugate, CP, Woolpert, Inc.

Woolpert's SmartView™ OAV system will allow users of both standard orthoimagery and oblique imagery to view and gather valuable visual information. This presentation will demonstrate how SmartView users will be able to maintain and create GIS data in ArcGIS, while simultaneously viewing oblique imagery and vertical orthoimagery. Those without GIS software will be shown how SmartView can be used without the need of any specialized software. This product will give GIS professionals and everyday users a unique tool for feature analysis and critical decision-making.

SKILL LEVEL OF AUDIENCE: **BEGINNER & INFORMATIVE**

ADVANCED ORTHO IMAGE PROCESSING

Presented by Craig Molander, Surdex Corporation

This presentation discusses the advances in processing digitally-acquired imagery into high quality final products. It is intended to be both informational and educational. New advances in processing algorithms and software have reduced the image processing workload in production, increased product quality, and decreased project timelines. Included are treatment of 4-band imagery and the use of reference images to establish color, tone, and balance prior to production. This information will be useful and interesting to the GIS community that uses ortho imagery as their base data layer. They will learn that not all ortho images are created equal.

SKILL LEVEL OF AUDIENCE: **ADVANCED & TECHNICAL**

GIS AND FOIA - TECHNOLOGY ROOM

This session will include two speakers talking about issues relevant to Illinois Freedom of Information Law and GIS data. Our speakers will include a Deputy City Attorney and a County Supervisor of Assessments. We will welcome audience participation during this session in the form of questions for our presenters and updates from other communities regarding their stance on FOIA and GIS data.

A LEGAL REVIEW FROM A MUNICIPAL PERSPECTIVE

Presented by Trisha Crowley, City of Champaign

Trisha Crowley, Deputy City Attorney for the City of Champaign, will discuss recent changes to Illinois Freedom of Information Law and how they impact the GIS field in our state. Trisha has been investigating the relation of the Illinois Freedom of Information law to GIS for several months as part of a process of developing policies related to GIS data distribution. She has been working with attorneys representing other governmental partners in the Champaign County GIS Consortium. Data sharing & individual members responsibilities under the FOIA will affect the Intergovernmental Agreement. Her presentation will address both the general affects of the FOIA law on GIS as well as the more specific situation created by intergovernmental consortiums.

SKILL LEVEL OF AUDIENCE: **INFORMATIVE, BEGINNER**

SAGE INFORMATION SYSTEMS v. GRUNDY COUNTY SUPERVISOR OF ASSESSMENTS

Presented by David Henderson, Grundy County Supervisor of Assessments

David Henderson, the Supervisor of Assessments for Grundy County will talk to us about the recent case; "SAGE INFORMATION SYSTEMS and ROGER W. HURLBERT, Plaintiffs-Appellants, v. DAVID HENDERSON, Grundy County Supervisor of Assessments, Defendant-Appellee, (opinion filed 1/29/10). This case centered on fees being charged by the County Assessor's office for property Assessment data.

SKILL LEVEL OF AUDIENCE: **INFORMATIVE, BEGINNER**

MOBILE GIS - HUMANITIES ROOM

3D MOBILE MAPPING

Presented by Dave Henderson, Topcon Positioning Systems

The building and management of a Geographic Information System and infrastructure asset information requires an organization to collect reliable and accurate field data. Pressure for organization's to do more with less, increasing operational efficiency and productivity while reducing operating cost is a major theme. This combined with limited resources and capital constraints, while still maintaining high quality standards of data accuracy and reliability is a market driver to find alternative solutions for the acquisition of infrastructure asset data. A new paradigm for the acquisition of field data has recently emerged, allowing GIS, Surveying and mapping professionals to capture highly accurate 3D data at highway speeds, safely from a vehicle. 3D mobile mapping systems allow a user to collect millions of points at once, and then distill that information down, for use in many different applications. This flexible system acquires accurate 3D LiDAR "point cloud" data integrated with 360° spherical color digital images. From the 3D model user's can extract GIS feature / attribute and metadata information for storage and access in their GIS database. Data can be accessed at any time from the office, and information can be mined and extracted based on the user's changing GIS mapping requirements. The visual imaging information combined with point cloud and feature / attribute information provide a thorough and complete dataset of infrastructure asset information. With this new paradigm in 3D mobile mapping organizations, owners, executives, administrators and managers can realize operating efficiencies, while reduce operating costs and increase profitability.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

VERTICAL GIS - INNOVATION ROOM

CASE STUDY: DuPAGE COUNTY – BENEFITS OF UTILIZING A HEIGHT MODERNIZATION PROGRAM

Presented by Scott Lutz and Mike Pordes, Patrick Engineering, Inc.

DuPage County has been actively working on a Height Modernization program over the past few years. While the obvious benefit of having a program is the ability to get accurate elevations efficiently, there have been other benefits that have helped the GIS Department. Such benefits are the streamlining of spatial data for subdivisions; permit drawings, as-built drawings. Presentation will focus on the work involved to implement a Height Modernization Program; efforts to check and evaluate the elevations derived from Real Time Kinematic GPS data collection and OPUS-RS GPS control, and planned efforts to streamline data submitted from the private sector such that it can be managed by public entities. Learned lessons and technical complications of resolving GPS heights will be presented. The intended audience is for managers, public officials, GIS staff, and land surveyors.

SKILL LEVEL OF AUDIENCE: ADVANCED & INFORMATIVE

NEXTMAP® – A NEW NATIONAL ELEVATION LAYER FOR THE US

Presented by Drew Chamberlain, Intermap Technologies

High resolution elevation data are an essential component for many applications including line of hydrological, engineering pre-planning, 3D Visualization, as well as for orthorectifying high-resolution satellite and aerial imagery and conducting GIS analyses. Among the various options for collecting digital elevation data is IFSAR (Interferometric Synthetic Aperture Radar) a radar based technology capable of producing elevation products with vertical accuracies of less than 1m RMSE (root mean square error). IFSAR is a proven, reliable and cost-effective method for capturing wide area, high precision elevation data sets. This presentation will focus on the use of Intermap's airborne single pass IFSAR technology to build a national elevation dataset for the US, including background on the technology used, reasons for using this approach, and the benefits and applications of the data.

SKILL LEVEL OF AUDIENCE: ALL LEVELS & INFORMATIVE



THURSDAY, APRIL 15, 2010

CONCURRENT SESSIONS III - 3:30-5:00 PM

REMOTE SENSING - KNOWLEDGE ROOM

ASSESSMENT OF OBJECT-ORIENTED FEATURE EXTRACTION TO SUPPORT THE U. S. ARMY CORPS OF ENGINEERS MITIGATION AND RECOVERY LAND COVER MAPPING SERIES

Presented by David K. Shaver, Mid-Continent Geographic Science Center, USGS

In 2008, the Mid-Continent Geographic Science Center (MCGSC) developed a hybrid approach to mapping land-cover classes on U.S. Army Corps of Engineers (USACE) mitigation and recovery sites along the lower Missouri River. The objective of this project was to investigate methods to reduce the cost of producing large-scale land-cover maps for their mitigation and recovery sites. The USACE provided multiple return airborne Light Detection and Ranging (LIDAR) data, hyper-spectral image data, high-resolution true color digital aerial photographs, and the thematic land cover classifications. Several software packages were assessed for ease of learning and use, consistency of application design between versions, ability to create model libraries, processing time, batch capability, and the level of involvement of the human interpreter.

The project resulted in a hybrid mapping approach that includes a combination of automated feature recognition, supervised image classification, and visual interpretation techniques. Although implementing this approach will require the acquisition of new mapping hardware and software and using a wider variety of digital image and elevation data, it was found to reduce the time required to produce the land cover classification maps of the mitigation and recovery sites.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & INFORMATIVE

DETERMINING OPTIMAL SPATIAL RESOLUTIONS FOR GIS AND REMOTE SENSING MAPPING

Presented by Guangxing Wang, Southern Illinois University at Carbondale

In GIS and remote sensing mapping, spatial resolutions mean the sizes of pixels or map units used to generate spatial pattern and distribution maps of interest variables in raster data model. The pixel sizes can be arbitrary and modifiable, and thus, the corresponding results and conclusions do not possess any validity independent of the pixel sizes. On the other hand, the analyses on ecological and environmental systems' structures, spatial patterns, processes, and their dynamics are dependent on spatial resolutions. Spatial patterns and ecological processes that show up in a spatial resolution may disappear in another. Thus, finding out the optimal spatial resolutions is critical to capture the characteristics of the systems. This presentation reviewed the existing methods used to determine optimal spatial resolutions in GIS and remote sensing mapping and proposed a new spatial variability and autocorrelation based method. The results by comparing these methods showed the proposed method led to consistent optimal spatial resolutions with the traditional methods for mapping a soil erosion cover factor. Moreover, the new method provided a potential to use remotely sensed images instead of ground data to determine optimal spatial resolutions. In addition, the results by cross validation also showed the optimal spatial resolutions obtained by the new method were the most cost-efficient for mapping the soil erosion cover factor. Keywords: GIS and remote sensing mapping, optimal spatial resolution, soil erosion, spatial variability and autocorrelation.

SKILL LEVEL OF AUDIENCE: INTERMEDIATE & TECHNICAL

ARCGIS: THE ROAD AHEAD - ALMA MATER ROOM

ARCGIS: THE ROAD AHEAD

Presented by Mike Koutnik, ESRI Minneapolis

This presentation will provide an overview of the capabilities released at ArcGIS 9.3.1, including the performance improvements of dynamic map publishing and increasing the sharing of geographic information. We will also introduce some of the new concepts of ArcGIS 10. ArcGIS 10 is a major release of all aspects of ArcGIS and is designed to help you perform your GIS work faster and more efficiently.

SKILL LEVEL OF AUDIENCE: BEGINNER & INFORMATIVE

2010 ILGISA OUTSTANDING STUDENT AWARDS

Presented to an undergraduate student of any major who has included GIS in their course of study. The individuals nominated shall have demonstrated exemplary proficiency and understanding of GIS, potential contribution to the GIS Community, and general success in school.

OUTSTANDING STUDENT AWARD NOMINEE

ALEXANDRA DIANA MATIES, DEPAUL UNIVERSITY

The Department of Geography at DePaul University nominates Alexandra Diana Maties for ILGISA Student Award. Let me begin with what she has done in regard to GIS, then elaborate on why she deserves recognition.

As part of course work in GEO242 (GIS II) at DePaul University, Diana Maties worked for community-based organization, CO-OP (Community Organizing for Obesity Prevention), mapping access to fresh produce in Humboldt Park, a predominantly Puerto Rican community in Chicago. This is part of large-scale program designed to understand food access in this minority community and devise measures for obesity prevention. Maps detailing food retailers were produced for CO-OP by a group of students, but it was Diana who effectively took the leadership role. These maps will be used to inform community members about the locations of retailers selling nutritious fresh foods so that they can make healthier choices. The student work on this project, led by Diana, not only demonstrated an ability to understand principles of information visualization, including cartographic design, but also appropriately applied these principles to real-world problems while working around challenges of implementing GIS in 'less-than-perfect' situations filled with constraints. In addition, Diana's ability to connect her GIS work to community contexts, and demonstrate what the results of GIS work mean to real people in this community, is a reflection of her intelligence and integrity. I urge you to look through the report she produced for her team and CO-OP. You will be pleased to see how her compassion and critical thinking skills can be a potentially great asset to building not only the GIS community, but, more broadly, a just society.

Diana's simultaneous pursuit of social justice and further proficiency in GIS was well demonstrated in a term paper she wrote for another GIS course (GEO244: GIS III). In this GIS project, Diana explored environmental justice in Cook County, IL., by looking at the relationship between income, race and air pollution. I want to point out that this project was ambitious, given the amount and quality of data that Diana had to work with. One of our GIS faculty, Professor Julie Hwang, told me that Diana never complained while taking on this big project independently, and ultimately devised her own GIS methods to explore the relationship between race and air pollution. Clearly demonstrating that she enjoys GIS work that contributes to communities in Illinois, in this project Diana was not afraid of going beyond what she had been taught to further develop her GIS skills. The scope and level of her work clearly showed that Diana does not play safe just to get a good grade; rather, she wants to do a good job that can go beyond an academic setting. Diana is especially passionate about environmental justice issues and in 2009 her GIS project on race, income and air pollution was deservedly awarded one of two DePaul University Department of Geography Leahy Awards for the best paper written by an undergraduate student in the preceding academic year.

Since 2008-2009, Diana Maties has served as a peer advisor and GIS laboratory assistant at DePaul University. In this capacity, she helps students who take introductory GIS courses, troubleshooting problems and assisting with laboratory exercises. Diana also worked as a laboratory assistant for several advanced GIS undergraduate courses. Her work was highly rated by fellow students; one student once said in the course evaluation that "my paper would not have been in this shape without her help". A group of students said during their presentation that "Diana was an absolute help to our work". Professor Patrick McHaffie simply tells me that Diana is the "best GIS laboratory assistant" he's ever worked with at DePaul. She is similarly applauded by the other students who currently serve as GIS laboratory assistants, all of whom turn to Diana to solve GIS problems that they cannot.

In addition to this work, which I must emphasize has all been completed while an undergraduate, Diana has served as a research assistant to Professor Winifred Curran, contributing to a McArthur Foundation project that will catalog and map affordable rental housing in Chicago. Diana has also been a good citizen in our department, serving in a dedicated and professional manner as a student representative on our recent tenure and promotion cases. As a person who interacts with Diana regularly, I know she has what it takes to make a great contribution to the GIS community, namely her integrity, enthusiasm, and professionalism, not to mention her great understanding of the subject matter. She deserves every bit of applause not only for what she has brought to us at DePaul, but also for what she could bring to the GIS community in Illinois.



OUTSTANDING STUDENT AWARD NOMINEE

DAWN HECKMAN, ILLINOIS STATE UNIVERSITY

It is with great pleasure that I wish to nominate Dawn Heckman for this year's ILGISA student award. Over the course of the last three years, I have observed Dawn in a variety of contexts throughout her undergraduate studies at Illinois State University, and have enjoyed watching her develop into a GIS professional. Currently, Dawn is a senior undergraduate geography major at ISU, emphasizing her studies in the area of Geographic Information Science. Upon graduation this upcoming spring, Dawn's plans include completing a GIS internship this summer, and then pursuing full-time employment in the GIS industry in Illinois.

Academically, Dawn has prepared herself well for a future career path in the GIS industry through a balance of courses in areas such as GIS, remote sensing, cartography, statistics, and geography. Throughout her coursework, Dawn has performed at the top of her undergraduate geography class. I have had the good fortune of having Dawn as a student in three courses: Cartography, Advanced Geographic Information Systems, and Remote Sensing. She performed superbly in all three courses, easily surpassing the efforts of other students in the courses and going well beyond course expectations. Dawn is a very conscientious student, one who always completes her work with great care and attention to detail. She is the type of student that challenges herself to go beyond what is expected in the classroom, and seeks to gain a deeper understanding of topics covered in class. On many occasions, I have enjoyed conversations with Dawn outside of the classroom about various topics related to GIS and developments/trends in the industry. I have no doubt that the skills that Dawn has developed over the years of her academic study will translate into a bright career in the field.

In addition to her coursework, Dawn has enriched her academic studies with several other opportunities as a student assistant. For example, Dawn has served as a student teaching assistant for the Department's Cartography, Introduction to GIS, and Remote Sensing courses. Over the last three years, Dawn has become an invaluable and versatile member of the Department's Institute for Geospatial Mapping and Analysis (GEOMAP). As a GEOMAP student assistant, Dawn has provided GIS, remote sensing, and cartographic support to several projects. One project involved image processing of satellite imagery for state agencies during the 2008 summer flooding. Dawn also served as a key team member for a project that developed a campus GIS database for the ISU campus. For another project, Dawn assisted with image processing that was utilized for assessing the Emerald Ash Borer infestation in Chenoa, Illinois. This past fall, she assisted ISU's Habitat for Humanity with the planning of routes around the community for fundraising. Currently, Dawn is providing GIS expertise to a faculty member in the Anthropology Department for a project that is examining artifacts recovered from an archaeological dig. In all of these projects Dawn's work has been exceptional, and she has demonstrated a high degree of independence and reliability.

In summary, I highly recommend Dawn Heckman for consideration of an ILGISA student award. If selected, it will be an honor that she would greatly appreciate and cherish. Dawn plans to attend the upcoming Spring Conference, and will no doubt be an active ILGISA member in the state for years to come.

OUTSTANDING STUDENT AWARD NOMINEE

KEVIN HLAVA, ELMHURST COLLEGE

Kevin is an excellent student in the top tier of Geography and Geosciences majors at Elmhurst College. He is extremely diligent and his persistence in working through difficult problems sets him apart from his peers. He is passionate about forestry in general and the National Parks System in particular. These interests led him to develop an exemplary historical GIS project on the Civilian Conservation Corps (CCC) last spring semester. His research was almost exclusively self-directed, in the course of which he discovered and mapped some fascinating data relating to the racial makeup and spatial distribution of CCC camps. Kevin is currently working at Argonne National Lab in two capacities:

- 1) using GIS to research wind patterns for the purpose of studying alternative energy resources (wind power) and
- 2) using GIS to construct a Federal Land Atlas.

He won the "Outstanding Student Paper Award" last Fall for his presentation on the CCC and has worked tirelessly to promote GIS in the community.

OUTSTANDING STUDENT AWARD NOMINEE

NIKKI CHAFFIN, DEPAUL UNIVERSITY

Nikki Chaffin's work as part of her GEO242 - GIS II course at DePaul University was a community GIS project that centered on mapping the current employment status and residences of recent graduates of Cook County Sheriff's Boot Camp. This was conducted at the request of the Chicago Federation of Labor Workers Assistance Committee (CFL-WAC) which was interested in understanding the dynamics of job searches by ex-offenders as part of a larger scale effort to help these individuals get back into the workforce. Nikki found that ex-offenders' tendency to re-engage in criminal activities seems to be correlated with neighborhood characteristics such as crime, poverty and unemployment rates. Such results confirm numerous scholarly findings on the costs of social isolation and poverty in contemporary cities. What most surprised (and impressed) faculty members like GIS instructor Professor Julie Hwang was how well Nikki, taking on a leadership role in her student group, framed the project's research questions, particularly given the context of the problems addressed and the mission of CFL-WAC.

In GEO244, our most advanced undergraduate GIS class, Nikki collaborated with Enlace Chicago (a Little Village community organization) to explore whether "Blue Lights" have any effect on crime prevention. Nikki's project also analyzed the spatial distribution of community leaders to assess efficient community organizing efforts in the future, as well as the location of foreclosures and their impact on crimes. This GIS project presented tremendous challenges with regard to acquiring relevant data such as crime locations, foreclosures, and demographics, and then appropriately applying GIS methods of spatial analysis to the problem at hand. Nikki found that the effect of Blue Lights are geographically limited, and do not coincide with the location of homicides. She thus made a recommendation for the expansion of Chicago's Blue Lights. It was notable that Nikki persisted with this GIS project, working through the many challenges presented by the data, and skillfully executed the final analysis.

Beyond this course work, Nikki Chaffin serves as a research assistant for Professor Alec Brownlow. In this project she has undertaken extensive GIS mapping and database management activities involving crime and population mapping in several US cities. Her work has been impressive and professional. What comes across most strongly in all her GIS work is Nikki's knowledge of GIS software, her creativeness and ability to problem solve around complicated questions, and her ability to understand and explore spatial relationships (often in locations that she has little first-hand knowledge of or experience with).

The strengths (and all too often the weaknesses) of community GIS projects are how well the results can be used by community members and organizations beyond the classroom. To some extent, this is often dependent on how well the research questions are framed. Nikki's abilities to ask the right questions, execute GIS analysis in a proficient manner, and draw thoughtful conclusions exceeded the Department's expectations of what our undergraduate students can typically accomplish. As a Department, therefore, we have no hesitation in proposing that Nikki's keen interest and intelligent reasoning in GIS will continue to make a good contribution to GIS community. Indeed, after graduation in June 2010, Nikki will continue to work in the GIS industry as she going into full time employment with the Army Corps of Engineers. We have no doubt that this future work, combined with her excellent command of GIS, will continue to contribute to the GIS community and thus the Department of Geography at DePaul University strongly supports Nikki Chaffin's nomination for an ILGISA student award.

SILENT AUCTION!

Education is a key part of ILGISA's mission. As such, we are excited to launch the new ILGISA Scholarship Endowment Fund which will eventually provide scholarship monies to deserving students pursuing careers in GIS related fields. Support the newly established ILGISA Scholarship fund, by participating in the silent auction taking place in our exhibit hall. Be sure to stop into the exhibit hall to place your bid for items at the individual exhibit booths. The winning bids will be finalized during the last break on Thursday at 3:30 pm in the exhibit hall.





POSTER GALLERY... AND THE WINNER IS...?

Don't forget to take the time to visit our poster gallery and review the entries from your peers. Poster Authors will be available during the Exhibitor Reception on Wednesday evening from 5:30 – 6:30 PM to field questions and discussion from viewers.

Voting is open through the end of lunch on Thursday and winners will be announced during the afternoon break on Thursday. Many of your colleagues have taken the time to construct and produce these maps for your review.

Some of the pre-registered poster entries include:

STUDENT SUBMISSIONS

Using Geographical Information Systems (GIS) to Model Student 30 Day Alcohol Use Rate in Illinois, Imelda K Moise and Beth Welbes, CPRD/University of Illinois

Given the relationship between the use and abuse of licit substances among adolescents and the built environment, cultural, political and socio-economic position, exploring linkages between health geography and substance abuse is needed within these populations, though often underexplored. The objective of this presentation are two folds: first is to show how Geographical Information Systems (GIS) can be used to visualize Illinois Youth Surveys (IYS) representation, high school student 30 day alcohol use rates and to compare rates by counties and by Chicago community area using a state convenience sample obtained from student self reported IYS. Secondly, is to demonstrate how comprehensive spatial information can be used to support evidenced-based decision making at county and community area levels. The results of this study will highlight underage drinking "hot spots" in the state and will assist Illinois policy makers to strategically redirect and leverage prevention resources to focus on these "hot spots".

Potential Mega-tsunami Hazard Area for New York Coast, Brian Firek, Elmhurst College

The overall goal of the study is to analyze the impacts of a potential mega-tsunami and apply it to an area that could be vulnerable to this type of incident. The use of Geographic Information Systems (GIS) to examine the different aspects of a mega-tsunami is crucial to the study. Information regarding the area it could directly impact can be analyzed using GIS. Planning and developing support systems both before and after a mega-tsunami crisis is critical to the survival of the people and their societies. ESRI's ArcGIS software will be used to examine and analyze the data pertinent to the area of study. The goal of this research is to raise awareness about the devastation a mega-tsunami could have on the coastal topography of the United States east coast. The study also aims to educate people about the potential destruction and vast implications to the physical environment, as well as how it would affect an area culturally and economically.

STUDENTS ARE IMPORTANT TO ILGISA!

WELCOME AND CONGRATULATIONS TO THE FIRST
ILGISA STUDENT CHAPTER

ELMHURST COLLEGE

PROFESSIONAL SUBMISSIONS

Comparison of 1%-Annual-Chance Precipitation Totals for Illinois: A GIS-Based Approach for Comparing ISWS Bulletin 70 to NOAA Atlas 14, Zoe Zaloudek, Illinois State Water Survey

The identification of both the volume of water and the expected frequency of occurrence of extreme precipitation events is needed to design infrastructure for stormwater and flood management and for planning and risk assessment. The current Illinois state standard for expected extreme precipitation events is the Frequency Distributions and Hydroclimatic Characteristics of Heavy Rainstorms in Illinois (Huff, F. and J. Angel, ISWS Bulletin 70, 1989), commonly known as Bulletin 70. The Illinois Department of Natural Resources, Office of Water Resources requires the use of Bulletin 70 hydrology for flood studies requiring state permits. The Federal Emergency Management Agency likewise requires Bulletin 70 hydrology when mandated by the state. The frequency distributions of extreme precipitation events provided in Bulletin 70 are based on analyses of precipitation data from 1901 to 1983. In 2004, the National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS) published NOAA Atlas 14 (Precipitation-Frequency Atlas of the United States, NOAA Atlas 14, Vol. 2, Bonnin et al. 2004, available at <http://hdsc.nws.noaa.gov/hdsc/pfds/>). This publication provides precipitation frequency estimates for the Ohio River Basin, including Illinois. These analyses extend to 2002, providing nearly 20 years of additional data from that available in Bulletin 70. In addition, there are methodological differences between the two studies. Given the enormous safety and financial consequences of civil works design, it is vital to explore the need to update extreme precipitation event values in Illinois. ISWS staff have taken the first step by comparing the difference between the frequency distributions published in Bulletin 70 and Atlas 14 for Illinois. Presented in this poster is the comparison of precipitation totals for a key recurrence interval and duration, the 1%-annual-chance (100-year), 24-hour event.

Choice, Not Chance, Determines One's Destiny: GIS and Agent-Based Modeling of Access to Chicago's Formal Support System by Domestic Violence Victims, Marina Drigo, UIUC/CERL

Domestic violence against intimate partners remains a serious social problem. While it affects men and women of all ethnic and social backgrounds, women from African-American, immigrant and low-income communities are particularly vulnerable due to the lack of resources, and structural inequalities. This research explores the relationship between rates of domestic violence and the availability of and access to formal support systems. This is accomplished with an agent-based, spatially explicit model based on the city of Chicago. This model is intended as a tool with which to study social dynamics and simulate public policy interventions on the rates of family abuse. The representation of social dynamics is based on probabilities calculated with statistical equations derived from the relevant literature. The accessibility to formal support network (social service programs, workforce development programs, emergency shelters and criminal justice offices) is represented as a function of distance, attractiveness factors and service capacity. The output of the model is an animated visualization of domestic violence dynamics in Chicago, spatially and over time. The results from each time step can be exported and used for other GIS statistical analyses. The user of the model can change various input parameters, such as the location of services, the timing of their response, or the effectiveness of their help, and to test the potential impact of new policies on diverse populations.

The Use of GPS/GIS to Help Aide in Damage Assessment: The Tornado Outbreak of August 19, 2009, Shawn Artis, Morgan County

On the afternoon of August 19, 2009, Central Illinois was struck by a wave of severe storms that resulted in nearly 7 separate tornadoes ranging from EF0-EF3. The map will illustrate how Morgan County officials used GPS/GIS to quickly locate and assess the damage following that storm.

Kane County Highway Maps 1980-2009, 30 Years of Map Design and Production, Leonard Walther, Northern Illinois University, Department of Geography

Follow the design evolution of the Kane County Highway Map, through the changes in production from scribing to GIS.





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ILLINOIS

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ILLINOIS

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN
ILLINOIS STATE WATER SURVEY
NATURAL HAZARD IDENTIFICATION AND MAPPING PROGRAM

University of Illinois State Water Survey

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The **ISWS Center for Watershed Science** has served as the repository for the State's flood hazard data since 1978. Recognizing that flood hazards are the most predictable natural hazard, the ISWS has long been engaged in programs and activities to identify flood hazards, provide technical support to individuals and communities, and support the Illinois Association for Floodplain and Stormwater Management. The ISWS has long-standing cooperative working relationship with the Illinois Department of Natural Resources, Office of Water Resources (OWR), the State regulatory authority, and the Federal Emergency Management Agency (FEMA).



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