EWUG 2007 Presentation Abstracts

Airport Planning with ArcGIS and ArcGIS 3D Analyst

Although not mandated by the Wisconsin Bureau of Aeronautics, public airports in the state are encouraged to prepare land use plans for their facility and surrounding areas. The reasons for preparing these plans includes identifying and addressing safety concerns around the airports, identifying and mitigating environmental issues, avoiding incompatible land development around airports, planning for future airport expansion, developing better relationships with airport neighbors and local communities, as well as maintaining valuable communication with all interested parties. The plans typically include natural resource and land inventory maps, land use maps, facility maps, obstruction maps, and approach surface drawings. This presentation will illustrate how photogrammetric mapping was incorporated into the development of a 3-dimentional model of the approach surfaces.

Tim Barnett, Manager GIS Services—Ayres Associates

An ArcIMS Site Maintenance Toolkit

In 2006 Waukesha County looked at a redesign of it's Mapping Website. Changes in data format as well as user expectations and requests, required the County to create a new web mapping application. In addition to this, we required a toolkit enabling easier data updates, tool building and site enhancement. This presentation will provide an overview of Waukesha County's Site Management toolset, as well as a glimpse ahead toward ArcGIS Server.

James Landwehr, GISP, LIS Analyst, Waukesha County Department of Parks and Land Use

ArcGIS Server 9.2 Web Applications & Services – Getting Started with Implementation

ArcGIS Server is used to host a centralized GIS software and application environment that is capable of delivering GIS functionality to a large numbers of users within and/or outside of your organization. This session will summarize the capabilities of ArcGIS Server version 9.2 and the necessary steps to get started with the software. The focus of the presentation will be on implementation and deployment of the software for building web applications and services. Implementation topics will include a detailed discussion of the ArcGIS Server System Components, configuration options, installation process, access, and system security. This session is intended for GIS and IT professionals that are in the process of, or considering the implementation of ArcGIS Server-based technology in their organization. Participation of your IT and implementation staff is strongly encouraged.

ESRI

ArcSDE / ArcGIS Server Panel Discussion

An open-ended discussion and question & answer session with developers who have experience with ArcSDE and ArcGIS Server.

Ron Bruder, *ADC*

Bill Cozzens, *Waukesha County*

Chris Diller, *DMA*

Aaron Ford, *RA Smith*

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Building a Solid Foundation for a True Enterprise Approach: Milwaukee Metropolitan Sewerage District's Enterprise GIS Implementation

In an effort to improve organizational efficiency and bring added value to the way the Milwaukee Metropolitan Sewerage District (MMSD) conducts business, the MMSD had developed a Geographical Information Technology Vision and Implementation Plan that provides a roadmap towards an enterprise implementation of GIS technology.

In order to emphasize the true enterprise nature of the vision, the MMSD is taking a two-phased approach in its implementation. Now complete with Phase I, the survey and analysis portions of the implementation, the MMSD has a number of technical specifications and guidelines that will direct future work and aid in maximizing MMSD's return-on-investment from applying the enterprise approach.

This session will describe and illustrate the development process and results of the following technical elements of the Phase I Implementation; while emphasizing each element's importance in the overall implementation:

- Software Requirements Specifications (SRS) for all planned GIS applications
- Enterprise Geodatabase Model
- Inventory of the District's existing Applications, Data, and System Architecture
- Future System Architecture
- GIS Standards
- Data Conversion Strategy
- Training Strategy
- Quality Assurance/Quality Control Plan

Sara Hackbarth, Facilities Information Supervisor, MMSD

Michael Benedict, Senior Systems Analyst, MMSD
Jeff Siegel, Technology Services Director, HNTB Corporation

Alex Kavanagh, GIS Team Leader, HNTB Corporation

Creation of an impervious surface dataset for Atlanta, GA: From abstract topologic considerations to the modeling extension

In 2006, Ayres Associates developed a highly accurate and topologically clean dataset of impervious surfaces for the City of Atlanta, Georgia. The City needed a dataset that would effectively fuel the spatial analysis required to determine each parcel's estimated rainwater run-off.

While other options were available for the general extraction of impervious surface datasets, photogrammetry was selected for its accuracy and cost-effectiveness. This left Ayres Associates' GIS services department with the task of determining the most efficient way to collect and post-process the raw data – a way that would also result in polygonal datasets that met the most rigid of topological standards. This task necessitated discussions ranging from abstract concepts of surface interrelationships to step-by-step details of data collection and ESRI model programming.

This presentation is intended to share the rationale behind our project approach, explain our technical workflows, and discuss the lessons learned from the project.

Shawn Snyder / GIS Services – Ayres Associates

Todd Thies / Project Manager – Ayres Associates

GIS Streamlines Process for Insurance Agents

"ADC created and maintains an ArcGIS 9.2 application for NAU Country Insurance called the NAU Mapping Toolset. Deployed in both ArcGIS Desktop and ArcGIS Server environments, the Toolset provides a collection of tools for retrieving information from the NAU corporate Oracle database and using the data as a basis for delineating and assigning attributes to policy-based geographical field boundaries. Exporting tools are also available for use in building 'map books' which display NAU insured lands for individual farmers and shareholders. The Desktop portion of the Toolset is employed by NAU staff in Ramsey, MN and Fargo, ND, while the Server tools extend field maintenance and map book creation to NAU agents in 25 Midwestern states including California."

Ronald V. Bruder, Program Analyst/Application Developer

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Internet Mapping and Related Tools for Community Outreach: Lessons from WDNR's Capacity Building Efforts

Description: A variety of Internet mapping and decision support tools can help Wisconsin's planning officials, citizen planners, and interested publics make better informed land use decisions that minimize impacts on natural resources. A recent web-based survey indicated that UW Extension educators have a high degree of interest in Internet GIS and related technologies, but limited exposure to or experience with these resources. Therefore, as part of the WDNR's Internet Tools program, we provided hands-on training focused on several such tools for UW Extension educators who conduct educational programs and technical assistance around comprehensive planning. According to extensive follow-up interviews, hands-on workshops supported with printed materials and Internet resources appear effective in helping these educators use these tools. Some of the lessons learned from our outreach efforts will be of interest to EWUG participants. In addition, a frequently raised question among the Extension educators is which predictive tools are most appropriate for addressing different land use questions. In response, we are comparing several GIS-based, water quality runoff models at different sites around the state and will conclude our presentation by reporting on preliminary findings from this comparison study.

Adam Mednick, AICP

Introduction to ArcGIS Image Server

Raster data in the forms of satellite imagery, aerial photography, and elevation surfaces are more prevalent then ever in GIS. ArcGIS Image Server provides an option for processing, distributing, and accessing your raster data through server side technology. This session will discuss and show a sample work-flow of creating and updating an Image Service. We will also look at features of ArcGIS Image Server that allow for enterprise wide access to your raster data in CAD applications.

ESRI

Lessons Learned: Search and GIS

On June 14, 2007, a 7-year old autistic boy from Nekoosa was reported missing. Emergency personnel arrived shortly after receiving the call and began what would turn into an almost 5 day long search. This presentation will share my personal experience with the search and rescue as well as provide some lessons learned.

Justin Conner, GIS Specialist, Wood County Planning/Zoning

Locating Special Needs/ Gathering Areas utilizing GPS and GIS Technologies for the Lac Courte Oreilles Tribe

The Emergency Preparedness Project originated when staff from the Lac Courte Oreilles Ojibwa Community College (LCOOCC) GIS Lab met with the Lac Courte Oreilles (LCO) Health Department staff, health director, emergency preparedness coordinator, and other emergency officials. A need for community housing maps, and a list /map of persons with special needs was requested. The reason was: in the event of an emergency (power outage, fire, etc.), these people would need additional assistance. Forms were then designed, filled out by patients at the health center, and then forwarded to staff at the LCOOCC GIS Lab. Data that was collected on the form included: name, physical address, telephone number, and special need i.e.: oxygen use, wheelchair, blind/deaf, or other issue. Locations were collected using a Trimble GEOXM GPS unit; location data, along with the Microsoft Excel database were then transferred into ArcGIS. From there maps were generated in ArcView 9.1 displaying gathering areas – any place that may have a significant amount of people at any given time i.e.: grocery stores, apartment complexes, government buildings, etc., and special needs persons. The next steps include formalizing a policy for updating the maps/databases on a quarterly basis, and distributing maps to the emergency preparedness coordinator, fire department, emergency medical services and the tribal police department.

Autumn DeWall, Lac Courte Oreilles Ojibwa Community College GIS Lab Intern

Mobile Mapping and GIS Maintenance Implementation with ArcEngine – Using TC Technologies GO!Sync MapBook to get utility data into (and out of) the field.

Presentation Description: The City of Wausau recently completed a project utilizing an ArcEngine application from TC Technologies (www.tctechnology.com). This presentation will discuss how the City deployed Panasonic Toughbook tablet PC's running GO!Sync MapBook with Redline and Inspector Extentions to allow water/sewer/storm field crews to view and query map data, sketch map changes, and post maintenance activities.

Dan Kerntop, City of Wausau

Lee Halbrook, Velocitie Integration

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NAVTEQ Data for Small and Mid-Sized Public Agencies

Top five reasons that small and mid-sized public agencies choose NAVTEQ data. We will provide examples of actual ESRI users who are using NAVTEQ data for web applications and/or internal use. Agencies highlighted will include: public transportation, counties, cities, school systems, sanitation, and water districts. This solution relates to the ESRI User Community because we find that many people aren't aware NAVTEQ data is available in small cuts!

Presenter:

Jim Reid, President, American Digital Cartography, Inc. (ADCi)
–or-
Joe Roehl, Vice President, American Digital Cartography, Inc. (ADCi)

Using ArcIMS to Run Sales Forecasts for a Fortune 100 Retailer

Applied Data Consultants, Inc. (ADC) partnered with Forum Analytics, LLC to develop an application to help store chains choose locations. Strategic Integrated Mapping and Modeling System (SIMMS) is a market analysis tool that creates detailed sales forecast models for retail store locations. SIMMS uses complex statistical analysis from several components: census data; competitor locations; existing franchise locations; existing franchise sales data; and; GIS data layers. It also uses the actual sales data from existing comparable stores with similar demographics to predict sales for a new site. In addition, store owners can run the SIMMS model on their existing stores so they can determine what stores are underachieving in sales. This interactive web mapping application utilizes ESRI's ArcIMS and ArcSDE technologies to create proposed store locations, intersect the underlying GIS datasets, and generate sales forecasts directly from a standard web browser.

Levi V. Felling, Software Developer/GIS Web Specialist

Paul M. Sill , Principal and Founder

Using GIS to Support College Fundraising

Brief description: Northland College's Advancement Office personnel were curious to know whether GIS could help make their fundraising efforts more efficient and possibly more effective. Taking into account what types of queries they performed for their work, it was found that GIS could work for them. As a result, Advancement personnel were training how to use GIS and an instruction manual was created to guide them through specific fundraising queries. The results of a survey of other colleges and university Advancement offices using GIS will be discussed.

Cynthia May, Assistant Professor of GIS at Northland College, Ashland, Wisconsin.

VRS- High accuracy differential GPS- the next big thing!

Virtual Reference Stations (VRS) A new network of continuously operating reference station (CORS) are being constructed throughout Wisconsin developed by Wisconsin Department of Transportation. Www.MWRTK.net is an existing VRS network in Wisconsin developed by Seiler Instrument. VRS Network technology will allow GIS professionals and Surveyors to achieve their required GPS accuracies in real-time. In a VRS network, all of the stations in this network stream live data into one location and users, through a cell phone data connection, receive a real-time differential signal producing highly accurate positions right then and there. The current WisDOT plan calls for approximately 26 station added to start the Wisconsin CORS Network (WI CORS NET) deployment allowing users access more CORS than ever before in Wisconsin. Connections with ESRI ArcPad with GPSCorrect and Trimble TerraSync connecting via Bluetooth cell phone on Trimble GeoXH and GeoXT hardware will be demonstrated.

Holly Urbain, Seiler Instruments

Walgreens and Their GIS

Walgreens is a $47B a year company making complex business every day. Behind those decisions is GIS. Whether it be location analysis, market planning, marketing, operations or any one of a host of other business functions Walgreens is using the latest technologies and data to fuel the growth of the company. Desktop, web-based, as well as a fully mobile GIS combined with unbiased, objective, methodologies is one reason Walgreens is on pace to close out their 33rd consecutive year of record sales and earnings. Sit in with Rob as he takes you on a whirlwind tour of Walgreens and their GIS.

Rob Glazier, Walgreens

Waukesha County Accident Rate Maps

The State DOT provides an accident database for all reportable crashes in Wisconsin. Because the locations of the crashes are described by location names (CTH O, Moorland Rd, or simply O) it becomes hard to gather information for even a single location let alone county wide. This is because the Police do not use GPS to enter locations and as there is no real naming convention there may be multiple combinations of location names within the database which describe a single location. eg CTH ES and CTH O, ES and O, CTH O and National, Moorland and National, ES and Moorland.....etc

During te development of our communications center alias files were developed that enable dispatchers to pick exact locations despite what information is called in. Our GIS group were able to apply the alias file to the accident database and hence we could suddenly map all of our accidents on a county wide basis.

As we also have all our of our highways segmented and traffic information available to us we have been able to produce accident rate information not only for segments of highway but also at intersections. This importatant because we can then compare intersections and segments against statewide average rates. This information gives us a much better handle - county wide as to where we should be spending our money and helps us to pick projects to be included in our capital plans.

Gary M. Evans P.E., Engineering Services Manager, Waukesha County