Monday, October 25, 2010

State of the State and Keynote Address 8:30 am – 10:00 am in the Saratoga Ballroom

State of the State Address delivered by **Bill Johnson**, NYS Office of Cyber Security part of the new Division of Homeland Security and Emergency Services

Keynote address, "Geospatial Revolution, What, next, now?" **Kass Green**, President of Kass Green and Associates

Session 1 10:30 am – 12:00 pm

Session 1 A in Broadway 1
Water

A GIS-based System for Tracking Inspections of Onsite Wastewater Treatment Systems in the Canandaigua Lake Watershed

Fred Pieper
Director, Application Development
Institute for the Application of Geospatial Technology
fpieper@iagt.org

Kevin Olvany
Watershed Manager
Canandaigua Lake Watershed Council
klo@canandaiguanewyork.gov

The Canandaigua Lake Watershed Council (CLWC) is concerned with maintaining and enhancing the high water quality of Canandaigua Lake. One important aspect of this involves the pro-active management of the significant number of onsite wastewater treatment (septic) systems in operation within the watershed. To enable the watershed manager and watershed inspector to more efficiently and effectively inventory and analyze these treatment systems, the CLWC authorized the development of a GIS-based inspection tracking system with partial funding from a NYS Department of State grant. The Onsite Wastewater Treatment System Inspection Tracking (OWTSIT) system was designed and developed by IAGT in collaboration with CLWC and Ontario County (providing geospatial data management and technical support for application deployment).

Implemented within the ArcGIS desktop environment, the primary purpose of OWTSIT is to provide a means for managing information about the type and condition of individual privately-owned treatment systems. The watershed inspector gathers this information during routine field inspections of treatment systems required whenever property ownership is transferred.

The following topics will be covered: the programmatic basis for OWTSIT; the corresponding system requirements that were defined; the system design and architecture that was selected; the data migration effort from the previous system; the current system functionality; and potential future enhancements and adaptability for use in other areas.

An Innovative Tool for Sediment Analysis during the Phase 1 Hudson River Dredging Program

Liane DeSantis
Level 3 Scientist
Anchor QEA
ldesantis@anchorqea.com

In 2009, the General Electric Company (GE) implemented Phase 1 of the Hudson River Remediation Project, consisting of environmental dredging to remove PCB contaminated sediment contaminated in the Hudson River, near Fort Edward, NY. The EPA established Residuals Standards that provided "rules" to evaluate whether the PCB concentrations within a remediated area were compliant with pre-defined cleanup standards or whether the levels exceeded those standards such that re-dredging was needed. The rate of dredging required that decisions and designs for re-dredging, backfill, or capping be turned around in a matter of hours. Consequently, there was a need for a tool that would efficiently analyze sediment sampling

results, process them through the complicated rules and effectively communicate the results. To meet these needs, the Residual Analysis System (RAS) was developed, which was a set of tools in ArcGIS and Interactive Data Language (IDL). Sediment samples were collected and analyzed for PCBs after each dredge pass. The interpretation of PCB concentrations was automated and these tools were used to delineate the extent of any remaining contamination, as well as the extent of cap or backfill placement. Maps were automatically created after each dredge pass, displaying PCB concentrations in the sediment and outlining the next action triggered by the concentrations. These tools streamlined the interpretation of the data needed to make intelligent decisions during dredging and allowed visualization of the results on an almost real-time basis. Challenges encountered related to the adaptability of the tool during the dredging will also be discussed.

Critical Infrastructure Protection and Interagency Coordination Using Emerging Technologies

Bill Timmins
Director
GIS Solutions
GIS Services
Director@GISServices.net

Brad Tatham
Application Specialist and Trainer
Solutions
GIS Services
Brad@GISServices.net

The opportunity to use GPS and mobile data collection technology by emergency and disaster responders, operational managers, and support personnel can offer easy to use technology solutions that can be combined with GIS data. Allowing for interagency coordination provides a better understanding of the events, roles and responsibilities from pre event planning to on the ground response. With an ongoing dialogue using spatial data collected in the field those involved in event response are better prepared to assist and achieve maximum efficiency in times of disaster and emergency events to save lives, protect infrastructure and property.

GIS professionals can publish, distribute and collaborate with geospatial data in a standard, secure and manageable format to leverage agencies investment in geospatial data. By eliminating technology boundaries between agencies the comments, feature additions and symbols can easily be shared. The objectives of agencies working together can now be interwoven allowing for the interactive technology solutions that fit for those in the field and allow for the evaluation by those who determine the solutions to events that could happen, events developing, and for post event response.

Presentation will include demonstrations of integration of GIS/GPS cameras, digital pen solutions and hand held phone technology that allows for direct integration into GIS systems.

Session 1 B in Broadway 2
Data Development

Advancing the NYS GIS Strategic Plan One Step at a Time – Next Up… A Statewide Parcel Data Layer

Cheryl Benjamin
GIS Project Manager
GIS Program
NYS Office of Cyber Security
cheryl.benjamin@cscic.state.ny.us

Frank Winters
GIS Program Manager
GIS Program
NYS Office of Cyber Security
frank.winters@cscic.state.ny.us

In 2008 the NYS Office of Cyber Security and Critical Infrastructure Coordination (CSCIC) completed a comprehensive Strategic Plan that set a vision and priorities to advance New York State's geospatial development for the next five years. The highest priority recommendation from the Strategic Plan was to "formally pursue a program to develop a statewide parcel data layer".

Earlier this year, CSCIC was awarded an FGDC CAP grant to help fund the development of a business plan for Centralized Access to Consistent Cadastral GIS Data for New York State. The business plan will identify and provide strategies to successfully overcome the technical, legal, and social barriers when developing a statewide cadastral framework data layer.

CSCIC has secured the services of a Contractor to help develop the Business Plan. A major part of the business plan research has focused on communication with the county and local government Real Property Tax Directors and Assessors to identify their policy issues, concerns, and their ideas and potential solutions for achieving our goal of centralized access to consistent cadastral GIS data. With NYS ORPS' assistance, we have also developed a current snapshot of the status of digital parcel data in NYS.

This presentation will summarize the policy issues, technical barriers, and other concerns compiled to date as well as a wide range of suggested potential solutions. Some interesting statistics regarding the status of digital parcel data in NYS will also be shared.

Mapping New York State's Broadband Availability

Robert Gehrer
frank.winters@cscic.state.ny.us

Since 2008, the Office of Cyber Security (formerly CSCIC) has taken the lead on mapping broadband availability in New York State. At last year's conference we detailed a predictive broadband mapping methodology using publicly accessible data. In October 2009, under a grant from the National Telecommunications and Information Administration, we began a new method of mapping availability using records from more than 70 providers of broadband to NYS residents and businesses. This presentation will cover data collection challenges, data aggregation steps, validation routines, and the NYS Interactive Broadband Mapping application. We will also discuss a broadband speed test website which allows NYS residents to determine their computer's connection speed, while also contributing to the quality of New York's broadband map and the data that will drive broadband policy decisions.

The National Map 2.0

Dr. Stephen S. Aichele
Geographer, USGS Geospatial Liaison
New York, Michigan and the Great Lakes
saichele@usgs.gov

For 125 years, the U.S. Geological Survey labored to produce almost 70,000 topographic maps for the continental United States, including over 54,000 at 1:24,000 scale. This year, a new, digital successor, the US Topo, is being produced across New York. The US Topo is a layered GeoPDF, containing traditional elements of a topographic map, plus orthoimagery. The US Topo, along with the improved NationalMap Viewer, represents two important data-delivery vehicles leveraging the National Spatial Data Infrastructure.

The US Topo is produced with automated methods by drawing data from the NSDI databases – the National Elevation Dataset, the National Hydrography Dataset, the Geographic Names Information System, etc. Although the maps are still reviewed by humans, leveraging both the data and information infrastructure investment of the past decade has drastically reduced the time required to produce a 7.5-minute map.

While it used to take an average of 8 years from start to finish, to complete a conventional 1:24K topographic map, the USGS is producing, on average, one US Topo every 8 minutes, with work plans to produce between 15,000 and 20,000 every year, mapping the contiguous U.S. on a 3 year rotation.

The new *National Map* viewer replaces the dated and relatively slow interface of the old viewer with a modern, tiled, easily layered interface capable of ingesting KML, WMS, IMS, and AGS services. The new viewer also provides simple GIS functionality, including spatial and attribute queries, measuring, geocoding, annotation, and spot elevations.

The basic infrastructure of TNM, the US Topo, and the TNM Viewer is still data – services and applications without data are like cars without roads. Creating and maintaining current, accurate, authoritative datasets in the public domain enables TNM, Google Maps, Bing Maps, as well as State, county, and local applications, to focus on analysis and content delivery, saving resources by reducing independent, duplicative, or conflicting base-data creation.

Session 1 C in Broadway 3

Education

Problem-Based Service Learning Projects in an Introductory GIS Course

Katherine Meierdiercks
Faculty
Environmental Studies
Siena College
kmeierdiercks@siena.edu

While students in a course in GIS may learn a breadth of GIS skills and theory through tutorials and exercises, an in depth knowledge of GIS is, arguably, best gained through real-world, hands-on, applied projects. At the same time, many members of a college or university community may have questions they need answered or problems they need solved using GIS, but may not have a complete understanding of the capabilities of GIS or the skills necessary to use GIS. Furthermore, for small government agencies or not-for-profit organizations, funding may not be available to purchase expensive GIS software or hire experienced GIS personnel. Problem-Based Service Learning (PBSL) is a pedagogical tool that addresses both of these issues. In PBSL, students use skills they have learned in class to solve a problem or answer a question for a "community partner". Here, the PBSL learning model is applied to an introductory course in GIS. Example course projects include mapping frog tracks for the National Park Service, creating site maps for the Pittstown Historical Society, and mapping bike and walking paths to historical sites in Albany, NY. Benefits for the students include the acquisition and retention of GIS skills and enhanced problem solving and critical thinking skills. The projects also led to internship opportunities and a portfolio of maps and GIS analyses that demonstrate each student's ability to use GIS to solve real-world problems. Additionally, the projects provide opportunities to build and enhance relationships within and beyond the campus.

Professionals Using Spatial Technology and Making Connections with Education

Robert Jones
rajones1012@gmail.com

The Hannibal School District has been making connections with professionals and organizations within the community that use spatial technology for the last four years. This session will share example of ongoing partnerships, GIS Day activities, community projects and an overview the GeoMentor Program created by National Geographic and ESRI to help make connections with K-12 education, college and youth groups.

Taxing Flesh: A Potential Therapeutic Recipe for Obesity

Ashraf Ghaly
ghalya@union.edu

Obesity is a serious epidemic in the United States. Three quarters of all deaths in this country are due to illnesses related to obesity. Being overweight is not only a health hazard but it impacts self-worth and productivity. There have been many approaches proposed to deal with this problem both at national and state levels. In the national debate of the recently passed health care bill, proposals were made to give incentive to people that maintain a healthy weight. One of these proposals suggested higher insurance premiums for overweight individuals. Premiums would be increasing in proportion with the extra weight above what is considered to be a normal level. At the state level, New York has been debating a proposal to impose tax on what is deemed to be unhealthy food, especially sugary beverages. The problem of obesity is a complex one and cannot be studied in absence of many factors such as level of income, attained education, coverage with health insurance, social environment, ethnicity, and personal habits (like smoking, for example). Moreover, there have also been some developments in recent years that resulted in less physical activities for a large segment of the population. This is manifested by the significant increase in computer use where net surfers and social networkers spend hours glued to their computers. The purpose of this presentation is to show GIS maps illustrating the relationship between obesity and each of the above factors. It is argued that many obese people wish to shed the extra weight but due to many factors, some of which are beyond their control, they find it difficult to achieve this goal. The paper will argue that addressing the problem of obesity can be less costly than dealing with widespread illnesses associated with obesity such as high blood pressure and diabetes.

Session 1 D in Broadway 4
LiDAR

Airborne Lidar and Mapping: Development of Common Guidelines and Practices for Hydrography

Ricardo Lopez-Torrijos
RLTorrijos@aol.com

Airborne lidar is established as the standard remote sensing technique for development of accurate representation of the landscape in ecosystems such as the Eastern Seaboard. At the same time there is a paucity of protocols and guidelines to establish the relationship between the lidar source data and derived products. The National Hydrography Dataset Stewardship, under the leadership of USGS, is carrying out a process to develop such best practice guidelines and protocols for the development of vertically integrated hydrography and hydro-enforced landscape elevation models. This best practice seeks to tackle, issues such as:

Concurrent temporal, horizontal and vertical accuracy specifications for lidar and imagery
(X,Y,t) registration conflict resolution
Point density as a function of ground cover
'Dirty' areas and vegetation removal assessment
Breaklines and 'Water' point classification
Capture Conditions
Elevation, hydrography and derivatives update sequence and coordination.

Big Loads & Busy Tracks - How does it all fit together?

David Petterson
Sales Manager - Transportation
Utilities Vertical
Pictometry International
david.petterson@pictometry.com

Moving large over-dimensional loads through a railway can be a challenging affair. Large loads which do not conform to a standard profile can have a profound impact (literally!) on track infrastructure and other rail vehicles. Having access to a range of track based information is critical to ensure safe passage of these loads through a network.

While in the process of delivering the agreed upon data to the customer, the railroad had several large loads such as Wind Turbine bases / blades and Reactors components, which were waiting to be transported. The different loads had different sizes and dynamic characteristics which had to be simulated through the network, prior to getting the green light to move forward.

This presentation describes how the use of Track based imagery and terrestrial lidar was collected along 100 miles of rail track to generate clearance information through an Outer city Chicago railroad. It will also describe the methodology by which the data was processed and delivered to the client per the initial request, and then for the additional requests. It will also highlight the use of web-based visualization tools which helped the client reference problem areas which were discovered during the processing stages.

Developing Elevation Datasets from LiDAR: A "How to Guide"

Verne LaClair
verne_laclair@partech.com

As large LiDAR datasets become more common in New York State, the question of how to best view the data and in what format to use comes to the forefront. This presentation will describe considerations in the development, relative performance benefits, and technical aspects of creating terrains from high density topographic data. ASCII point cloud data and LAS tile manipulation will be discussed such that session participants will become familiar with the process to create multi-resolution TIN-based surfaces from LiDAR datasets where scalability is achieved using the ESRI terrain pyramid structure with the multipoint feature type. Suggested workstation specifications and best practice recommendations for creating digital elevation models, contours, and breaklines using derived terrain surfaces will be presented using sample data from Oneida and Tompkins Counties.

Monday, October 25, 2010
Session 2 1:30 pm – 3:00 pm

Session 2 A in Broadway 1
Web GIS

Doing More with Web GIS

Jim Hall
jhall@bownegroup.com

Girk Cakmak
gcakmak@bownegroup.com

The world of custom GIS web application development is constantly advancing and this presentation will demonstrate how some compelling cutting edge tools and resources have been used to develop applications that allow GIS web applications to extend traditional technological boundaries. The presenter will begin with a review of the practical use of the Google Map and Earth APIs which enable use of GIS cloud computing and 3D visualization in a browser-based application. He will then demonstrate use of advanced data query, editing and dashboarding functionality that provide a powerful set of tools to end users in an ArcGIS Server–based application. The sites that will be demonstrated are all real-world sites developed for customers by Bowne Management Systems within the last year.

Integration of Google Maps, other Spatial Data from the Web and Open-Source Spatial Databases in Municipal Mapping Solutions

Kosta Bidoshi
Project Manager/Software Developer
Fountains Spatial
kosta.bidoshi@fountainsamerica.com

The ability to tap into the vast amount of information on the web and especially the information that contains location data is a great asset available to us nowadays. However, the integration of such information is challenging because of the different structure and rules as set out by the data provider. Adding the ability to include custom data to an existing web map makes this task even more challenging. At Fountains Spatial, we are continuing to work on enterprise web GIS solutions such as using ESRI's ArcGIS Server. However, the emergence of freely available Mapping APIs such as Google, Bing and Yahoo Maps can often offer small organizations such as small towns an affordable solution. This presentation gives an update of our achievements in creating affordable web mapping applications for small municipalities and describes some of the technical limitations and challenges in doing this. We are using Google Maps, Bing Maps, custom KML overlays as well as an Open-Source Spatial Database for server processing to create low-cost Municipal Mappers for the web. Fountains Spatial is also working closely with Systems Development Group (SDG) to include Image Mate Online capabilities to such Municipal Mappers. This presentation will also take a look at other mashup techniques that allow bringing together spatial data from different sources.

Scaling a Mass Notification GIS Application for Public Use

James Clohessy
Lead GIS Analyst
GIS Solutions Division
Buffalo Computer Graphics, Inc.
jclohessy@buffalocomputergraphics.com

Buffalo Computer Graphics, Inc. (BCG) has recently implemented a large-scale GIS architecture built to serve the public of New York State. A mass notification solution was developed by BCG for the State and is managed by them. We addressed the unique challenges of developing an application that serves private and governmental organizations along with the civilian population of New York State. Additionally, the public audience is of unknown dimension and continually changing in size, further complicating the solution provided. The mass notification system allows residents to log-on to a web-portal and request that pertinent notifications be sent to them in a multitude of ways. Additionally, authorized administrators creating and sending notifications can use map-based tools to define the precise areas or individuals that should receive specific emergency notifications.

We will explain how the architecture was built to scale-up easily when demand increases and grow as the system supports more people throughout the region. Additional issues addressed in our presentation will include: licensing considerations; how the application was built and deployed; the need for maximum uptime; and the need to segregate services so public-facing functions do not overtax the essential private services. Technologies employed include ESRI ArcGIS Server 9.3.1, ESRI ArcSDE 9.3.1, Adobe Flex, F5 Networking Systems, and Microsoft Server 2008.

Session 2B in Broadway 2
Data Development

How FEMA Flood Maps Are Made, and What's in the DFIRM Database

Shaun Gannon
Senior Water Resource Engineer
Bergmann Associates
sgannon@bergmannpc.com

Michael Ross
Senior GIS Analyst
Bergmann Associates
mross@bergmannpc.com

Almost all GIS professionals use the FEMA Flood Mapping layer at some point, but how many of us really understand how it is created? This presentation will present an overview of the entire process, from determining which communities will be studied, through the study itself, to the release of the flood maps and database. This is an interesting type of project from a GIS perspective, because it is an entirely GIS-based engineering project with multiple GIS data deliverables. Each of the tasks - topographic data development, survey integration, hydrologic modeling, hydraulic modeling, floodplain mapping, and map panel production - uses advanced GIS. We will discuss the GIS methods in each task, as well as toolboxes and workflows which speed up and standardize the process.

Make Your Own Damn Map!: Collecting and using stakeholder information through Participatory GIS (pGIS)

Jeff Herter
Jeff.Herter@dos.state.ny.us

New York State Department of State (DOS) collected information on where, how and when, the waters offshore New York are being used. Using participatory GIS (pGIS) techniques, DOS was able to map ocean uses by acquiring valuable information from offshoreusers. This offshore use information will be used in a larger initiative to develop an ocean amendment to New York's Coastal Management Program, aimed at appropriately siting offshore wind energy facilities and providing greater protection to ocean habitats.

PGIS is a great way to collect local knowledge not currently captured in GIS format. Flexibility in pGIS collection techniques lends itself to working with folks with a wide range of technical skills, from participants drawing on a map to entering data straight into GIS.

DOS used three distinct steps in carrying out pGIS: 1) offshore use constituent champions were invited to a series of workshops, at which they learned about the ocean amendment process, the role of human use information in that process and how to collect offshore use information from the user group they represent; 2) champions met with their membership to identify, locate, and characterize offshore use areas. Information collected, either on printed maps or in shape files, was sent to DOS where it was aggregated, and; 3) offshore use constituent champions were reconvened to review compiled offshore use information.

National Agricultural Imagery Program

Heather Grady
Agricultural Program Technology Specialist
USDA - Farm Service Agency
heather.grady@ny.usda.gov

The National Agricultural Imagery Program has provided the USDA Farm Service Agency (FSA) and cost

share partners a cost effective means of acquiring digital ortho imagery that is delivered within 30 – 60 days of acquisition. Initially focused on coverage of agricultural areas within the continental United States, NAIP has become a platform for acquiring full state coverage on a regular cycle. This presentation will focus on the status of NAIP including planned 2011 acquisition, product specifications, cost share opportunities, and delivery/access methods and timelines.

Session 2 C in Broadway 3
Demographics

2010 Census – Where did all the data go?

Robert Scardamalia
Director
Center for Research and Information Analysis
NYS Dept. of Economic Development
rscardamalia@empire.state.ny.us

One of the most significant changes in the 2010 Census actually started in the mid-1990's. The American Community Survey which is now more than a decade old – but relatively unknown – is replacing the traditional long-form sample data collected in the Decennial Census. This year's Census enumeration was simplified by including only the basic demographic and housing characteristics required by the Constitution and law. Rather than having detailed socio-economic characteristics to drive our programs only once every 10 years, the American Community Survey will report detailed characteristics every year.

This session will describe the changes coming with the American Community Survey, particularly as they relate to small area geography like Census tracts and annual release of data. The American Community Survey data is derived from a sample that is smaller than the traditional Census sample. The variability in these data will greatly impact our use of the measures and complicate year-to-year trend analysis.

The Geography of NY Economic Expansions and Contractions

Robert Jones
Associate Professor and Chair
Department of Economics
Skidmore College
rjones@skidmore.edu

The United States is not a geographically homogeneous economy. Far from it. Often some states are in a recession or expansion phase of their economic cycles while other states are in opposite phases. The first part of this presentation uses Geographic Information Systems (GIS) analysis to examine the behavior of New York State, relative to the rest of the nation, during recessions and expansions using various economic indicators.

New York State, as well, is not a geographically homogenous economy. The second part of this presentation examines the employment changes by county and regions within New York State over the past few recessions and expansions.

The goal of this presentation is to see what lessons can be learned by taking economic geography into consideration when examining economic cycles.

Two Decades of Population Change in New York: A Spatial Analysis

Joe D. Francis
Associate Professor and Director of Program on Applied Demographics
Development Sociology
Cornell University
jdf2@cornell.edu

This paper discusses the changing nature of population size and composition in New York counties from 1990-2009. The emphasis is on spatial patterns and changes in spatial patterns of growth, stability and decline across the last two decades. The primary media used to show these changes are choropleth maps, cluster maps and selected county charts. In addition to presenting the traditional decadal changes (e.g. 1990-2000), this paper presents maps for sub-decade changes (e.g. 2000-2003, 2003-2006, 2006-2009) as

well. By looking at the six three-year map on finds interesting variation population dynamics from early to mid to late decade. Yet other maps show the changes in population components of births, deaths, and especially migration.

In addition to maps that show the change in size and spatial patterns, companion maps are presented that highlight clusters of counties that are have significant local autocorrelation and are of different types. Moran's I and Anslen's LISA measures are used to measure spatial autocorrelation. As the maps show, county clusters which are significantly high or low change in composition across the decades.

Taken together these maps portray an increased understanding of local population changes.

Session 2 D in Broadway 4
NYC

High-resolution land-cover mapping for urban tree canopy in New York City as part of a childhood asthma study

Sean MacFaden
Geospatial Analyst
Spatial Analysis Laboratory
University of Vermont
Sean.MacFaden@uvm.edu

Jarlath O'Neil-Dunne
Geospatial Analyst
Spatial Analysis Laboratory
University of Vermont
Jarlath.ONeil-Dunne@uvm.edu

Morgan Grove
Research Scientist
Northern Research Station
USDA Forest Service
mgrove@fs.fed.us

Keith Pelletier
Geospatial Analyst
Spatial Analysis Laboratory
University of Vermont
kpelleti@uvm.edu

Tree canopy provides many environmental and social benefits to urban communities, including runoff retention, shade, wildlife habitat, enhanced property values, and desirable aesthetics. It is also believed to improve air quality by sequestering nitrogen dioxide, ozone, particulates, and other pollutants. Until recently, however, it has been difficult to analyze the relationship between trees, air quality, and respiratory disease over an extensive area because available tree-canopy maps were usually derived from moderate-resolution remote-sensing data and pixel-based classification methods (e.g., 30-meter National Land Cover Dataset). The advent and refinement of object-based image analysis (OBIA) techniques and the growing availability of high-resolution imagery and LiDAR have changed this dynamic, permitting development of maps that accurately depict tree canopy at the scale of individual trees. Using OBIA in conjunction with recent color-infrared satellite imagery and LiDAR datasets, we mapped tree canopy for sections of the New York City boroughs of Manhattan and the Bronx that coincide with a longitudinal study of childhood asthma. Other land-cover classes were buildings, roads, other paved features, grass/shrubs, bare soil, and water. To ensure the highest possible degree of accuracy and visual quality, we also manually reviewed and edited, where necessary, the draft land-cover map, focusing on the placement and morphology of individual trees. The final land-cover map will be used by epidemiologists at Columbia University and the New York City Department of Health and Mental Hygiene to examine the effect of urban tree canopy on the incidence and distribution of childhood asthma.

MetroNYC Area Geospatial Organization(s) Update

Dorothy Nash
dnash@oem.nyc.gov

I plan to discuss key user groups/mapping entities in the five boroughs and beyond, focus on two:

*GISMO: looking back & forward, a twenty-year perspective
*GreenMap NYC: 7 minute video + internet demo of website & mapping resources

Opportunities with Other Professional Groups
*NYS GIS Association
*LI GIS
*NY/NJ Chapter – Geospatial Information Technologies Assn

Relating to MeetUp Groups Relatively New on the Scene
*NYC OpenStreet Map Enthusiasts
**NY Location-Based Apps Meetup

Leveraging Activities/Organization Resources – Collaboration Past/Present/Future
*retrospective: three geospatial seminars with NYC Metro InfraGard Chapter
<<Queens Museum; Cooper Union; Foley Post Office sessions>>
*prospective: January 2012 with local GITA chapter & NYU Polytechnic

Green Infrastructure Opportunities

Vlada Kenniff
NYC Environmental Protection
vladas@dep.nyc.gov

PlaNYC, New York City's blueprint for a greener, greater city over the next 20 years, anticipates additional recreational areas on our waterways from water quality improvements. To help New York City meet these goals DEP has developed an Adaptive Management Strategy which integrates "green infrastructure" such as swales and wetlands, with measures to optimize the existing sewer system and targeted, smaller-scale "grey infrastructure" such as bending weirs and high-level storm sewers. DEP performed an extensive GIS analysis identifying existing and future green infrastructure opportunities building on the existing pilots, known imperviousness, upcoming street construction, development trends and land use analysis.

Tuesday, October 26, 2010
Session 3 9:00 am – 10:00 am

Session 3A in Broadway 1
Web GIS

Interactive web mapping: designing for the technology challenged end user

Linda Rockwood
owner/consultant
Mohawk Valley GIS
lrockwoo@twcny.rr.com

This presentation will focus on interactive web maps developed for recreation and tourism promotion, used by a broad range of users. How can the developer show a wealth of information and provide numerous options yet make the map experience intuitive for the end user? What about the issues of data currency and scaling? Do you allow end users to submit data? How do you let them zoom in as much as they want to see all the shops and restaurants on Main St. when the nearby trail data should only be used at 1:7920 scale? How do you provide a successful end user experience when the user does not know what a zoom box does within the map? How does the developer get around technology limitations that are less than intuitive to the user? Come and enjoy the trials and tribulations of developing interactive web maps as presented by a GIS professional who "just can't relate"!

Putting Food Scraps to Work: Development of Vermont's Compost / Biogas Data Viewer and Information System

David Healy
Vice President
Applied Information Management
Stone Environmental Inc.
dhealy@stone-env.com

Barbara Patterson
Project Database Specialist
Applied Information Management
Stone Environmental Inc.
bpatterson@stone-env.com

Stone Environmental has developed the GIS-web-based, "Vermont Compost / Biogas Data Viewer". This is the first statewide GIS-based system to provide multiple users with information that helps in efforts to divert food waste from landfills into renewable energy and soil restoration. This presentation will describe the development and creation of the application and provide insights from the lessons learned and next steps and a demonstration on how the Data Viewer works.

[http://organics.stone-env.com/VTCompostBiogas/bin-release/index.html]

The Data Viewer was developed to serve a multiple user communities. The application allows users to view Compost and Biogas related information spatially and to access details of each dataset. Compost data includes potential food scrap generators, existing compost facilities, compost facility service areas, and suitable land for new composting facilities. Biogas data includes existing farm anaerobic digesters, farm locations, and distance from farms to 3-phase power.

Session 3B in Broadway 2
Emergency Response

GIS and Public Safety – More Than a Pin Map

Richard Annitto
Executive Vice-President
Bowne Management Systems
RANNITTO@BOWNEGROUP.COM

GIS has long been a tool used by public safety agencies to produce meaningful products for emergency response planning and for first responders. This success has provided the GIS community with the opportunity to continue to evolve and to create solutions. One of the success factors in the development of these solutions is the emergence of Enterprise GIS and foundation datasets.
Enterprise GIS supports the development of comprehensive and accurate data (e.g. street centerline, common place, 3-D, and address points) that is essential for Emergency Management, Police, Emergency Medical, Fire, and Public Health agencies. Equally important is the ability to maintain the data in an integrated, consolidated manner, using workflow and data versioning capabilities available in modern commercial off the shelf (COTS) GIS software.

Public Safety applications have successfully leveraged Enterprise GIS data, using heterogeneous solutions including web services, spatial extraction/transformation/load (ETL) routines, mobile GIS, integration of commercial data APIs, and sensor technology. Applications such as situational awareness, computer aided dispatch and nearest call routing, crime analysis and reporting systems, automatic vehicle location (AVL) systems, and incident planning and management have successfully integrated Enterprise GIS data and emerging technologies.

The presentation will provide a high level overview of how local governments in NYS have used Enterprise GIS and technology to improve public safety planning and response activities.

GIS Applications for Public Safety in Genesee County

Steven Sharpe
foltremari@co.genesee.ny.us
Steven Sharpe
Director of Emergency Communications
Sheriff's Office
Genesee County
ssharpe@co.genesee.ny.us

Over the past four years, Genesee County, NY has undergone a transformation in respects to the way emergency 9-1-1 dispatch is conducted. A new dispatch center provided an opportunity for the communications center to upgrade to a new GIS based Computer Aided Dispatch (CAD) System. The presentation will provide an overview of the transformation for this award-winning project, including the layers created, map enhancements and future plans.

Session 3C in the Broadway 3
Web GIS

Design and Implementation of a GIS-Based Site Selection Tool for the Long Island Sound Stewardship Initiative

Austin Fisher
austin.fisher@fountainsamerica.com

This presentation will highlight key aspects of a project to develop a web-based GIS site selection tool for use by the Long Island Sound Stewardship Initiative. The main objective of the project was to develop a GIS tool that can be used to identify sites (e.g., tax parcels) in the Long Island Sound watershed study area, which should be prioritized for protection, enhancement, and/or restoration.

This application was developed using ArcGIS Server with the Flex API. It is fundamentally a site suitability model-building tool, designed to evaluate geographic criteria relevant to the identification of sites for stewardship. It employs a very flexible design, supporting the inclusion of a wide range of input data and a virtually unlimited number of user-defined models. These models are based on a set of one or more geographically significant criteria. Each criterion is based on a geographic relationship established between a GIS layer and the candidate sites being evaluated. The geographic relationship is defined by selecting from a set of spatial analysis operations. Numeric scores are then assigned to the potential outcomes of each criterion. Each candidate site is analyzed and scored based on the criteria comprising the model, and cumulative final score will are calculated by totaling the values for each of the criteria. The application includes functionality for building new models, and editing and running existing models.

Creating a Web-Based GIS Data Sharing Network for the Southern Tier Central Region

Jeffrey Volpe, GISP
GIS BUSINESS SEGMENT LEADER
Bergmann Associates
jvolpe@BERGMANNPC.com

Dave Bubniak
Southern Tier Central Regional Planning
GIS Specialist

The Southern Tier Central Regional Planning and Development Board have initiated the design and implementation of a centralized GIS data warehouse for the Southern Tier Central Region. This region covers the Counties of Chemung, Schuyler and Steuben. This initial project was completed to implement the foundation (ArcSDE, ArcGIS Server, SQL Server) of the web-based GIS data sharing network to allow efficient and centralized data storage, management and access for the region's base GIS data (orthophotos, parcels, road centerlines, hydrography, boundaries). This presentation will provide an overview of the steps taken to implement this regional vision as well as outline the future vision and plans for expanding this network to meet the needs of other business processes.

Session 3D in Broadway 4
GIS and CAD

3D Visualization of CAD Models in ArcGIS: 2 Case Studies on a Budget

Edward F. Garrigan, P.L.S.
Vice President, Land Services Division
e.garrigan@ctmale.com

Caroline Westort
c.westort@ctmale.com

The desire to visualize before and after design scenarios in GIS is now new. The 3D worlds of CAD and GIS have been interfacing with each other for years. The reasons for ongoing hurdles may be proprietary, different origins and evolution of the technologies, and budget. Several initiatives like the GeoDesign

initiative at UC Santa Barbara (URL here) aim to address the issue and develop strategy to create more seamless exchange between the two platforms. Meanwhile, thousands of GIS and CAD professionals try to wrest out cost-effective solutions with off-the-shelf software. We describe two examples here:

1) Global Foundries Fab 8, site design and Mod Building, Malta, NY
2) Lake Placid Hilton Hotel, site design and proposed hotel

The hope is to advance our collection of tools, methods, resources and capabilities with the feedback generated from documenting our process here. First, some definitions:

Visualization = The display of existing and proposed conditions of a project to be built, i.e. “before” and “after”. Realism is the goal, with abstraction liberties taken to enhance efficiency and show the project in context.
3D = Three-dimensions. A computer model possessing z-coordinate for every x,y pair.
GIS = Geographic Information Systems.Aplatform for display and analysis of geospatial information.
CAD = Computer Aided Design/Drafting. Also a platform for parametrically defining, building and displaying subcomponents of an object; optimized for editing in an iterative fashion.

Tools,including hardware and software, will be discussed, together with methods and results.

Best of Both Worlds, AutoCAD Civil 3D and ArcGIS

Chuck Pietra
Sr. Technical Applications Manager
O’Brien & Gere

This lecture is centered around project execution where both Autodesk Civil 3D Map 3D and ESRI’s ArcGIS are centric tools in the project. Many times in Geotechnical, Civil Environmental projects, it is necessary to have both products working in concert with one another. Project Managers with projects that involve different groups with different project roles and responsibilities are many times confronted with trying to bring the two worlds together elegantly.

This lecture uses a real geotechnical project to show more than how ESRI data can be used in Civil 3D Map 3D through import/export/FDO, but what needs to be done to bring groups and work processes together, as well as data back and forth seamlessly.

The participant will be introduced to a real geotechnical site remediation project and relate to the challenges of data overload as well as project participants that have software preference that are different design and geospatial analysis tools. The discussion covers the challenges of keeping the project on track even though primary toolsets are dramatically different. The strengths, weaknesses, complimentary features, do’s and don’ts of Civil 3D Map 3D and ArcGIS as it applies to the project at hand are presented, demonstrated and discussed.

Project description, scope, and overview discussed in detail
Overview of project tools i.e.: Civil 3D Map3D and ArcGIS
Demonstration showing available data for the project
Demonstration and discussion of the different methods that data can move back and forth between the two platforms
A discussion of different workflow scenarios between users to achieve the maximum efficiency and minimize data redundancy
An in depth demonstration of how design requirements are achieved with Civil 3D
An in depth demonstration of analogies requirements for the project and what tool is best for what
The two worlds are compared in respect to presentation and client viewing/query of the data via the web with MapGuide and ArcExplorer/Publisher

The class is intended for Civil Environmental and Geotechnical Designers, Scientists, and Project Managers.

Tuesday, October 26, 2010
Session 4 10:45 am – 12:15 pm

Session 4A in Broadway 1
OpenSource GIS

The GIS Behind iMapInvasives: the "Open-Source Sandwich"

Georgianna Strode
gstrode@admin.fsu.edu

Invasive species are widely considered to be one the greatest threats to biodiversity (Wilson, 2001). This is a global problem encompassing many different non-native plants, animals, and even microbial pathogens. Many individuals, agencies, and organizations are tracking invasive species, but sometimes the multiple approaches result in fragmented and disparate data sources that do not encourage information sharing. For land managers and regional planners to make informed decisions on invasive species management, it is important to have the "big picture" for their area.

iMapInvasives is designed to facilitate data sharing between groups and to provide a more accurate picture of invasive species distribution. iMapInvasives provides functionality for the general public, citizen scientists, land managers, and regional planners including viewing invasive species data, entering data, providing email alerts, and generating early detection reports. The technology tools for achieving these goals are challenging. iMapInvasives uses a customized combination of propriety and open-source tools -- sometimes called "the open-source sandwich." This presentation provides a general overview of the sandwich and how the individual parts work together utilizing OpenLayers, MooTools, Python, Django, ESRI's ArcGIS Server, and PostGRES databases.

The iMapInvasives Project Partners are the New York Natural Heritage Program (NYNHP), the Florida Natural Areas Inventory (FNAI), The Nature Conservancy (TNC), and NatureServe. The Florida Resource and Environmental Analysis Center (FREAC) at Florida State University does the programming for the iMapInvasives web site. The NYNHP administers the iMapInvasives database for New York with support from NYS Department of Environmental Conservation and the Environmental Protection Fund.

Sharing geodata in real time: an open source solution

Steve Signell
GIS Analyst
Adirondack Ecological Center
SUNY-ESF
ssignell@esf.edu

Stacy McNulty
Research Associate
Adirondack Ecological Center
SUNY-ESF
smcnulty@esf.edu

Colin Beier
Research Associate
Adirondack Ecological Center
SUNY-ESF
cbeier@esf.edu

The Adirondack Park Regional GIS (APRGIS) consortium has developed a web application that works toward the goal of giving data consumers real-time access to the most current data available. Built on an open source stack including PostGIS, Geoserver, OpenLayers and ExtJS, the site provides one-stop access to data provided by the NY Department of Conservation, the Adirondack Park Agency, Natural Heritage Program Invasive Plants program, and the Adirondack Lakes Survey Corporation, among others. We will demonstrate the site and show how dynamic database links give data producers the ability to securely share their data in real time.

Web GIS – A clear case for open source

Josh Pierro
Web GIS Portal Manager
Bureau of Environmental Surveillance and Policy
NYC Department of Health and Mental Hygiene
jpierro@health.nyc.gov

With the confluence of rapid developments in web and mobile technologies, and the swell of new open source GIS software, the field of internet GIS is undergoing a paradigm shift. Open source software is tearing down the barriers of entry (cost) for developing internet mapping applications, and the availability of web based mapping APIs (Google, Open StreetMap, MapQuest) makes developing internet mapping applications easier than ever.

The argument will be made that comparable, if not superior, web GIS applications can be developed, deployed and hosted for a fraction of the cost of solutions built with commercial software. This position will be supported by case studies (Cycling the Erie Canal, NYC CityMap) where commercial software was abandoned for open source. Additionally, some emerging trends in the geographic space will be touched upon (the explosion of mapping apis, foursquare and mobile based apps, location based gaming).

Session 4 B in Broadway 2
Maximizing ArcGIS

Automating ArcGIS ModelBuilder for Analyzing Nonpoint Pollution Impacts in the Carmans River Watershed

Fred Pieper
Director, Application Development
Institute for the Application of Geospatial Technology
fpieper@iagt.org

Lee Herrington
Professor Emeritus of Resources Information Management
Department of Forest and Natural Resources Management
State University of New York College of Environmental Science and Forestry
lpherrin@esf.edu

As part of a prior research project, ArcGIS ModelBuilder was used to create a model of the potential impact of land use change on nonpoint pollution runoff into the Carmans River located on Long Island, NY. The fundamental research, data compilation and processing, and initial model development work was the subject of a previous NYSGIS conference presentation. The current presentation provides a project update focused on recent efforts to translate the research models into an automated application for planners and other non-technical end-users so that they could easily conduct their own analyses within the ArcGIS desktop environment. This work was sponsored by SUNY-ESF and partially funded by a grant from the NYS Department of State. In collaboration with SUNY-ESF and the original model developer, IAGT adapted the original models and designed and developed the interactive application.

The presentation will cover the key technical aspects involved in the development effort as well as a demonstration of the application's functionality. The structure of the original manually-run ModelBuilder research models will be described, followed by an explanation of what aspects required modification to support an automated interface. Additional topics to be covered include the overall system requirements and design considerations, the system architecture, significant issues addressed during development, application scenarios, system limitations/future development opportunities, and use of the application outside of the Carmans River pilot project area.

Maximizing the Off-the-Shelf Potential of ArcGIS for ROW Vegetation and Real Estate Management

Paul Breier
GIS Analyst/Programmer
GIS
Gomez and Sullivan Engineers, P.C.
pbreier@gomezandsullivan.com

Lana Khitrik
GIS Program Manager
GIS
Gomez and Sullivan Engineers, P.C.
lkhitrik@gomezandsullivan.com

When utility companies wish to build a GIS to help them manage Rights-of-Way (ROW) real estate and vegetation data, they often pursue a custom GIS application. These applications are attractive, as they offer features tailored to ROW workflows and procedures. They also have the benefit of allowing end users who have little GIS experience to complete data entry and querying tasks in a few clicks of a button. These benefits of custom applications, however, come at a price. Custom GIS applications typically take a significant amount of time and money to implement. This is not only because of the initial man hours required to develop them, but also those to maintain them once they have been deployed. What is more, custom applications tend be rigid in the sense that they cannot be easily changed to reflect new ROW workflows or procedures. Every workflow or procedure change, no matter how slight, usually requires a corresponding reprogramming and redeployment of the application.

Because of the disadvantages associated with custom GIS applications, we rely on a non-customized strategy when building GIS solutions for ROW real estate and vegetation management. This strategy consists of maximizing the off-the-shelf potential of standard ArcGIS geodatabase technology. We have found that this strategy, especially when it involves a well-designed geodatabase schema, delivers the same functionalities and user-friendliness aspects as custom ROW GIS applications, but at a much reduced level of overhead.

Understanding ESRI Geodatabase Replication: A Technical Software Demonstration

Kate Buss
Senior GIS Analyst
Geospatial Division
Bergmann Associates
kbuss@bergmannpc.com

The intent of this presentation is to provide a concise introduction and software demonstration on ESRI's geodatabase replication mechanisms. This technical presentation will explain how and why geodatabase replication can be used with an ArcSDE geodatabase to distribute data to other ArcSDE or file geodatabases. Through this presentation and live ArcGIS Desktop software demonstration, the following topics may be discussed:

- Why you might want to implement replication
- The benefits of geodatabase replication
- What is required to perform replication
- The different types of ESRI replication (Check out/Check in Replication, One Way Replication & Two Way Replication)
- The various ArcGIS tools available to assist with replication
- How to automate the replication process

At the conclusion of this presentation, audience members will have learned the fundamentals of ESRI geodatabase replication and how it can be implemented within their organization.

Session 4C in Broadway 3
Local Government

Implementing Shared Municipal Services to Improve Local Government Efficiency

Richard Slutzah

Senior Vice President
Bowne Management Systems, Inc.
rslutzah@bownegroup.com

Trends over the last few years have been to increase the use of shared services to improve the delivery of information to local governments. The goals of this approach are to provide local governments with improved access to current data, reduce redundancies and costs and improve efficiencies of operation. These are consistent with the State's Local Government Efficiency Grants program. This presentation will examine some of the approaches being used to accomplish these goals including:

- Web based systems hosted by a central (County) government but accessed by many smaller local governments;

- Web Services to enable local governments to perform common functions and queries against central GIS databases. Commonly used web services can be used to query addresses, parcels and streets but more sophisticated services can be used for functions such as emergency dispatch where alarm location maps can be generated and sent directly to fire houses;

- Cooperative data management arrangements. New York State continues to encourage the creation of consortiums and there are many examples of such arrangements throughout the State;

- New technologies – Vendors such as ESRI, Google, Bing and others are constantly introducing new concepts in data sharing, access, etc., which can make it possible for even the smallest of governments to use GIS technology to improve their operations and constituent services.

This presentation will describe some of the successful implementations of these approaches throughout the State.

Building Multi-Government Geospatial Programs: The Future of Public Sector GIS in New York State

Sam Wear
Assistant CIO (GIS)
Westchester County GIS
White Plains, New York
stw1@westchestergov.com

Decades of GIS technology development now clearly point to a set of evolving trends which support, and justify, the expansion of multi-government and regional GIS programs. Increased availability of geospatial data, particularly from within the business sector, increased bandwidth and internet connectivity, broadened acceptance of Open Geospatial Consortium (OGC) standards, powerful web mapping services, "open-access", and a wide range of new easy-to-use geospatial viewers, now offer many new options to associations of governments, not-for-profits, or similar consortiums of public sector programs.

This presentation will provide an overview of current efforts by Westchester County GIS which is providing a framework to provide GIS capacity to local governments. Focusing on governments and organizations with limited personnel and declining financial resources, the Westchester effort leverages existing county GIS infrastructure to provide cost-effective internet-based GIS data viewers, map services for open source compliant viewers and AutoCAD users, data development support, and access to the County's GIS Data Warehouse. The author suggests similar county-led programs are possible throughout New York State.

Multi-Jurisdictional Infrastructure inventory (New York State JIMI Project)

Craig Schorling
Business Development Manager
Transmap Corporation
cschorling@transmap.com

In 2008, Transmap was selected to be part of the Lewis County Joint Infrastructure Management initiative (JIMI) project. Aging infrastructure is a challenge to communities attempting to accommodate growth as well as to those hoping for growth. Small rural communities are challenged to find the fiscal resources to adequately maintain their infrastructure. Maintenance tends to be reactive. Two Counties (Jefferson and Lewis) and 13 municipalities are part of the over 1,300 miles of roadway infrastructure collection and implementation into a work order management system.

The JIMI project received a Local Government Efficiency Grant that will cover 90 percent of the project cost.

Transmap will digitally map the more than 1,300 miles of roads in two counties collecting pavement distress, signs, bridges, culverts, fire hydrants, meter boxes, valve boxes and storm water infrastructure. Transmap will implement all features into the ArcGIS environment as well as two work order management systems (CarteGraph and PubWorks).

Session 4D in Broadway 4

Map Critique

Tuesday, October 26, 2010
Session 5 1:30 pm – 3:00 pm

Session 5A in Broadway 1
Rich Internet Applications

Demystifying Rich Internet Application (RIA) Development with ArcGIS Server

Larry Spraker
President
Fountains Spatial
larry.spraker@fountainsamerica.com

Web-based GIS application development has undergone a dramatic change in the last eighteen months. While the focus for many years has been on server-side development in technologies such as ASP, ASP.NET, Java and ColdFusion, the recent Flex and Silverlight APIs for ArcGIS Server has quickly shifted the focus to building rich internet applications (RIA) using these client-side APIs. This presentation will demystify the concept of rich internet applications, discuss the Flex and Silverlight APIs for ArcGISServer, explain the advantages and disadvantages over server-side development, and will present the significance of RIAs and why it should clearly be the focus of any future application development within your organization. Several Rich Internet Applications will be demonstrated to illustrate the concepts discussed.

FLEX Outside the Box: Balancing Functionality & Fluff

Dave Cook
GIS Analyst
Engineering
Development Authority of the North Country
dcook@danc.org

Peter McAlenney
Senior Developer
Fountains Spatial
peter.mcalenney@fountainsamerica.com

Web-based GIS has long been a bridge between GIS professionals and non-technical end users. Deployed by organizations wanting to disseminate spatial data for decision making, these systems are champions for demonstrating ROI. However, end user demands are changing. No longer satisfactory are canned web apps brimming with functionality, but deprived of design.

How are GIS professionals to balance web app functionality with end user demands for geographic eye candy? Many organizations are turning to Rich Internet Applications (RIAs), transitioning their anonymous web apps from dowdy ADFs to sexy Flex viewers. The ESRI- supplied Sample Flex Viewer (SFV) offers a stepping stone for organizations to climb aboard the flash web-app bandwagon. But what is possible outside the SFV development box?

This presentation takes a practical look at the development of a completely out-of-the box FLEX-based web app for a unique NYS public authority, the Development Authority of the North Country (DANC). DANCis a

multi-faceted organization owning and operating regional water & wastewater, telecommunications, and solid waste management facilities in the north country area of Jefferson, Lewis, and St. Lawrence Counties. This presentation is co-presented by DANCand Fountains Spatial and is rated-G for general audience. It will combine familiar GIS terminology, technical aspects of data preparation, and FLEX code development for the GIS professional as well as administrative, ROI, and end user design considerations for those relatively new to GIS technology.

Moving Ahead with Flex Internet Applications: Saratoga County Web Map

Anya Rozanova
anya.rozanova@fountainsamerica.com

The latest development in the Web GIS technology - the Rich Internet Applications such as Flex and Silverlight – is causing a lot of excitement among GIS practitioners but also making them wonder whether it is the right time to make a switch. With the web presence being a must and some of the old technologies such as ArcIMS slowly phasing out, the Rich Internet Applications offer a great advancement by providing enhanced functionality and a superior web experience. The question remains, however, whether the advantages offered by the new technology outweigh the necessary investment of resources (namely time and money). Do the new web applications offer enough to the end user to justify the switch?

This presentation focuses on a successful example of one such transition and discusses challenges and advantages that come along with it. We are going to demonstrate the Saratoga County Web Viewer application that was migrated from ArcIMS to ArcGIS Server 9.3.1. using Flex (aka Flash) API in spring, 2010.

The transition to a Flex Internet Application is discussed from the end user, the County and the developer perspective. We are going to demonstrate many design improvements that were introduced in the new application and helped improve user experience and efficiency. We are also going to discuss the important issue of project funding and how enhanced capabilities of the application may help justify the initial investment. Other topics include lessons learned, possible further enhancements as well as general thoughts on using the new technology to help solve problems and create a better user experience.

Session 5B in Broadway 2
Imagery

What's New in ArcGIS 10: Where Imagery is Core to GIS

Gerald Kinn
Senior Imagery Specialist
ESRI
gkinn@esri.com

Lindsay McGreevy
Market Research Analyst
Esri
lmcgreevy@esri.com

What role does imagery play in your day-to-day work? How could you better leverage the imagery your organization has collected over time? Knowing that almost all ArcGIS users interact with imagery to complete their daily tasks, Esri has added many new capabilities in ArcGIS 10, the latest release of ArcGIS, that can help you better leverage the investment your organization has made in imagery. Join us for this demonstration, which will showcase a two-terabyte collection of New York State imagery featured in the plenary session of the 2010 Esri International User Conference. Using this New York imagery catalog, we will demonstrate how ArcGIS 10 improves access, management, analysis, and visualization of your organization's imagery. We will explore how the complete ArcGIS 10 system can leverage your imagery across applications for the desktop, web, mobile devices, and the cloud. We will also show how ArcGIS 10 makes your daily work easier by making imagery more accessible for creating beautiful and fast basemaps, enhancing high-quality cartographic products, performing powerful spatial analysis, as well as managing historical and current imagery collections of all sizes.

Session 5C in Broadway 3
Field Data Collection

Bringing GIS based Asset Management to NYSDOT

Susan Knauss
Region 8 GIS Coordinator
NYSDOT
mknauss@dot.state.ny.us

Over the past year the NYSDOT Regional Asset Managers and GIS coordinators have been collaborating on creating life cycle management processes for several assets; guide rail, sidewalks and corners, retaining walls and signs.

This talk will cover instituting the collaboration to create the asset data schemas, the challenges of creating an initial inventories and update processes and the benefits of successful implementation which include improved data flow from Planning to Design, ability to assess and report on regulatory compliance and shared use across departments and contractors.

The implementation for guide rail will be highlighted. The demonstration will show how the same geodatabase and ArcPad Check Out/In procedure & forms are being used to support internal staff & external contractors for both field data collection and desktop editing.

The emphasis is be on "how to" , sharing problems to avoid and solutions that may help others

Emergency Assessment Field Tool -- NYSDOT's Road Status and Damage Assessment Tool

Henry Kovacs
Mapping Technologist
Information Technology
New York State Department of Transportation
hkovacs@dot.state.ny.us

The Road Status and Damage Assessment (RSDA) Tool is a GIS-based field application developed for emergency assessment teams to rapidly collect and report field conditions during incidents in New York State. The data collected is used to prioritize the deployment of limited Department resources, as well as report on the progress of DOT response activities. This session will cover the development and implementation of the Road Status and Damage Assessment Tool as well as its contribution to NYSDOT's incident management competency.

Innovations in GIS for Travel Surveys

Timothy Michalowski
t.michalowski@srbi.com

Mr. Timothy Michalowski is the GIS Manager at Abt SRBI in the New York City headquarters office. Mr. Michalowski will lead an interactive presentation demonstrating the use of recent GIS innovations for the field of travel surveys and data collection.

Abt SRBI is currently completing the first large scale Global Positioning Satellite (GPS) based travel survey in the United States. The survey is being conducted with over 3,000 households in Ohio utilizing personal GPS tracking of their travel behavior, resulting in over 2 million GPS points collected. This innovative data collection technique offers new potential for travel surveys without traditional paper based diaries. GPS data collection, personal GPS devices, sample data collected, and the role of GIS for processing and analysis will be presented.

In addition, Mr. Michalowski will discuss how Abt SRBI GIS is utilizing ESRI ArcGIS Server 9.3.1 technology for advanced data processing in travel survey data. With this technology GIS models arebuilt for automated GIS geocoding, data processing, and spatial analysis.

Mr. Michalowski's credentials include a Master of Urban Planning and Policy from the University of Illinois at Chicago (UIC) specializing in GIS for Urban Planning. Mr. Michalowski joins Abt SRBI from the New York City Department of Transportation (NYC DOT), where he was responsible for GIS technology in the IT department.