NY GeoCon 2015
Poster Session

Posters are listed in alphabetical order by author, and abstracts are listed as submitted without editing.

Status and Trends of Wetlands in the Long Island Sound Area: 130 Year Assessment

Poster Abstract:

The NYS Department of Environmental Conservation, Connecticut Department of Energy and Environmental Protection and the US Fish and Wildlife Service collaborated on a project to assess the historical presence of tidal wetlands in the Long Island Sound Study area. Tidal wetland information from three time periods (late 1800s, 1974 and 2005) existed and were used to compare the abundance of vegetated tidal wetlands over time. These data sets were created using different technologies and for different purposes and had to be normalized before they could be compared. Changes between each time period, as well as, over the entire 130 years were calculated. As expected, tidal wetlands have experienced a dramatic decline in the Long Island Sound. Understanding this historical extent and context is important for future protection and restoration.

Author: Melissa Albino Hegeman, New York State Department of Environmental Conservation

Town of Southampton Long Island Trails

Poster Abstract:

There are over 300 miles of trails within the Town of Southampton Long Island ranging from pristine treks through the Central Pine Barrens to breathtaking walks along the coast. The Southampton Trail Guide provides everything you need to take a short hike right from your backyard to tackling the 125 mile Paumanok Path. This pocket sized guide is very detailed, showing parking areas and trail amenities such as kiosks, restrooms, park offices, camping, etc. Most trails were GPS'ed while the rest were digitized and field verified.
We also provide trail information at our Public Information Center in a mobile application (http://infocenter.southamptontownny.gov).

Author: Ross Baldwin, Town of Southampton

Communicating Water Quality Parameters Through Maps

Poster Abstract:

Describing scientific work with community and policy implications can be simplified by judicious usage of visualization. Watershed Associations and similar organizations involved in water quality issues are strongly invested in their local resource, but scientific and issue literacy in such groups is highly variable. Spatial components to limnological studies are common and not all community members enjoy knowledge of an entire basin or understand the concerns specific to locals within.

GIS extends the usage of graphical tools into the realm of spatial variance. In support of watershed research and it's presentation to community members in various formats, mapping elements and spatial data presentation are explored using transact data obtained from Greg Boyer at the Department of Chemistry, SUNY–ESF using a Turner Designs C6 sonde as part of an EPA-funded project to look at the fine scale distribution of cyanobacteria in lakes and nearshore waters.

Author: John Bisgrove, SUNY College of Environmental Science and Forestry

NY GeoCon 2015

Poster Session

NHDPlus – A National Surface-Water Geospatial Framework

Poster Abstract:

The EPA Office of Water, assisted by the US Geological Survey (USGS), has supported the development of NHDPlus that provides a national surface-water geospatial framework for integrating, visualizing and analyzing water information. NHDPlus is a suite of application-ready geospatial products that that are derived from static snapshots of the National Hydrography Dataset (NHD) stream network (1:100,000-scale), Watershed Boundary Dataset (WBD) hydrologic units (12-digit), and National Elevation Dataset (NED) topography (30m) through a sophisticated data integration process.

The NHD, WBD and NED are all maintained through USGS National Geospatial Program (NGP) led stewardship programs involving states and federal agencies. The derived components of NHDPlus are updated using the latest versions of the NHD, WBD and NED on a periodic basis, as determined by programmatic priorities and resources. Since its first release in 2006, NHDPlus has been made available by EPA to the wider water resources community and has been used for many diverse applications inside and outside of EPA and USGS. With the success of the 1:100,000-scale NHDPlus, the USGS has begun producing NHDPlus-High Resolution at 1:24,000-scale with pockets of data at 1:5,000-scale and larger.

The poster illustrates rivers plotted with estimated mean annual flow from the NHDPlus Version 2.1.

Author: Douglas Freehafer, U.S. Geological Survey

What's Your Story?
Westchester County GIS Develops Story Maps for County and Local Governments

Poster Abstract:

Westchester County GIS is working with local governments and county departments to develop Esri story maps. Story maps are easy to use web map applications that allow GIS staff to effectively communicate information to non-technical users through the use of images, geospatial data and videos.

GIS staff worked with the Village of Ardsley to develop a story map showcasing the village's pocket parks. Another theme park story map was developed for the Town of Lewisboro.

County Departments are also taking advantage of the technology to promote services and provide information about the county's history and recreational facilities. GIS staff has already developed story maps for Planning, Office of Economic Development and is currently working with the Departments of Parks, Recreation, and Conservation (PRC) on a story map on park trails.

Author: Ana Hiraldo-Gomez, Westchester County GIS

Mobile Mapping Application for Street Sign Inventory

Poster Abstract:

Supporting local government geospatial programs across Westchester County continues to be a priority for Westchester County GIS. GIS staff developed a smart phone mobile application for local governments which is used to inventory and map street signs. As designed, the application leverages the county's enterprise GIS infrastructure and does not require any software from local governments. Successful projects have already been completed with the Village of Larchmont, Town of Eastchester, City of Rye and Village of Rye Brook, with a large project involving the Town of Greenburgh (which includes six incorporated villages) nearing completion. To date 27,358 signs have been mapped. The poster will depict the database design, data collection method, completed data and the web application used to maintain the data.

Author: Connor Lynch, Westchester County GIS

Septic Pump-out Maps for Local Governments

Poster Abstract:

Westchester County GIS continues to support local governments and their geospatial needs. The County GIS is helping local governments better educate, enforce and manage residents who have septic systems within protected watershed areas. County staff is producing maps with septic pump-out data, provided by the Department of Health, within the last five years. The maps include tax parcels and any parcels that are vacant, community services (local owned) or utilities based on the property class code in the assessment role. This gives local governments a starting point to better notify residents who have not pumped out their septic system in the last five years to be in compliance with State and Federal regulations.

Author: Connor Lynch, Westchester County GIS

Community Involvement in Urban Greenspaces: Understanding the Relationship Between Community Members and the Cascade Springs Nature Preserve- Atlanta, Georgia

Poster Abstract:

During a six-week summer Research Experiences for Undergraduates (REU) site, the 2014 Georgia State University Community-Soil-Air-Water (CSAW) scholars worked in collaboration with the West Atlanta Watershed Alliance (WAWA) to better understand the relationship between community and urban greenspace. A mixed method research design provided the theoretical framework for this multidisciplinary study of the Cascade Springs Nature Preserve in Atlanta, GA. Students conducted electronic surveys and in-depth interviews to explore community residents' perceptions of the local urban greenspace. WAWA and its strategic partners can potentially use the data to advocate for grants and other funding to improve features and conditions within the park i.e. lights and other safety features. These improvements coupled with outreach activities and better communication with local residents can also potentially address gendered and age-related barriers to greenspace usage and the historical disinvestment in Atlanta African American communities. The final products produced by the summer REU also included an Esri story map with educational information of the greenspace's attributes. This interactive map will be used to market Cascade Springs to a wider audience. The overall findings highlight the growing importance of cross-disciplinary research teams and the applicability of theories of communication dissemination to urban greenspace literature. Most importantly, the findings demonstrate the potential for undergraduate summer research to serve as an impetus for social change.

Author: Christine Munisteri, Student, Skidmore College

Understanding a Changing New York: Using Remote Sensing to Communicate with the Masses

Poster Abstract:

NewYorkView (NYView) is a member of the AmericaView Consortium (www.americaview.org), a nationally coordinated network that promotes and supports the use of remote sensing data and technology. Remotely sensed imagery is used for a wide range of applications in New York State including analyzing land use and land cover change, characterizing vegetation dynamics, planning or monitoring urban growth, and supporting of emergency response. Remote sensing provides an extraordinary tool for helping scientists and non-scientists alike understand environmental change and NYView seeks to educate citizens about the potentials of this tool. NYView is creating a series of Landsat-based change-pair images for targeted applications and sites within New York. We have initially focused on a limited number of study sites and applications and compiled image sets that demonstrate change across varying time periods, for example, urban change across decades, and seasonal change in vegetation or snow cover. These change pairs will be distributed via the NYView webpage (www.esf.edu/nyview), but were part of a display at the New York State Fair hosted by one of the NYView consortium members within the 4-H Geospatial Sciences Program. Through this display, hundreds of students, teachers, and parents had the chance to visualize environmental changes within their community.

Author: Lindi Quackenbush, SUNY College of Environmental Science and Forestry

NY GeoCon 2015

Wednesday, October 28th Pre-Conference Workshops

Sessions are listed in alphabetical order by title, and abstracts and biographies are listed as submitted without editing.

Esri-Location-Enabling an Increasing Mobile Workforce

This workshop will focus on the increasing need for location technology to support mobile patterns of access use. From field workers to executives to constituents and customers the demand for location-enabled applications is in higher demand than ever and growing. Using the ArcGIS platform we will describe the most common mobile technology workflows and how GIS can be deployed to support them. Hands-on lessons will be provided to allow attendees to author and deploy their own location-enabled mobile solutions.

Presenters:

Mark Scott, Esri
Mark Scott is a Solution Engineer with Esri's County Government Team. In his 19 years with the company he has presented to audiences at user groups, conferences, and seminars. These presentations communicate information concerning various components of Esri's ArcGIS Platform, including the location-enabled mobile solutions being highlighted in the workshop.

Paul Rooney, Esri
Paul Rooney is an Account Executive with Esri's State Government Team. He's been with Esri since 1999 in a wide variety of sales roles, always serving public sector customers. Currently he and Mark are part of the Esri Team serving New York and Massachusetts State Agencies. They are also both proud graduates of SUNY ESF.

JavaScript

This workshop will teach attendees the fundamentals of Javascript programming and how the language is used to create web maps. During the workshop attendees will gain hands on understanding of how Javascript is used to leverage open source geospatial libraries such as Leaflet and mapping services such as Mapbox. Attendees will be editing/developing their own code starting with a code base provided by the instructors. At the end of the workshop attendees will have a working web mapping application and code that they can improve on in their own time. Depending on time, attendees will also get a primer on code management tools such as Git and Github and Amazon Web Services.

This is a basic course but people with Javascript experience are welcome. Attendees will be required to bring their own laptop that is capable of wireless internet access and is loaded with their favorite text editor. The instructors will provide a code base a week before the workshop starts (via Github and Amazon S3) that attendees will use as their starting point for the workshop. Attendees will be required to download the code base to their machine before the workshop begins.

Presenters:

Lizzi Slivinski, NBT Solutions
Lizzi Slivinski is the newest member of the NBT Solutions Team. Since coming aboard in May, Lizzi has brought her passion for building highly functional and user-friendly web mapping applications to her role as a Front End Developer. Before coming to NBT, Lizzi worked as a Web GIS Specialist with the Association of State Floodplain Managers, where she specialized in creating data visualization and mapping tools. Lizzi has 2 years experience developing web applications using Javascript and Javascript libraries such as Leaflet, D3, and Mapbox. Lizzi earned her Graduate Certificate in GIS, and Bachelor of Arts in Geography and Political Science from the University of Wisconsin - Madison.

Nate Marquardt, NBT Solutions
Nate Marquardt is a full-stack web application developer at NBT Solutions in Buffalo, NY. Nate graduated from University at Buffalo with a BA in Media Studies, specializing in digital arts production and game design. He has since worked in the eCommerce web design/graphic art industry and has now settled into the realm of GIS application design and development. When not climbing, biking, or hiking, he's working on awesome GIS applications, with an eye for user interfaces and experiences. He loves learning about new tools and features just as much as teaching about them, and is always excited to hear about the latest Javascript framework or library.

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Public Speaking Workshop

Dan Nainan is a comedian who enjoys helping others in their efforts to become better public speakers. His greatest reward is when he is able to see people he has taught utilizing what they have learned in their public speaking. Most people in their professional career will have to speak before a group at some point. For many, this can be a very nerve racking and terrifying experience. This workshop will teach even the most shy person how to overcome fears of speaking before a group of people. Even those who have been public speaking for years will want to attend to learn how to eliminate some bad habits or improve their methods.

Presenters:

Dan Nainan

Dan Nainan is a 100% clean comedian that enjoys helping others in their efforts to become better public speakers. His greatest reward is when he is able to see someone he has taught, utilizing what they have learned in their public speaking. Dan will be putting on a public speaking workshop at the NYS GeoCon 2015. Here is a little bit about Dan:
"As a senior engineer with Intel Corporation, Dan Nainan designed and presented highly technical demonstrations on stage with Intel Chairman Andy Grove at high-profile events all over the world. He took a comedy class to help get over the fear of public speaking at these events, at which the audiences numbered in the thousands, or sometimes in the millions on television.
The "final exam" for the comedy class was a performance at the Punchline Comedy Club in San Francisco, a performance which was a resounding success. Dan's Intel coworkers, upon viewing the videotape, invited him to perform at a team dinner for 200 employees at the Consumer Electronics Show in Las Vegas. Upon seeing that performance, the organizers of Intel's annual sales conference asked Dan to perform for 2,500 salespeople from around the world, in what was only his third comedy performance ever. His dead-on impressions of Andy Grove and American presidents had the audience rolling in the aisles at 8 a.m. on a Monday morning. Many in the audience thought that he had been hired as a professional comedian, in what was only his third comedy performance ever." (www.danielnainan.com)

Python

Python is a general-purpose programming language which has been adopted as the scripting language of ArcGIS. This combination provides limitless opportunity for customization, modeling, and process automation of GIS. In this workshop you will learn the key elements of the Python language as well as ArcPy, the interface between ArcGIS and Python. Additionally, you will learn the important concepts of application development so that you will be able to approach a software solution logically. In addition, these skills will help you to work effectively with consultants and other programmers. The emphasis will be upon providing foundations to help you develop tools, particularly in conjunction with software professionals. Although not required, you will benefit greatly by bringing your own laptop (with Windows 7 or higher).

Presenters:

Carol Goodman Zollweg, Bergmann Associates

Carol Goodman Zollweg is currently Senior GIS Application Developer at Bergmann Associates in Rochester, NY. She has over 25 years of experience as a software developer.

Jim Zollweg, Brockport College

James Zollweg, Ph.D., is Associate Professor of GIS and Water Resources at the College at Brockport. He has taught all elements of GIS to widely-varied audiences for the past 20 years.

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Thursday, October 29th Technical Sessions

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Analyzing Traffic Accident Data Using ALIS

In 2014 there were 972 fatalities on NYS roads, according to the Institute for Traffic Safety Management and Research (ITSMR). The high number of crashes on our roads and highways makes it more important than ever to have tools to analyze crash data. In this session, I demonstrate the use of New York State's Accident Location Information system Suite (ALIS). ALIS is a web-based application that provides a detailed map and data interface for accessing crash data. I explain how ALIS was created and how the data is updated. I show how to query different geographies and crash types in the application and export the data for mapping in GIS. After the session, I provide instructions on how to request access to the tool.

Presenter:

Robert Zitowsky, NYS Department of Transportation

Robert Zitowsky is a Senior Transportation Analyst in the Office of Traffic Safety and Mobility at the NYS Department of Transportation (NYSDOT). He is the GIS Coordinator and the Web Content Coordinator for the Office. He has worked with the Office of Traffic Safety and Mobility for one year. He has masters degrees in Applied Statistics and in Information Science.

Developing a Tech Hub to Promote the Use of Geographic Information System Technology

The GIS Tech Hub at SUNY Buffalo State is a new collaborative system designed to expand the use of GIS technology across disciplines, promote the use of GIS in collaborative research, and provide management and analysis of diverse data sets. Funding was secured for the development of: 1) a website to serve as the portal for the GIS Tech Hub, and 2) training courses designed to teach GIS technology and the potential utility of using GIS. The main goal of developing these tools is to broaden access to and knowledge of GIS with the aim of fostering interdisciplinary conversations and stimulating an array of academic and student learning research projects. By providing an access portal to GIS software and summaries demonstrating practical applications, the GIS Tech Hub serves as a platform for greatly expanded GIS research and grant writing potential, networks for student learning, collaboration and internships, and training courses for the application of GIS techniques in different fields. This presentation highlights the successes of the GIS Tech Hub.

Presenter:

Mary Perrelli, SUNY BUffalo State, Dept. Geography and Planning

Ms. Perrelli has over 14 years of teaching and research experience with GIS software and holds a MA in Geographic Information System from the University at Buffalo. She currently serves as the GIS lab supervisor in the Department of Geography and Planning at SUNY Buffalo State and is the technical coordinator for the campus ESRI license. In her current role she provides GIS support on grants projects to academic departments on campus. She also teaches several GIS courses for the Department of Geography and Planning. Ms. Perrelli has taught a number of GIS workshops and has worked with local k-12 teachers to integrate GIS technology into the classroom. She is a steering committee member for the Western New York GIS Users Group (WNYGISUG).

Enhancing GIS for All Municipalities in New York State-Parts I & II

The Fund for the City of New York providing underwriting, the NYS GIS Association is actively working to increase the use of GIS in municipalities throughout New York State. This energetic session, for anyone who works in government at the Village, Town, City or County Level in New York State, will be an opportunity where the NYS GIS Association furthers this effort to promote GIS by (Part 1) Engaging in interactive discussions assessing the current level of GIS in all communities represented and (Part 2) Through a public brainstorming session where we will develop action items that delineate the implementation phase for this effort.

- *What resources should the Association develop in order to help those public entities who do not have GIS?*
- *How can we help enhance the programs for those municipalities that already have GIS?*

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This "finger-on-the-pulse" approach will help glean the most important information to move GIS forward for everyone throughout the State through coordinated networking efforts. NYGeoCon is the pinnacle opportunity for municipal employees to network and communicate their GIS needs. Please join this working session and enhance the availability of GIS for your municipality and help us support you.

Presenters:

Susan Nixson, NYS GIS Association
Susan Nixson is current President of the NYS GIS Association and is a GIS Specialist at the City of Ithaca, where she has worked since 2006.

Mickey Dietrich, President-Elect, NYS GIS Association
Mickey Dietrich is currently the President-Elect of the NYS GIS Association and is a GIS Specialist at the NYS Tug Hill Commission, where he has worked since 2002.

Enterprise Linear Referencing at NYSDOT - One Highway Network to Support Many Business Processes

Linear referencing is a unique and effective location method used for any type of network. The NYS Department of Transportation (NYSDOT) has used the "Milepoint" linear referencing method to locate highway assets and characteristics since the 1960's and GIS has modeled the highway network for over 20 years. NYSDOT is currently undertaking parallel projects to establish a new Enterprise Linear Referencing System and expand the Milepoint GIS network to all public roads. This presentation will demonstrate how linear referencing is used at NYSDOT and new GIS capabilities that will allow stakeholders to more easily maintain information on the highway system and leverage that information to better support business processes throughout the agency.

Presenter:

Kevin Hunt, NYS Office of Information Technology Services
Kevin Hunt – GIS Manager, Transportation and Economic Development, NYS Office of Information Technology Services, works with New York State's Office of Information Technology Services and manages GIS for the Transportation and Economic Development agencies including the NYS Department of Transportation, NYS Division of Homes and Community Renewal and the NYS Department of Economic Development. Kevin has worked in the mapping and GIS fields within the NYS Department of Transportation and Office of Information Services for twenty three years.

Expanding County - Local Government GIS Collaboration with ESRI Server Technology

Map services continue to mature as a primary source of geospatial content which can be consumed by a variety of local viewing clients. Combining Westchester County GIS published map services with ESRI's evolving ArcGIS online (AGO) product has proved to be a viable tool set which provides local governments with limited technical and financial resources a start-up GIS platform. While other viewer clients are available to use, this Westchester County GIS example can prove useful to other New York State county/local government combinations.

Presenter:

Sam Wear, Westchester County GIS
Sam Wear has led development of the Westchester County GIS program since 1988. In this capacity he is responsible for overseeing all aspects of theCounty's enterprise GIS program and he works extensively with municipal governments in building both local GIS capacity and collaborative efforts with the County. His nearly 31-year County service also includes a four-year IPA detail with the U.S.Geological Survey, National Geospatial Program in Reston, Virginia. He is two-time President of the Northeast Arc Users Group and founder of the New York State GIS Association. Sam earned his B.S in Wildland Recreation Management from the University of Idaho and a M.S. in Natural Resources Management at the University of Vermont.

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Generating Viewshed Maps of Northern New York Using ArcGIS ModelBuilder

Viewshed analysis on a Digital Elevation Model (DEM) generates another raster dataset that represents cells of the DEM that would be unobstructed from view at a set of observer points. Although Viewshed analysis is a very powerful tool, more steps are required to display the Viewshed raster in a usable way. I have generated an automated workflow using ArcGIS ModelBuilder to create a complete and labeled Viewshed map from any user-defined observation point in Northern New York. My model is a simple and useful tool to define all natural points of interest within a visible range. It has proven particularly useful in identifying far away peaks that cannot be easily recognized by shape or a neighboring peak.

Presenter:

Austin Hart, St. Lawrence University
My name is Austin Hart, I am in my final semester as a Geology-Physics major at St. Lawrence University in Canton. Even as a kid, I've been attracted to maps. My parents helped promote a good spatial awareness by teaching me to recognize mountain peaks around my native New Hampshire. It's no wonder that when I first studied GIS that I began trying to identify unknown mountains from new viewpoints. Using a background in computer science, I have developed a workflow to process viewpoints feature classes and output a complete viewshed maps that can be thrown in a backpack and saved for the summit. In my free time, I try to get outdoors as much as possible. St. Lawrence County has a wealth of trail networks, rivers, and ledges, which I have made my goal to explore. I am a skier, paddler, climber, and trail runner. All of my exploration has fostered an affinity to academic fields like geology and GIS. I hope to continue on a path using GIS to investigate and solve complex earth science and environmental problems.

GPU Computing for GIS

Massively parallel processing on graphics processing units (GPUs) are the latest frontier in the GIS application domain. Capable of performing both high speed graphic and computational operations, GPUs are an ideal platform for GIS and cartography environments that require high data throughput for advanced numerical analysis and visualization at animation speeds. I will overview my previous work in these environments, starting with monolithic parallel environments in the 1990s, up to my current work on massively parallel desktop GPU systems including terrain visualization and drainage basin modeling for real-time animation. I will also talk about other areas of GIS that can likely benefit from such parallel computing environments.

Presenter:

James Mower, University at Albany
James Mower is an associate professor at the Department of Geography and Planning, University at Albany. Professor Mower joined the University in 1987 and publishes in the areas of augmented reality, non-photorealistic rendering of landscapes, and parallel algorithms for GIS. Professor Mower is currently the Director of the graduate GIS Certificate program and the lead developer of the proposed Master in GIS program at the University at Albany. He can be reached at jmower@albany.edu.

Graduate GIS Programs at the University at Albany

The Department of Geography and Planning at the University at Albany is currently building a new MS in GIS. The Department has already hired 2 new faculty members specializing in remote sensing and cartographic/GPS/wayfinding theory and applications. I will describe our existing graduate programs—the Certificate in GIS, the GIS track in the Geography MA, and the GIS concentration in the Master's in Regional Planning (MRP)—and then focus on our upcoming MS in GIS. Given our Department's proximity to New York State offices and agencies, our students have unequaled opportunities to engage in experiential learning through internships with our partners, not only in state government, but in federal and regional agencies as well.

Presenter:

James Mower, University at Albany
James Mower is an associate professor at the Department of Geography and Planning, University at Albany. Professor Mower joined the University in 1987 and publishes in the areas of augmented reality, non-photorealistic rendering of landscapes, and parallel algorithms for GIS. Professor Mower is currently the Director of the graduate GIS Certificate program and the lead developer of the proposed Master in GIS program at the University at Albany. He can be reached at jmower@albany.edu.

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Growing Trend to Use Your Own Device (e.g., Smartphone and Tablets) for Field Data Collection

GIS and other professionals have been collecting data in the field for years. Now more and more organizations are breaking down traditional barriers, expanding capabilities, and reducing costs by implementing technology using a BYOD (bring your own device) approach to field data collection.

Get up to speed on the differences between BYOD and traditional field data collection approaches. Come and learn about powerful new solutions from industry leaders Esri, Inc., Trimble Navigation Ltd, and others. This presentation will provide an in-depth overview of Collector, TerraFlex™, and other software designed to facilitate and improve the process of collecting geospatial data in the field. It will compare and contrast these products in terms of functionality, workflow, and costs.

Presenter:

Austin Fisher, Fountains Spatial, Inc.
Austin Fisher is currently Vice President of Fountains Spatial, Inc., and Director of Operations and Business Development for the Waypoint Technology Group. He has reached the disconcerting point in his career where his years of professional experience are greater than the age of some of his colleagues.

Integrating Pictometry into your Workflow

An essential component to accessing and analyzing data is the platform used to view it. Consumers access data in a multitude of formats and viewers from simple paper form to complex, multi-layered GIS-centric viewers. Adapting to user needs, Pictometry developed the cloud-based Connect platform - focused on compatibility and functionality within a user's workflow.
In this talk, Pictometry Connect options will be highlighted, including the Pictometry web viewer Explorer and supplementary mobile applications, the Pictometry ArcGIS toolbar addin, and the HTML designed Integrated Pictometry Application (IPA) widget for customer and third party hosted data platforms.

Presenter:

Jon Langstaff, Pictometry International Corp.
Jon began his career at Pictometry in July 2010 as a Technical Trainer. In January 2013 he was promoted to Regional Technical Manager (RTM) for the NY/New England/Eastern Canada region. In his capacity as the regional RTM his efforts focus on outreach, deployment and technical assistance for Pictometry customers.

Knowledge from Pixels

In this session Sean Wohltman, Geospatial Scientist from Google will share with you exciting new technologies under research and development at Google. Learn how Google uses its compute power and machine learning to extract knowledge from massive public datasets and private geospatial collections such as Google StreetView and Skybox. And, see how Google's Earth Engine is able to use this infrastructure for Spatial Analysis.

Presenter:

Sean Wohltman, Google
Sean is a Geospatial Scientist for Google's Maps Team. He has most recently been the technical lead for Google's Aerial Orthoimagery For Work program, and designed the workflows for provisioning and serving terabytes of imagery at scale on Google Cloud Platform. Since joining Google in 2008, he has worked to bring analytic capabilities to the Google's Geospatial platform and developed technologies to bring Google Earth and Maps to disconnected tactical and crisis-response environments. Prior to joining Google, Sean worked as a geospatial analyst in the Office of Counterterrorism and as a developer in the eGEOINT Management Office at NGA. He earned a bachelor's degree in geography from Virginia Tech in 2004, where he also earned his M.S. in geographic information science in 2005.

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Lessons Learned in Small Area Spatial Analyses of Health Outcomes

With the increasing availability of spatial analyses tools and small area health data, public health departments can now link socio-demographic and health data to describe, analyze and present social determinants of health outcomes. This presentation will focus on various methods to evaluate and model spatial heterogeneity in health outcomes and their determinants. It will use examples from several different ongoing projects of small area estimation at the New York State Department of Health to demonstrate the issues involved and the various options available for analyzing spatially auto-correlated data at a fine scale level. We will also discuss the interpretation of findings from these analyses and their application in identification of priority areas of public health action.

Presenter:

Tabassum Insaf, New York State Department of Health
Dr Tabassum Insaf is a Research Scientist at the Bureau of Environmental and Occupational Epidemiology in the New York State Department of Health. Her research focuses on understanding the role of social and behavioral factors in health disparities for chronic disease outcomes. She has expertise in multilevel and spatial regression modeling. Her recent projects include analysis of satellite data to determine health effects of air pollution and heat stress and small area analysis of social determinants of adverse birth outcomes.

Local Government "Common Core" Geospatial Business Needs: GIS Justification Begins Here

After approaching nearing three decades of geospatial development, a common core of operational and institutional program areas have been identified which define many of the most important geospatial business needs in local governments across New York State.

Such identification is important because it serves as a starting point to move the statewide discussion away from attempting to justify GIS development based on geospatial products and data, but rather to a dialogue focusing on regulatory requirements and specific business needs of local governments. Once accepted and recognized as technology priorities, geospatial products and services associated with the "common core" will begin to take on a greater role in defining the statewide GIS priorities. As well as expanding opportunities for business and industry to support government GIS programs.

This paper will identify and discuss local government "common core" geospatial business needs which together can be used to frame a discussion by the local government GIS community with statewide politicians and elected officials. Until funding and sustaining legislative support for local government GIS programs is established and aligned with business needs, broad acceptance and development of the technology will never be realized.

Presenter:

Sam Wear, Westchester County GIS
Sam Wear has led development of the Westchester County GIS program since 1988. In this capacity he is responsible for overseeing all aspects of theCounty's enterprise GIS program and he works extensively with municipal governments in building both local GIS capacity and collaborative efforts with the County. His nearly 31-year County service also includes a four-year IPA detail with the U.S.Geological Survey, National Geospatial Program in Reston, Virginia. He is two-time President of the Northeast Arc Users Group and founder of the New York State GIS Association. Sam earned his B.S in Wildland Recreation Management from the University of Idaho and a M.S. in Natural Resources Management at the University of Vermont.

Newtown Creek: 19th Century Maps as Predictors of 21st Century Environmental Legacy

We have investigated the development of three chemistry-intensive industries at Newtown Creek, a four-mile-long waterway at the geographic center of New York City, during the hundred year period that began in 1855. Newtown Creek was one of the country's early centers for production and export of fuels and materials. Industrial production grew rapidly as the Civil War ended; an impressive succession of new technologies enabled the site's large scale industrial production of sulfuric acid, electrolytic refining of metals, and fractionation and treatment of crude petroleum. Essentially all materials production at Newtown Creek predated current environmental regulation, however 19th and early 20th century industrial practices have secured for Newtown Creek a place on the EPA's National Priorities List. This Superfund site is nearing completion of Phase 2 of the Remedial Investigation/Feasibility Study. In this presentation we compare new maps that indicate the results of recent RI/FS

measurements to 19th century insurance maps. Correlations between the locations of 19th century materials production facilities and present-day environmental contamination are considered.

Presenter:

Peter Spellane, New York City College of Technology CUNY
Peter Spellane, Ph. D., is an associate professor and member of the Chemistry department at New York City College of Technology in Brooklyn. He studied English at Hamilton College and Chemistry at the University of Washington and the University of California at Santa Barbara. In recent work at City Tech, he was part of a team that designed and launched new courses in environmental science, with support of the NSF, and has worked on NEH-funded projects that seek to integrate the humanities with education in science and technology; projects include "Water and Work: The Ecology of Downtown Brooklyn" and "Along the Shore, Changing and Preserving the Landmarks of the Brooklyn's Industrial Waterfront." His current work concerns the history and environmental legacy of the production of chemicals and petroleum in New York City during the late 19th and early 20th centuries.

Spatial and Temporal Changes of Parking Lot Land Use at SUNY Buffalo State Applying Unmanned Hellicotper Remote Sensing

Shortage of on campus parking space during a school day is one of major problems for the universities in the United States, in particular for those urban campuses. In this research, we applied the unmanned helicopter remote sensing to collect occupational land use changes of student parking lots during typical school days, such as Monday, Wednesday and Friday or Tuesday and Thursday. Spatial and temporal occupation models were visualized by hourly bases during a typical school day. The field collected student parking lot occupation data was statistically and geographically related to the time and location database of the university class offering.

The results shows that the highest utilization rates of both student parking lots and classrooms occur in Tuesday and Thursday afternoons. By contrast, the parking lot competition was not very intense during the morning hours of school days. The imbalance of parking lot occupations are not only at different times and days, but also at different locations on campus. Based on the results of this study, suggestions of effective on campus parking management were proposed.

Presenter:

Tao Tang, State university of New York - Buffalo State
Professor, Department of Geography and Planning, State University of New York (SUNY) – Buffalo State, Buffalo, NY, September 2015 – Present
Associate Professor, Department of Geography and Planning, State University of New York (SUNY) – Buffalo State, Buffalo, NY, January 2004 – August 2015
Adjunct Associate Professor, Department of Geography, University at Buffalo, SUNY,
2010 – Present
Assistant Professor, Department of Geography and Planning, SUNY – Buffalo State, Buffalo, NY, January 1998 - December 2003

State GIS Career Opportunities

Co-presenters Bill Johnson and Frank Winters will attempt to demystify GIS hiring and advancement in New York State government. While many in our field espier to start or advance a career with a State position in GIS, few fully understand the hiring and advancement procedures and their subtleties. The Civil Service title series in Information Technology offers opportunities in a career ladder spanning from entry level to executive management. GIS experience, capabilities, education and certifications all now play into an individual's opportunities with the State. In this presentation Bill and Frank will cover staff augmentation contracting, registration for entry level State positions, and essential information for promotions including Civil Service testing and the new Selective Certification program.

Presenters:

Frank Winters, NYS ITS GIS Program Office
Frank is the director of the NYS ITS GIS Program Office. He has a Master of Science in Geography from the University of Idaho, and has been involved with GIS in New York State Government for 23 years.

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William Johnson, NYS Geographic Information Officer
Bill is Geographic Information Officer at the NYS Office of Information Technology Services, where he serves as the State's strategist and advocate for Geographic Information Systems (GIS) technology and coordination across the Executive Branch agencies. Previously, he was Director of the GIS Program Office at the Division of Homeland Security and Emergency Services, and prior to that he was Director of Mapping and GIS for the New York State Department of Transportation. Bill has more than 30 years of experience with mapping and GIS in New York State and has been a leading advocate on the use of GIS to improve government operations. He has also served as President of the National States Geographic Information Council.

Take Flight

There are many compelling uses for unmanned aircraft systems (UAS's), also known as drones, such as mapping, 3D modeling, inspections, construction monitoring and many more. As we compile and organize more data, we are able to make more informed decisions that lead to a variety of solutions for our clients. UAS's offer us a powerful and unmatched ability to gather data quickly, easily and accurately. If you're considering incorporating a UAS for your business, it pays to be prepared. During this session we'll discuss some of the current systems being used for these various purposes in the design and construction industry as well as the systems and case studies used on our recent projects. We'll also discuss many of the pressing issues related to implementing this new technology. Join us to find out more about this hot topic.

Presenter:

Greg Hale, HALE Technology in Practice
Greg A.M. Hale, PE - CTO & Disruptor, Hale Technology in Practice, LLC
Greg has worked in the AECO industry for the last 16 years with a background in construction management, structural engineering, BIM management and technology consulting. He specializes in Autodesk Revit and Navisworks, laser scanning, and mobile technology and provides training, strategic planning, building documentation services and best practice solutions. Greg has spoken at many professional events including Autodesk University and SPAR Point International. He recently started adding UAVs into the company's research and development. In addition, Greg is founder of the RocCity Revit User Group and Syracuse Technology for Design and Construction Group and supports BIM user groups across western New York.

The Data Quality Triangle

Mapping from UAVs is now reality. But in the excitement over all the new technology, many data producers are leaving behind some of the core basic fundamentals of mapping. Software and hardware vendors promising the moon fail to convey one basic message: There is no Easy Button! In fact, many UAV data producers that did not come from traditional mapping backgrounds often don't, and as the saying goes, know what they don't know. UAVs can create very precise data, but to turn a UAV from a photography tool into a mapping tool that produces data to a known accuracy takes the application of some geospatial principles. This talk uses the Data Quality Triangle of Accuracy, Precision and Repeatability to describe how mapping from UAVs is now becoming part of our standard landscape.

Presenter:

Benjamin Houston, Spatial Analytix, LLC
Ben Houston is a self described raster evangelist whose passion is terrain analysis and modeling natural systems with GIS. A licensed Environmental Engineer and former Army Topographic Engineer, he has over 20 years experience in engineering and mapping. Ben has a broad background in public health engineering, utilities infrastructure, and storm water management. His focus the past 10 years has been on using high resolution airborne LiDAR data and most recently has turned his attention toward UAV based data collection and analysis. He is the CEO and Co-Founder Spatial Analytix and currently leads business development and strategic planning. Ben is also a visiting Professor in the Center for Environmental Policy at Bard College and is both a certified PMP and GISP.

The Gateway: A Portal Story

The New York Department of State's Office of Planning and Development (OPD) developed the Geographic Information Gateway (Gateway), a new web portal that makes geographic data used by OPD publicly accessible, supports OPD and local government planning activities, and serves as a public communication tool. Presentation focuses on the collaborative process used to design the Gateway; the application of Gateway tools to advance OPD's coastal management activities; key federal and state partnerships, and; the utility of the Gateway as an

innovative public resource and communication tool. OPD's vision for the Gateway was realized using an iterative design process, which allowed incremental updates, structured feedback, and systematic testing of functionality and design concepts. The Gateway includes: an interactive map viewer, which ingests and publishes map services; a data search and download page; a Latest Conditions page that links to real-time data; custom Focus Area pages, and; interactive stories that allow users to explore program-specific activities, data, and resources in depth. The initial release of the Gateway focuses on OPD's Atlantic Ocean and resilience planning activities; however, the website will continue to evolve and expand to ensure its utility as an office-wide resource and public communication tool.

Presenters:

Jeffrey Herter, NY Department of State, Office of Planning & Development
Jeff Herter works for the NY Department of State's Office of Planning & Development. Some of his current responsibilities include coastal risk area mapping for use in resilience planning, supervise the State's coastal consistency program, work with the Gateway development team; participate in the State's offshore planning efforts including facilitating acquisition and incorporation of ocean & Great Lakes information into the planning process; etc. He was GIS Unit Supervisor for the Office prior to his current position. He also served as a Coastal Development Specialist in upstate New York. Jeff received his MS in Natural Resources Management from the College of Environmental Science and Forestry.

Liz Podowski, New York Department of State
Liz Podowski is a Resilience Specialist working with the New York Department of State where she provides scientific, planning, and design expertise to support community resilience programs, sustainable shoreline management, renewable energy planning, and the development of creative public outreach materials. Liz also manages the design and development of the Geographic Information Gateway. Prior to joining the Department of State, Liz was a NOAA Coastal Management Fellow. She has a master's in landscape architecture from the University of Oregon and a master's in biology from Penn State University.

Katie Budreski, Stone Environmental
Katie Budreski leads the Spatial Analysis and Application Development Team at Stone Environmental where, over the past eight years, she has managed and conducted geospatial projects across a variety of disciplines including coastal management, water resources, forestry, utilities, agriculture, and renewable energy. She has been involved in managing web mapping application projects using approaches based on the Agile software development method. Prior to joining Stone, Katie completed a M.S. in Forestry at Virginia Tech, which focused on the evaluation of remote sensing image classification methodologies.

Two Web Applications Addressing Climate Change and Community Resilience

Stone Environmental will demonstrate two web applications developed in response to President Obama's Climate Data Initiative thru Esri's Climate Resilience App Challenge and the United Nations Office for Disaster Risk Reduction (UNISDR) Making Cities Resilient Campaign thru Esri Global Disaster Resilience App Challenge 2014.

The Modeling Community Erosion from Climate Change App enables community members and leaders to understand the impact climate change will have on soil erosion. It provides a basis for taking preventative action regarding infrastructure investments and soil conservation using high-resolution scientific data.

The Modeling Resilience to Stormwater During Extreme Events App supports the preparation of risk assessments as a basis for urban development plans and decisions by highlighting critical areas of accumulation of runoff during extreme weather that may be in excess of the runoff volume for which infrastructure was designed. Predictions of excess stormwater over land and historic flood zones are overlaid with infrastructure such as bridges, culverts, catchbasins, storm drains and storm lines to help identify system risks. Risk information in the app can help prioritize investment and maintenance of critical stormwater infrastructure.

Presenters:

David J Healy, Stone Environmental, Inc.
David Healy is Vice President at Stone Environmental. He has been a GIS innovator in solving complex analytical and technical problems for over 25 years at the local, regional, national and international level. He has led numerous GIS solution strategies, including project design, programming, modeling, layout and production for many diverse clients-large and small. He loves finding solutions to complex problems. He is always interested in creating new ways of turning data into information and integrating GIS into practical applications. He believes that interweaving of web maps create compelling stories helps to create understanding. David received his M.A. in Urban Planning at UCLA where he focused on the relationship between land use and

air quality. Prior to joining Stone, working for the State of Vermont, he was instrumental for establishing and operating the Vermont Center for Geographic Information.

Katie Budreski, Stone Environmental Inc.
Katie Budreski leads the Spatial Analysis and Application Development Team at Stone Environmental where, over the past eight years, she has managed and conducted geospatial projects across a variety of disciplines including coastal management, water resources, forestry, utilities, agriculture, and renewable energy. She has been involved in managing web mapping application projects using approaches based on the Agile software development method. Prior to joining Stone, Katie completed a M.S. in Forestry at Virginia Tech, which focused on the evaluation of remote sensing image classification methodologies.

Urban Storm Water Mapping Challenges: A Los Angeles County Case Study

Anyone who has tried modeling drainage from LiDAR knows it can be a pain in the neck. The level of detail offered by most LiDAR datasets, even derived DEMs, can bring even the most ardent modeler to their knees. Features such as, culverts, curbs, berms, highway ramps, void areas and subsurface drains can make urban storm sewer mapping a significant challenge. This presentation will discuss a recent pilot project for the LA County DPW discussing how to leverage "out of the box" tools in ArcGIS to map the drainage areas to catch basins and surface outlets in support of an MS4 compliance program. The presentation will also discuss how the project evaluated various point densities as they affect the resulting elevation model, and various software tools such as SCALGO, TauDEM, and ArcGIS as they differ in how they accumulate and route flow downstream. Ultimately a protocol for creating consistent data was developed and the strengths and limitations of that protocol will be discussed.

Presenters:

Karen Kwasnowski, GroundPoint Technologies, LLC
Karen Kwasnowski is currently an officer with Groundpoint Technologies LLC. She studied Mapping Sciences at SUNY ESF and has worked as a remote sensing engineer and GIS analyst for the past 15 years. While working at the Institute for the Application of Geospatial Technology Karen received advanced training in lidar technology, which was proving to be an important upcoming technology. Karen began working with lidar data and developing workflows for NYS customers who received the data as part of the FEMA floodplain mapping program but didn't know how to integrate the vast point clouds into their GIS. Since that time Karen has worked for over a hundred different town and county government agencies all over the United States, helping turn their lidar data into data products like DEMs and Contours as well as using the lidar to develop more advanced data products like landcover maps, urban drainage networks, and watershed boundary layers.

Benjamin Houston, GroundPoint Technologies, LLC
Ben Houston is co-founder of GroundPoint Technologies and currently leads business development and strategic planning. He has over 20 years experience in topographic engineering, most recently specializing in LiDAR data processing and applications. Ben is a licensed Professional Engineer in New York and has a broad background in public health engineering, public utilities infrastructure, and stormwater management. He has held various positions as an engineer and GIS analyst with both for-profit and non-profit consulting companies, and with various local government agencies including the Departments of Planning, Public Works, and Health. Ben specializes in raster based terrain analysis and GIS data integration.

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Sessions are listed in alphabetical order by title, and abstracts and biographies are listed as submitted without editing.

40 Years of Long Island's Changing Demographics

The Historical Census Atlas for Long Island presents tract-level information on 4 dozen demographic characteristics from the 1970 through 2010 Censuses. It displays change over time on an islandwide basis, and detailed information for each of Long Island's 600 Census tracts. As you hover your mouse across Nassau and Suffolk counties, you'll see a 'dance of data' in the lefthand panel as statistics and charts change dynamically for each tract. Or, select a single tract from the map and choose different Census characteristics and/or decades to view change across subject areas and over time. The application relies on ArcGIS Server, GeoJSON representation of tract boundaries, and various JavaScript techniques to display these features and trends seamlessly and intuitively.

Presenters:

Steven Romalewski, CUNY Graduate Center
Steven Romalewski directs the CUNY Mapping Service at the Center for Urban Research at the City University of New York's Graduate Center. The Mapping Service engages with foundations, agencies, businesses, nonprofits, and CUNY researchers to use spatial analysis techniques in applied research projects. They specialize in online applications providing intuitive access to powerful data sets, displayed visually through interactive maps and other formats. Romalewski was awarded a Revson Fellowship at Columbia University and received a master's degree in urban planning from Columbia. Before joining the CUNY Graduate Center, Romalewski led the Community Mapping Assistance Project at NYPIRG for eight years providing GIS services to nonprofits across the country.

Agricultural Non-point Source Pollution Control Program and GIS – a Perfect Match

The Agricultural Non-Point Source Pollution grant program (AgNPS) is part of the Agricultural Environmental Management (AEM) Program that helps farmers make common-sense, cost-effective and science-based decisions to help meet business objectives while protecting and conserving the State's natural resources. AgNPS is now in its 21st year of providing funds to Soil and Water Conservation Districts (SWCD) across NYS to implement Best Management Practices (BMPs) on farmlands to prevent farm-based pollutants from entering streams, rivers, lakes, and water supplies.

To date, over 700 projects have been funded. Tracking project data has involved using a combination of an Access Database and GIS. As well as keeping accurate accounts of funding amounts, progress reports, and BMPs constructed, this program collects place-based (spatial) data including county, town, watershed (Hydrologic Unit Codes 8-12), and BMP coordinates. These data can then be analyzed with respect to each other as well as to many environmental variables including soils, bedrock, aquifers, etc. In addition, BMPs are tracked based on their position relative to Priority Waterbodies (NYS DEC) and watersheds with Total Maximum Daily Load Requirements (US EPA). This GIS analysis is used for evaluating completed projects as well as for future planning and decision-making.

Presenters:

Lauren Lyons-Swift, Soil and Water Conservation Committee
Lauren Lyons-Swift currently works as a Natural Resource Conservationist for the NYS Soil and Water Conservation Committee housed within the NYS Department of Agriculture and Markets. Her responsibilities include GIS analysis of non-point source pollution project data. Her past employment experiences include NYS Natural Heritage Program, The Nature Conservancy, US Fish and Wildlife Service and a secondary school science educator. She received a BA in Biology from the University of Colorado and an MS in Botany/Plant Ecology from the University of Connecticut.

An Array of Open Source Initiatives from the GIS Librarian World

The GIS Lab in the Newman Library at Baruch College, CUNY produces a number of publically accessible open source and open data-related resources that I will highlight in this presentation. The library began offering introductory workshops using the open source QGIS software back in 2011, and the tutorial we created is available under a Creative Commons License. We also produce a tutorial for the open source spatial database Spatialite, to accompany a freely available database we produce with spatial features and census data for the City of New York. Our lab provides a number of value-added datasets through our recently revamped Baruch Geoportal. We create ISO spatial metadata for these datasets, and in the near future we will begin providing some of the scripts that we use as part of our metadata workflow on our portal. The work that we do dovetails with other initiatives within the

GIS librarian and service community in higher ed, and in addition to our projects I will illustrate a few of these initiatives that would be of interest to the wider geospatial community.

Presenter:

Frank Donnelly, Baruch College CUNY
Frank Donnelly is the Geospatial Data Librarian and an Associate Professor at the William and Anita Newman Library at Baruch College CUNY, where he works with students and faculty to help them find, process, organize, and interpret place-based information and data. He is the library's subject specialist in geography and GIS and has extensive experience working with US Census data. He holds an MLIS from the University of Washington and an MA in Geography from the University of Toronto.

An Open Source GIS Solution to Integrating Municipal Drinking Water Systems

A collaborative effort between the City of Dunkirk, New York's Department of Public Works and the State University of New York at Fredonia's Department of Geosciences resulted in a geospatial study of the potential for integrating municipal drinking water systems. Given the proximity of well elevations at several local water plants, a project is underway to improve efficiency by integrating the systems. The Hazen-Williams equation was used to calculate pipe flow, which was then related to installation costs to show performance and economy in dollars per gallon per minute. An open source GIS software solution was used to visualize the locations and system pressures of existing and proposed pipes. It was determined that, while increasing the diameter of the pipe necessarily increases the cost of the proposed infrastructure, cost is offset by the vast increase in flow capacity. Thus, to maximize efficiency of the local municipal drinking water systems, integrating the systems using a 20-inch pipe is recommended over the existing 8-inch pipe.

Presenter:

Zakkary Hess, State University of New York at Fredonia
Zakk Hess is a senior Geology major and GIS minor at the State University of New York at Fredonia. He has interned with the City of Dunkirk Department of Public Works since January 2015. His focus has been on hydrogeology.

An Overview of NYS' Statewide Parcel Map Program

The NYS GIS Program Office is in the early stages of a new program to develop and share a statewide GIS tax parcel file. The objective is to assemble a single layer of tax parcel polygons with a selected set of assessment roll attributes that can be shared, first among all state agencies, then county and local governments, and eventually the public. The program is a realization of recommendations made by stakeholders in the GIS community over the past decade. The presentation includes a brief history, current work status and future direction of the program; approaches to administrative and technical challenges; benefits to the owners and users of the data; and examples of uses of the file made thus far.

Presenter:

Katherine Kiyanitsa, NYS GIS Program Office
Katherine (Kate) Kiyanitsa, GISP has an MA in Geography from SUNY Albany with a concentration in GIS/Spatial Analysis. She has worked in the New York State ITS GIS Program Office since 2010 and is currently a part of the Statewide Parcel Map Program. The program's mission is to collect, assemble, maintain, and provide access to statewide tax parcel GIS data. The team also includes Program Director Bob Gehrer, and Paul Fasano.

Basic Introduction to Handheld Laser Scanning: Employing SLAM-based LIDAR Technology for Spatial Imaging

Handheld laser scanners are rapidly becoming a low-cost option for mapping interior spaces and obstructed areas. Typically, these devices lack GPS and instead rely on Simultaneous Localization And Mapping (SLAM) to provide 3D maps of objects and the environment. SLAM-based handheld laser scanners (LIDAR) have become a growing tool for scanning providers to map highly complex, highly obstructed interior environments. Structures such as multi-story buildings, manufacturing facilities and underground mines present a real challenge to static (tripod-mounted) scanning methods.

By employing SLAM, operators of handheld scanners are able to move in one continuous trajectory (without GPS) around the structure and in between objects causing obstructions to the views of static scanners. This presentation

will very briefly review some of the latest handheld laser scanning technologies and contrast and compare them with more traditional static scanners. Additionally, a simple, high-level overview of the principles of SLAM will be covered, especially with respect to direct geo-referenced scanning techniques and scan-to-scan registration used by static scanning technology. Several real-world examples and results will be presented.

Presenter:

Bill Gutelius, Qntfi, Inc.
Bill Gutelius co-founded Active Imaging Systems (AIS) in 2007 where he consults for commercial and government clients on active and passive imaging technologies and their applications. In 2014, after nearly 20 years involvement in the LIDAR industry, Bill formed Qntfi, Inc., a distributor of hardware and software for indoor and underground 3D mapping applications. Previously he worked at Teledyne-Optech, a leading global manufacturer of LIDAR and camera systems.

Building a Cultural Resource Database: An Introduction to New York State's Cultural Resource Information System (CRIS)

CRIS is a new interactive, web-based system offering the public and government partners convenient and extensive access to the New York State Office of Parks, Recreation and Historic Preservation's (State Parks) historic records and streamlining the agency's delivery of historic preservation programs. CRIS is available at https://cris.parks.ny.gov/.

CRIS is a direct pathway to access more than two million pages of documents collected by State Parks' Division for Historic Preservation since 1966. These now scanned documents include more than 6,000 nominations for historic resources listed on the State and National Registers of Historic Places, an extensive collection of building and archeological inventory forms, historic survey reports, and a wide variety of other data from the Division's collection.

CRIS was developed by the New York State Office of Parks, Recreation and Historic Preservation's Division for Historic Preservation (DHP) and Fountains Spatial with funding from the Federal Highway Administration.

Presenters:

Larry Spraker, NYS Office of Parks, Recreation & Historic Preservation
Larry Spraker is President of Fountains Spatial, responsible for the overall business operations. Mr. Spraker holds a Masters degree in Geography with a specialization in geographic information systems and remote sensing. He has over 24 years of experience in GIS, and is recognized as one of the leading experts in the Northeast in the development of custom GIS applications.

Michael Schifferli, NYS Parks
Mike Schifferli has been with NYS Office of Parks, Recreation & Historic Preservation, State Historic Preservation Office (SHPO), since 2000. He's currently serving as the Cultural Resource Information System (CRIS) Program and Data Services Coordinator. Prior to joining the SHPO Staff Mike was employed by a cultural resources management firm in Buffalo, New York, where he worked on the identification and evaluation of the western terminus of the Erie Barge Canal. He also served as an Archaeological Technician for the National Park Service in Grand Canyon, AZ and southern New Mexico. Mike holds a BA. in Anthropology from SUNY Buffalo.

Connecting Geospatial Education with Industry and Government: A New York Experience

Hundreds of 4-H Youth are learning the science and technology of GPS, GIS and Remote sensing. Cornell Cooperative Extension partnerships with Pictometry and NASA provide educators and youth with fresh tools and current applications. Youth learn STEM concepts, career possibilities, and insight into connections between education and applying problem solving skills to make a difference.

Monroe Community College is building a geospatial career pipeline between high schools, our GIST (Geospatial Information Science and Technology) Certificate program, 'Get the GIST,' and the geospatial workforce. With support from the National Science Foundation Advanced Technological Education program, seven high schools, GIS Scholars and the regional geospatial industry (Pictometry International, GIS-SIG, Monroe County GIS, City of Rochester GIS, Lightower Fiber Networks), we are preparing students for entry level geospatial positions as well as opportunities to transfer to four year universities. SUNY Brockport is working to map septic fields in watersheds across the state and is sharing their results with County and State Departments of Health.

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Presenters:

Andrew Mendola, Pictometry

Andrew Mendola is the Educational Program Manager at Pictometry International. In his third year of developing and furthering the goals of the Educational Program department, Andy is responsible for integrating Pictometry's solutions and imagery into curriculum of multiple disciplines and grade levels. Prior to this role Andy was a trainer for Pictometry in their Customer Technical Services Department. As a trainer, he traveled across the US to train the county government personnel that were under contract with Pictometry on the use of their software and imagery datasets. Andy is a certified New York State teacher with 14 years of classroom experience as well as a certified New York State School Administrator. Andy sits on the National Visiting Committee for the Geotech Center and he is chair of the New York State GIS Association Education Committee. In addition Andy is a director on the board for GIS/SIG in western NY.

Heather Pierce, Monroe Community College

Heather Pierce is an Instructor of GIS and Physical Geography at Monroe Community College in Rochester, NY. She is the Co-PI on the recently awarded Advanced Technological Education grant from the National Science Foundation titled, "GeoTech Consortium of Western New York: Get the GIST (Geospatial Information Science Technology) Certificate".

Discovering the Geography of Data Opening at Data.gov

Although the open data is open to everyone, the question of "how is the data opening going" is still an question without a clear answer. The project, Open Data Discovery, aims to discover the world of open data, especially from a geographic perspective. It tries to provide an overview of data opening at Data.gov by answering three questions: How Many, What, and Where. By continuously monitoring the portal, we are investigating the data availability, in terms of the amount and covered topics, at state and county level. In this presentation, we would like to show the geographic distribution of open data and the spatial difference of data availability at different regions. We plan to maintain the project for long term and more open data portals and hope that this project could allow us to further understand the ongoing open data movement.

Presenter:

Haoliang Yu, NBT Solutions LLC

Haoliang Yu is currently a GIS analyst in NBT Solutions LLC. His work includes database management and development of data processing procedures for projects including Vetro and FiberLocator, web applications that empower the fiber network management with modern GIS technique. Prior to joining NBT Solutions, he got a master degree in Geography at the University of New York at Buffalo and focused on solving epidemiological problems using geographic data and spatial methods. He is also an active contributor to open-source software and has a strong interest in the sharing, as well as discovering, of open data.

Geo-Spatial Methodologies to Quantify Environmental Issues Facing Coastal Florida – Case Studies

Photogrammetry and GIS were employed for monitoring restoration progress in the Indian River Lagoon (IRL) watershed by the Saint Johns River Water Management District (SJRWMD). A pollutant screening model was developed that quantified the N, P, K & TSS into the lagoon. Normalized Difference Vegetation Index (NDVI) was used to measure the vegetation trajectory on restored wetlands. Various Geo-spatial methods were used to study the potential sea level rise on a reserve.

Presenter:

D. Samuel Rajasekhar, EDR

D. Samuel Rajaseker graduated with Master of Science in Forestry (MSF) from Stephen F Austin Sate University, TX. Applied GIS & Remote Sensing technologies to produce a predictive habitat for a threatened plant species in East Texas. Worked in Florida & Minnesota for State agencies. In Minnesota mapped about half of the State for GAP landcover using Landast7 ETM imagery. In Florida used innovative GIS and Remote Sensing methods to measure seagrass dynamics in the Indian River Lagoon & quantify wetlands, mapped wetlands using WorldView2 imagery and contributed to sea level rise studies. Currently working as an Aerial Specialist for Environmental Data Resources , CT. I provide photogrammetry solutions for historic aerial photographs.

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GIS & Green Infrastructure in New York City

Green infrastructure is rapidly becoming the preferred method of dealing with storm-water management in urban and suburban areas, and was recently identified as a priority by the White house in October 2014. Within Arup, GIS is a fundamental tool for optimizing the siting and phasing of green infrastructure installations for both new-build & retrofit projects. This presentation will give an overview of the mobile strategy towards the fieldwork, as well as tracking the status of hundreds of sites throughout NYC from initial site assessment to construction via an interactive dashboard. In addition, a green infrastructure site suitability model has been developed for rapidly assessing the potential sites at multiple scales using a combination of open data & engineering assumptions of ground conditions. This model has been successfully utilized for towns in Long Island, a housing project in Brooklyn, and abroad.

Presenter:

Richard Bartholomew, Arup
Richard Bartholomew is a designer with Arup based in the New York City office. With several years of experience as part of the Infrastructure and Civil Engineering team, he has worked on a variety of transportation, water, and master planning projects both locally and abroad. With particular expertise on green infrastructure analysis and design, he developed mobile GIS field assessment tools, a site suitability model for optimizing and prioritizing locations for GI implementations, and a web-based map & dashboard to track fieldwork and construction progress for several projects in the NYC region.

GISing After Graduation - Real-Time Tweets Map

Background:
After graduation, my one-year free ArcGIS license will expire soon. The inconvenience didn't affect my love to GIS. I started to explore multiple alternate ways to play. However, as a GIS master and a professional user, I believe my exploration should be pioneering with ideas and capable to inspire new users. In this report, I'm going to show the work about the real-time tweets around us.

Structure:
(1) Introduce Twitter Site Streaming with Python.
(2) Talk about popular open-source GIS platform. (CartoDB, Mapbox, Leaflet)
(3) How to combine Python and HTML. (the usage of Flask)
(4) 'Post' and 'Get' methods as a small web GIS platform.

Result:
http://flasksample.herokuapp.com/map

Functions:
(1) Know where you are.
(2) Search the real-time tweets around you.
(3) Show the tweets results on an interactive map.

Conclusion:
Encourage audience to try new ideas and create free GIS website

Presenter:

Qingyu Ma, Evolution Maps
Qingyu Ma was born in the small town of Xiangyang, China in 1992. During his undergraduate study, he was fortunate enough to be chosen as a member for the Remote Sensing group. He then studied and researched Computer Science topics about Machine Learning and Hadoops for 2 years, which helped develop his interests in CS. Since he has passion for both GIS and Computer Science, Ma decided to create something that combines those skills and hopefully benefit the world. He graduated as a GIS master in May, 2015, and plans to continue pursuing his higher GIS techniques and education. Thanks to the 1 year study experience at the University of Pennsylvania, Ma has become a proficient user of ArcGIS 10.2 software.

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G-MAP: The Port Authority of NY & NJ's Goods Movement Action Program and Regional Truck Route Geodatabase

A presentation by The Port Authority of NY & NJ and Halcrow/CH2M on the multi-agency Goods Movement Action Program (G-MAP) and the development of a Regional Truck Route geodatabase. The presentation includes an overview of the goals and planned actions of G-MAP, a joint initiative of the Port Authority, the NYS Department of Transportation, and the NJ Department of Transportation. The G-MAP vision is to support and enhance the metropolitan region's position as a global center through strategic goods movement initiatives.

One of the G-MAP Early Actions is the development of a Regional Truck Route geodatabase. This geodatabase consolidates and standardizes information on designated truck routes into a seamless regional map, and is intended to reduce jurisdictional data gaps and to increase availability of data that may enhance the productivity and safety of the region's freight network for its users. The geodatabase was developed from existing GIS data, text-based regulatory documents, and graphical map layouts. The beta release is draft data from April 2015. The final version will incorporate regulatory updates and additional details, and be made available to freight network users, information service providers, application developers, and related agencies.

Presenters:

Danielle Hartman, CH2M
Danielle Hartman, GISP, is an accomplished geographer with 17 years experience with GIS, cartography, and NYC data. She excels at translating technical data into usable information for the decision-making process. Her technical expertise includes data development, spatial analysis, software design, and information management for large projects. She is based in CH2M's NYC office and frequently works on Port Authority projects.

Ahmed Ismail, Port Authority of New York & New Jersey
As a Transportation Analyst for the Port Authority of New York & New Jersey, Ahmed works on helping to solve the region's transportation challenges. His responsibilities include helping to manage the regional goods movement program, G-MAP. Ahmed also assists the agency's Aviation, Port Commerce, and Tunnels, Bridges and Terminals Departments, providing support for long-term facility planning and day-to-day operations.

Google Raised the Bar, Now Jump Over It

Google may have shaken the GIS industry, but several years later, the end result is nothing but positive. We have so many more tools as GIS professionals. As consumers, we have more location-based apps than one can count. This presentation demonstrates how trail-based route planning and navigation within interactive maps and apps can be taken to the next level, using open source tools.

Google may have given us map directions. But we as GIS professionals can push our technology even further, helping our end users accomplish what seemed impossible not that many years ago.

Presenters:

Linda Rockwood, Mohawk Valley GIS
Linda Rockwood is owner of Mohawk Valley GIS in Utica, NY. MVGIS offers technology and GIS services ranging from website and custom iOS/Android development to interactive map design and GIS data creation, analysis, mapping, training and consulting services. Ms. Rockwood combines expertise from her first career as a systems developer with her current passion for GIS applications, employing a mix of ESRI, Manifold Systems and Open Source tools to create client applications and run NYSnowmobileWebmap.com and ADKTrailmap.com, the company's two recreation e-commerce sites.

David Vail, Mohawk Valley GIS
David Vail is a software developer at Mohawk Valley GIS in Utica, NY working with clients across multiple fields, from advertising and real-estate to local government and tourism. Dave develops GIS based applications for the web and mobile with a focus on user experience, using open source technologies to create interactive, location driven products and applications.

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Guidance for GIS Professionals Assisting Emergency Managers in State and Local Governments

This presentation will highlight the documents developed by the National Alliance for Public Safety GIS Foundation to assist GIS professionals and emergency managers in the successful implementation of GIS. It provides an overview of best practices used by practitioners across the country for a variety of incident types and includes recommendations for data, resources and operational procedures prior to, during and after the event. Attendees will be provided free access to these documents.

Presenter:

Bruce Oswald, Oswald Associates

Bruce is the owner of Oswald Associates, a firm specializing in project management, strategic planning and geospatial solutions. He currently provides emergency management and homeland security consulting services for the National Alliance for Public Safety GIS Foundation and the National States Geographic Information Council. In addition, he serves as the chair of the 2015 NYGeoCon Committee. Bruce is certified as a Project Management Professional. He has holds bachelor degrees in Environmental Science and Landscape Architecture from the College of Environmental Science and Forestry at Syracuse University and an MBA from Rensselaer Polytechnic Institute.

How Geographic Information System (GIS) Data and Application Tools Can Be Used to Inform Renewable Energy Decisions: A Case Study

Geographic Information System (GIS) tools can be used in conjunction with publically available datasets to inform suitability for large-scale wind and solar siting at the statewide or community level. Through a Community Energy Strategies Pilot Program, the Massachusetts Clean Energy Center (MassCEC) took a major step toward eliminating a major roadblock to further solar and wind development within Massachusetts – the lack of user-friendly information and development tools. The pilot program resulted in standardized geospatial and tabular datasets, GIS tools, maps, and summaries that indicate suitable locations for siting industrial wind and solar installations. The datasets and tools are intended to be flexible and provide the ability to address specific community-based needs, such as local zoning regulations or stakeholder sentiment. Likewise, they include regulatory criteria required at the statewide level for siting large-scale wind and solar, such as restrictions on developing within floodplains or areas of critical environmental concern. When communities can easily access and understand the resources available to them and the steps toward creating clean energy, the path to development is made clearer.

Presenters:

Katie Budreski, Stone Environmental, Inc.

Katie Budreski leads the Spatial Analysis and Application Development Team at Stone Environmental where, over the past eight years, she has managed and conducted geospatial projects across a variety of disciplines including coastal management, water resources, forestry, utilities, agriculture, and renewable energy. She has been involved in managing web mapping application projects using approaches based on the Agile software development method. Prior to joining Stone, Katie completed a M.S. in Forestry at Virginia Tech, which focused on the evaluation of remote sensing image classification methodologies.

David Healy, Stone Environmental Inc

David Healy is Vice President at Stone Environmental. He has been a GIS innovator in solving complex analytical and technical problems for over 25 years at the local, regional, national and international level. He has led numerous GIS solution strategies, including project design, programming, modeling, layout and production for many diverse clients-large and small. He loves finding solutions to complex problems. He is always interested in creating new ways of turning data into information and integrating GIS into practical applications. He believes that interweaving of web maps create compelling stories helps to create understanding. David received his M.A. in Urban Planning at UCLA where he focused on the relationship between land use and air quality. Prior to joining Stone, working for the State of Vermont, he was instrumental for establishing and operating the Vermont Center for Geographic Information.

How GIS and Web Mapping will Support the Next Generation of Broadband Services

Over the next several years you will likely see broadband offered by companies you have never heard of. Ting, GWI, Empire Access...these are all small companies that are offering high-speed broadband service in underserved, rural areas and increasingly into dense, metro areas. Why? Because communities, are realizing that to attract new companies and/or address the 'digital divide' they must find a way to provide reliable, cost-effective, and fast broadband.

GIS and Web Mapping will play an important role in the planning, design, and implementation of these broadband networks. This presentation will show three examples of how broadband providers, communities, and consultants are using GIS and web mapping technologies. We will demonstrate how they are using these technologies to leverage existing broadband networks and community assets; make logistical and demand-based decisions as to where network expansions will happen; and maintain the networks once they are in place. All three examples are developed using open source geospatial libraries and databases including Postgres/PostGIS, Leaflet, MapBox, MapServer, and other open source frameworks.

Presenters:

Sean Myers, NBT Solutions LLC
Sean is the co-founder of NBT Solutions, a geospatial application development company that uses open source geospatial tools and libraries to build web mapping applications. He is responsible for company operations and act as product manager for many of my company's projects and applications. Previous to starting NBT in 2009, he was a GIS professional with several engineering and environmental companies building enterprise GIS solutions for various federal, state, local, and private clients.

How to Troubleshoot a Slow Web Mapping Application and Optimize Your ArcGIS Server

One of the most common issues with a Web Mapping application or an ArcGIS Online Web Map built using ArcGIS Server is poor performance like map refresh is too slow or simple queries take a long time to run. Many users are not aware of the tools and processes that can be used to systematically explore and discover the source of this poor performance.

This session will show you how to systematically examine and then identify the causes of poor performance and then show how to fix these issues by inspecting a few web applications that are performing poorly. I will demonstrate how we can use browser diagnostic tools (like Firebug/Fiddler) to investigate these issues.

In addition to performance issues due to web application set up, poor performance can also be due to too much traffic on the website. We will review some thumb rules to determine the number of users a Web Mapping Application can support and then do some load testing using open source tools to corroborate this.

Audience for this session is ArcGIS Server/ArcGIS Online Users, Administrators and Developers.

Presenter:

Vijay Sambandhan, Bergmann Associates
Vijay Sambandhan is Senior GIS Developer at Bergmann Associates in Buffalo, NY. During his time with Bergmann he has designed and developed numerous GIS software solutions primarily for Esri's ArcGIS Platform.

How Woodside Properties is Using GIS to Manage its Facilities

Sustainability, energy efficiency, security, centralization, and automation are concepts that are often discussed in the facilities management field. While these topics merit their individual importance, they are often treated as single initiatives. Even though geospatial information has long be used in planning, public works, emergency services, and general governance, it is rarely utilized inside of a building where it can serve as the centralizing tool to bring these facilities concepts together. Woodside Properties, based in Columbia, Maryland, has been using geospatial information to assist in the management of their commercial space since 2009. Using GIS as the actual information system to manage facility security, capital asset information, and operational conditions, Woodside Properties has seen results that have included a safer environment, 43% energy savings on an annual basis, and a capitalization rate increase. Spatial Systems will be demonstrating how Woodside Properties, LLC is able to use GIS technology to improve the overall operation of their commercial facility.

Presenter:

Patrick McLoughlin, Spatial Systems Associates, Inc.
Pat is a Project Manager and Senior Business Consultant with 11+ years of experience designing, implementing, and managing GIS solutions for a wide variety of clients, primarily in State and Local Government. He works with clients to understand the challenges they are facing and identifies opportunities where geospatial solutions can assist in improving business processes. He specializes in utility mapping, hydrology and hydrography, emergency services, real property mapping, and facilities-based GIS implementation projects. Pat graduated from Salisbury University in 2003 with a degree in Geography concentrating in GIS and Atmospheric Sciences and has been with Spatial since 2004.

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If It's Free It's for Me!

At work I have to use Esri products because that's what my employer has chosen to do but on my free time I am using open source tools to investigate what the limitations are. What I have found is that the "free" tools are quite useful for a lot of things but not all.

We all know that New York City has gone all open source and they are not turning back. Not everyone has the resources that an entity like New York City has at their disposal.

I would like to walk through some scenarios for using free tools like QGIS, GeoServer, PostgreSQL/PostGIS etc. I have installed some of these tools on $39 Pi microcomputers, tablets, smartphones etc.

I have attempted using these tools at various times over the last ten or so years but I think that we are now entering a time when these products are easy to set up and use in a production environment with little pain.

I would like to inform the conference attendees what I have learned setting up and using these products.

Presenter:

Michael Naughton, Town of Huntington
Over the course of his career, Michael Naughton has become very skilled in management and geographical information systems for the Town of Huntington. His qualifications include a detailed knowledge of geographical information systems, technologies and best practices. He has twenty years of experience in the creation and deployment of solutions capturing and analyzing municipal infrastructure assets using various GIS software and GPS hardware. He has used GIS and GPS technology to monitor and record information that allowed for $40 million in FEMA reimbursement for Superstorm Sandy and Hurricane Irene, and the information survived numerous audits.

Low Cost GPS Accuracy Improvements for Mobile Data Collection

I have been employed by the Town of Huntington since 1984. I have been using GIS products since 1996. Recently I have been doing mobile testing of Esri's ArcPad and Collector with various products to determine the best combination of hardware and software that would enable accurate mobile data collection while keeping costs down.

I have used the following for testing purposes: Trimble Geo XH, Trimble Nomad, Samsung S5 Smartphone, iPad, ESRI Collector, ArcPad, ArcGIS Online, ArcGIS Pro, ArcGIS Desktop, ArcGIS Server, Google Maps, Google Streetview, and New York State GIS Clearinghouse.

Using the above products I have done various mobile data collection tests to determine the most effective method of collecting accurate data and my presentation will expose my findings verbally and visually.

I have come to a few conclusions that I would like to share with conference attendees. I believe that anyone involved in mobile data collection would benefit from my presentation.

Presenter:

Michael Naughton, Town of Huntington
Over the course of his career, Michael Naughton has become very skilled in management and geographical information systems for the Town of Huntington. His qualifications include a detailed knowledge of geographical information systems, technologies and best practices. He has twenty years of experience in the creation and deployment of solutions capturing and analyzing municipal infrastructure assets using various GIS software and GPS hardware. He has used GIS and GPS technology to monitor and record information that allowed for $40 million in FEMA reimbursement for Superstorm Sandy and Hurricane Irene, and the information survived numerous audits.

Mobile LiDAR - Revolutionized 3D Data Collection

This presentation will describe how GIS and mobile 3D LiDAR scanning are being used in conjunction to revolutionize the capture of accurate 3D data in a process known as 'Mobile Mapping.'

Mobile Mapping represents the future of field data collection as it combines progressive LiDAR and GPS technologies capable of capturing survey-accuracy 3D location data on moving platforms such as automobiles, ATV's, and watercrafts.

The strength of Mobile Mapping is its ability to quickly and efficiently capture detailed location data over large land tracts and miles of roadway for asset inventories, streetscape visualizations, topographic mapping, and as-built documentation.

The contribution of GIS and CAD is to manage, analyze, and extract features from the resulting 'big data' holdings, which can be hundreds of gigabytes in size. This big data is distilled down into data products and deliverables including point clouds, 3D models, raster imagery, GIS databases, and CAD drawings to suit the needs of engineering, planning, and architectural end-users.

Presenters:

Michael Pianka, MJ Engineering & Land Surveying, PC
Michael Pianka is currently the Geospatial Services Technical Lead for MJ Engineering and Land Surveying, P.C. In addition to managing the firm's GIS group, Mr. Pianka is also the technical lead on research and development of the mobile LiDAR data acquisition program and workflow integration between LiDAR collection, GIS, and CADD user groups within the firm.

Michael Koterba, MJELS
Michael Koterba is currently the 3D Laser Scanning & Geospatial Services Manager for MJ Engineering and Land Surveying, P.C. Mr. Koterba is the director of the static and mobile LiDAR data acquisition programs, and oversees all of the firm's 3D laser scanning projects throughout their duration from field data collection to deliverable development.

Modeling Restrictive Layers in Soils that Contribute to Surface Runoff

The presence of high levels of phosphorus and nitrogen in many waterbodies is a contributing factor to the degradation of water quality. Agricultural (fertilizer and manure) runoff is often a large source of this nitrogen pollution. Predicting and mitigating which areas a most susceptible to surface runoff will help farmers make better decisions about where and how much fertilizer.

Penn State and USDA-ARS have been collaborating on the Fertilizer Forecaster Project which will eventually result in an application that can advise farmers when and where to apply fertilizer and manure. Locating areas of perched water (ground water that occurs above the water table) is key in predicting runoff; restrictive layer in the soil (high clay subsurfaces, fragipans, and lithological discontinuities can cause perched water tables. Working in the experimental watershed WE-38 in Central Pennsylvania, 2,400 data points were collected with ground penetrating radar to derive signatures of the depth to the restrictive layer. LiDAR derived geomorphic variables (e.g. slope, aspect, etc.) were used with the depth data to create a model to predict the spatial extent and depth of the restrictive layers in the soil, which can cause perched water tables. The model suggests that restrictive layers are found at the lithological discontinuity and are often at a deeper profile where the location is prone to receiving modern erosion. The model accuracy was tested by collecting soil cores at ~150 locations. Particle size and elemental signatures were also created to identify restrictive layers. To further refine areas of potential runoff, continued evaluation of the model will be necessary. Outside of WE-38 there are other runoff forecasting models that are also being evaluated. The results of these models are available in a web based application to allow farmers to find areas of predicted runoff and better chose when and where to apply fertilizers; this effect of this application on farmer behavior is also being evaluated.

Presenter:

Melissa Albino Hegeman, Penn State
Melissa Albino Hegeman is the GIS and Data Coordinator for NYS Department of Environmental Conservation's Bureau of Marine Resources. She is also working to finish her Masters in Geographic Information Systems at Penn State.

Modern Web Mapping for Local Governments

Local governments are faced with increasing citizen demands for transparency and accountability. The challenge lies in effectively distributing and presenting diverse information on the services, resources, events and decisions that are shaping the local landscape. While publicly accessible, such information is often scattered across multiple

sources and disconnected web pages. This presentation will demonstrate how mapping applications can coalesce these disparate sources, providing new views and insights into performance metrics, patterns of change and distribution of resources. The results are higher engagement of residents and visitors, promotion and greater efficiency of government services, and resources for business investment and development decisions.

Presenter:

David Breeding, AppGeo
Mr. Breeding is a Project Manager for the State and Local Government Team at AppGeo, where he leads projects developing custom Web applications and supports the design/deployment of enterprise GIS systems. He has worked at AppGeo for the last four years on projects for state and local governments across the Northeast. He earned a Masters in GIS and Technology from the University of Southern California.

NY Statewide Elevation Program

This presentation will highlight the current status as well as the future of the New York Statewide Elevation Program. A comparison of DEM results from various sources will show the the value in current trends toward denser LIDAR collection. The ability to create higher resolution contour datasets is another benefit of LiDAR collection, and about the Program includes plans for expanding coverage as more LiDAR is collected. The GIS Program Office is working with Federal, State, and County agencies to discuss areas that need to be collected.

Presenter:

Jeffrey Langella, NYS GIS Program Office
Jeff Langella is a Technical Lead on the NY Statewide Elevation Program. He has worked for NYS for 9 years as a GIS specialist supporting multiple programs including the NY Statewide Elevation Program, NY Statewide Orthoimagery Program, Data Improvement Manager, and NYS Emergency Response.

Open Sewer Atlas NYC: A GIS Exploration of Combined Sewer Infrastructure and Intervention Strategies at the Community Scale

New York City's aging sewer system and growth in population and development has forced the sewer system to allow 27 billion gallons of combined sewage and stormwater to pollute the city's surrounding waterbodies every year. Open Sewer Atlas NYC is a project that aims to create transparency into the underground world of New York City's sewer system.
The project takes existing sewer maps from the NYC Department of Environmental Protection and overlays it with community input to create dynamic maps that display a more complete picture of how NYC's sewer system works. The project uses GIS to identify and target areas for intervention to reduce the amount of polluted water entering the city's waterways. Most recently, the Open Sewer Atlas NYC team worked in a tributary area for a combined sewer outfall to Newtown Creek, a federal Superfund site and severely impaired waterbody. Pairing GIS analysis with an environmental campaign, the team held workshops in the community that narrated the problems of the sewer system and encouraged community members to play a role in mitigating the problem.

Presenter:

Korin Tangtrakul, Open Sewer Atlas NYC
Korin Tangtrakul is the lead researcher and GIS analyst with Open Sewer Atlas NYC, a community-based planning project. Korin is a recent graduate of Pratt Institute's Urban Environmental Systems Management M.S. program. She has five years of experience in GIS and geospatial data management and analysis, and specializes stormwater management, watershed planning and community development. Her work experience in New York includes Lead Graduate Assistant for the Spatial Analysis Visualization Initiative at Pratt Institute, GIS Intern for the Pratt Center for Community Development and Coordinator for the Stormwater Infrastructure Matters Coalition. Prior to New York City, Korin was a Fulbright English Teaching Assistant in Thailand.

OpenStreetMap: State of the Map - New York

An overview of OpenStreetMap in New York State will be presented. Topics covered will include the state of the representation of the road network (and the impact of the 2007 TIGER import), TIGER 'deserts' in New York State, data licensing issues for potential contributors, places where cleanup is needed, the nature of the cleanup, and potentially valuable candidates for imports of public data.

Presenter:

Richard Welty, OpenStreetMap US

Richard has long been interested in mapping, going back to his years as a Boy Scout, but only became actively involved in making maps in 2009 when he joined the OpenStreetMap project. He served on the founding board of the US Chapter of OpenStreetMap and subsequently served one term as President of the organization. He is officially listed as one of the craziest mappers in NYS. Richard's professional career is an extended and varied one in the fields of IT and Computing; he teaches as an Adjunct Lecturer in the Computer Science Department at UAlbany and most recently has taught Computer Communications Networks and Computer Operating Systems.

Real World Lessons Learned From Multiple Enterprise GIS Migrations to the Cloud

Hear about the opportunities and speed bumps dealt with in migrating municipal GIS servers, storage. database and applications from internal hosting to remote third-party hosting. The speaker will review lessons learned in moving from a traditional enterprise GIS hosting configuration to the cloud (i.e. remote third-party hosting) for multiple municipal customers. He will review several real world case studies and address the following architectural components:

- GIS servers
- Storage
- Data
- Applications

The speaker will also review key differences in cloud hosting from the traditional equivalent including:

- Availability, scalability
- Performance
- Security
- Administration
- Financial costs

He will close with an assessment of:

- The most appropriate uses of cloud technology for GIS hosting
- Poor uses of cloud for GIS

Presenter:

Jim Hall, Bowne Management Systems

Mr. Hall has over 25 years of experience with geographic information systems (GIS) and information technology (IT). His professional work is primarily focused on defining customer's business requirements and developing and implementing appropriate designs with application, data and systems infrastructure components, as well as overall project management. In his career Mr. Hall has completed projects for over 100 different government, non/not-for-profit, utility and corporate customers both in the U.S. and overseas. He has also made over 75 presentations at industry events and made keynote/ plenary addresses at the Esri User International User Conference, URISA's annual conference, AURISA's annual conference, GIS for Emergency Management Conference and at Harvard University.

Same Name, Different SAM

With the completion of the statewide Address Point build, the GIS Program Office has transitioned from the SAM (Street Address Mapping) Project into the SAM (Street and Address Maintenance) Program. This presentation will provide an overview of the SAM Program.

Cooperation between Counties, local municipalities and other agencies is very important for SAM Program data maintenance. We will provide details about ongoing relationships with Counties for maintaining their rooftop address point data as well as new data maintenance relationships being formed. We will describe how users can participate in and contribute to the continued data improvement as well as the benefits users will receive from the work being performed by the SAM Program.

Members of the SAM Team are active on National Emergency Numbering Association (NENA) Workgroups, keeping track of updates to data models and other nationally recognized standards. We will discuss some of these standards as well as how we plan to incorporate data model changes in the future. We will also discuss improvements to the GIS Program Office's Geocoding web service.

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Presenters:

Craig Fargione, GISP, NYS ITS GIS Program Office
Craig Fargione is the Application Manager for the GeoLynx Address Point and Street editing application. He has worked in the GIS Program Office for a little over 4 years and has been involved in projects for broadband mapping, geocoding, and street and address mapping.

Rodger Coryell, NYS ITS GIS Program Office
Rodger Coryell is the Technical Lead for the SAM Program. He has worked for NYS for 26 years with most of that time being involved in a street related product.

SeeClickFix: Location Based NonEmergency Reporting in Albany

SeeClickFix is a communications platform for citizens to report nonemergency issues, and governments to track, manage, and reply, which ultimately improves communities through transparency and cooperation. Nonemergency issues or service requests are geotagged with a description and photo. With Sarah Kampf from the City of Albany I will take you through some great New York examples of how location based reporting can have a significant impact on a city and where the data collected can take you. Let us show you how SeeClickFix, powered by GIS, empowers communities and promotes collaboration.

Presenters:

Andrew Johnston, SeeClickFix
As a Partnership Manager for SeeClickFix, Andrew develops and implements strategies to help SeeClickFix partners improve their communities. He uses his 10+ years of client services experience to understand the needs of each partner and determine the best solution. Civic engagement is an exciting direction for Andrew, who believes that analyzing the data created by geotagged service requests illustrates the best path forward for improving neighborhoods.

Sarah Kampf, City of Albany
Sarah Kampf holds a degree in public communication and spent over seven years working as a press officer in various New York State agencies. Currently, Sarah works as a public relations consultant for private small businesses as well as manages the website and social media for the City of Albany, NY. Throughout her career, she has been responsible for handling customer service issues for both government entities and private sector businesses. In her role with the City of Albany, she has been the main point of contact in implementing and administrating SeeClickFix operations for City employees and has worked with SeeClickFix representatives in molding their product to best serve Albany residents.

Showing Your Local Data in Conjunction with Other Important Telecommunications and Infrastructure Information and Making that Available to Planners and Users

We have developed a web based map server that incorporates PostGres and PostGIS software in conjunction with a customized version of Leaf that is focused on the telecommunications industry. The target users are both telecommunications/wireless network operators and municipalities. In this platform we have incorporated data layers from all of the major fiber network operators, cellular data, highway traffic counts, power and telephone network footprints and combined this with other information such as geotagged social media datasets. The purpose for the telecommunication network operators is to help illustrate where some of the heaviest use is in a mobility environment and to what extent there may be infrastructure in place to deploy additional network equipment to add capacity to their systems. Have a central repository for all the information critical to their decision making process helps them speed time to market and establish costs and timelines to do so.

For the municipalities it allows them a more central location for them to display and market their infrastructure that might be of interest to carriers. This can be property locations, vertical assets, rights of way, traffic signal and sign poles as well as regular utility pole locations. It can also help establish rental and leasing rates for these locations based more on the value of the real estate. Locations that are nearer to high density use portions of their networks like stadiums or other high traffic areas have more value than others. Value can also be established based on other available mounting assets that are not municipal owned or that might be located in areas that create a zoning challenge.

Presenter:

Brian Webster, Wireless Mapping
Brian Webster served for 5 years as the Telecom Data Director for the Partnership for a Connected Illinois, one of the designated entities for the National Broadband Map. He has been in the wireless and telecommunications industry for over 25 years in various capacities including the Senior Wireless Engineer for EarthLink and the City of Philadelphia Municipal Wi-Fi project. He is the Founder, President and CEO for the wireless engineering and telecommunications consulting firm WirelessMapping.com in Cooperstown, NY. A full detailed bio can be found here https://www.linkedin.com/pub/brian-webster/4/b73/764.

The City of Rochester's Enterprise GIS Transformation

In 2013, the City of Rochester embarked on an Enterprise GIS Transformation Project. The City, working with Esri Professional Services, completed a complete re-design of the City's GIS program. This included aspects of GIS governance, system architecture design, geodatabase design, COTS application implementation, and ongoing technical support. In addition to reviewing the project, this presentation will update the audience on additional progress we've made. We'll discuss our current system architecture, including database, server, cloud, and mobile components. We'll also talk about how adoption of the ArcGIS platform has enabled a lean application development methodology, and we'll take a tour of the City's growing catalog of web and mobile applications.

Presenter:

Michael Ross, City of Rochester
Mike Ross is the GIS Coordinator for the City of Rochester, NY. He has 13 years of experience, and is responsible for leading the City's GIS program, including transforming the City's GIS into a modern enterprise system, developing web applications, migrating legacy systems, and coordinating GIS activity for multiple departments. He also serves on the board of GIS/SIG, is a member of the NY State Geospatial Advisory Council, and co-chairs the Local Government Committee of the New York State GIS Association.

The National Community Energy Registry: A Flexible Geospatial Platform for Utilities to Publish Energy Metrics to Support State and Local Sustainability and GHG Mitigation Planning

New York State is investing in community sustainability through programs like the Cleaner Greener Communities (CGC) and Climate Smart Communities (CSC) programs. Local governments can fundamentally alter how energy is consumed in communities through local planning policy, building codes, electric vehicle incentives, and a host of other strategies. Furthermore, under Governor Cuomo's "Reforming the Energy Vision" (REV) strategy, the state is actively designing approaches to encourage distributed generation and to encourage micro-grid deployment in local communities through NY PRIZE.

Under the CSC program, Climate Action Associates LLC, an independent contractor to NYSERDA, led an effort with all major utilities in New York to develop energy metrics for over 1300 cities, towns, and villages in New York. This data was the backbone of the Regional Sustainability Plans created for each of New York's REDCs. The Community Energy Registry is an offshoot of this effort to create a cloud-based flexible geospatial publishing platform to enable utilities to maintain a long-term flow of high quality data critical for helping state and local policymakers understand if they are meeting energy goals.

Initial development is wrapping up. It is envisioned that this project will carry forward as a long-term national charitable or voluntary effort to engage GIS professionals, app developers, community planners, and utilities nationwide. The presentation will conclude with an opportunity for participants to express interest to join a technical advisory panel to help troubleshoot issues and advance the cause.

Presenter:

Jim Yienger, Climate Action Associates LLC
Jim is Principal of Climate Action Associates (CAA) where he leads the firm's policy and technical services for state and local government clients. He has been working with local communities on energy and climate planning for more than 15 years helping them find practical solutions for protecting the environment while saving money and improving services. He is a recognized leader in New York and led a statewide GHG Working Group convened by NYSERDA to develop protocols and policy recommendations for the Climate Smart Communities Program. Prior to founding CAA, Jim led the technical division of ICLEI – Local Governments for Sustainability where he created that organizations tools and services. He has published numerous peer-reviewed papers in the fields of air pollution, emissions, climate, energy, and local sustainability.

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The Role of GIS in 9-1-1

This presentation will provide an overview of 9-1-1 technology as well as how GIS works in present E9-1-1 and future Next Generation (NG9-1-1) systems. There will also be an overview of the GIS Program Office's program to build consistent, statewide, standards-based GIS emergency responder boundary layers for use with NG9-1-1 and how local governments should be involved in this effort.

Currently, GIS has a supporting role in E911 systems. Most Computer Aided Dispatch (CAD) systems used in 911 centers have a map screen which uses GIS to map the location of calls. E9-1-1 also depends on address and street data flat files (MSAG and ALI) for locating calls which may be derived using GIS.

Technology has advanced rapidly, changing the way most of us communicate. The old copper landline telephone system is rapidly giving way to a new multi-device IP based system. NG9-1-1 is being planned at the national level in order to take advantage of these changes and GIS is essential to its functionality. In NG9-1-1, GIS will be used to direct emergency calls to the correct 9-1-1 center and determine the correct police, fire and EMS jurisdiction to respond.

Presenters:

Jason Baum, NYS ITS - GIS Program Office
Jason Baum (pronounced Bawm) is a Program Manager at the NYS GIS Program Office. He is currently working on issues relating to GIS data in 911 systems and emergency communications. He was previously the GIS Coordinator for the Town of Bethlehem, NY. He graduated from SUNY Albany in 1997 with a GIS Certificate and a Masters in Regional Planning.

Gerald A. Engstrom Jr., AICP New York State Police GIS Manager

Three Map-Cooking Recipes with Step-by-Step Instructions and Tips

'Map-cooking" stands for implementing data publishing and web map design simultaneously.

In this day and age the word "map" has as many meanings as the word "meal". The usage of maps (or the ways people use maps) has increased so dramatically that some call it "the mapping/geospatial revolution". Naturally, people's perceptions of maps have followed this expansion and as a result, the words "map" and "meal" have become similar in nature. Anyone can make a meal if they want to. Using that same perspective, but applied to maps, anyone can make a map, and the logistics behind mapmaking nowadays is surprisingly similar to the way one would make a sandwich. Since this is the era we live in, I decided to write down three recipes showing that with simple step-by-step instructions, it can be just as easy to make a map as it is to make a sandwich.

So, what's on the menu?

'Two Appetizers' - one easy and the other more advanced

'One Big Data Meal' - the local government version of Big Data mapping

Presenter:

Svetla Borovska, Tompkins County NY
Svetla Borovska lives in Ithaca NY and has been with Tompkins County's GIS since 1998. Her volunteering work ranges from a field trip to Kenya and GISCorps contributions to community mapping projects such as The History Project, Celebrating 100 Years of History for the Village of Cayuga Heights, Ithaca NY.

Town of Southampton Information Gateways

Land Manger GIS is a robust web mapping applications where town employees can view parcel based information geographically as well as tabular. Users are able to view overlay 90 + layers of information such as zoning, easements, groundwater, wetlands, school districts to name a few. Land Manager also interfaces with the Town's property information data base (Govern) to give users real time data about taxes, assessment, building photos, inspections, and permits to name a few. All scanned documents, including but not limited to CO's, Surveys, Applications, etc, are available as well.

Some of the other tools available to the users are a mailing labels tools, building envelope tool, comps panel, permits panel and inspections tool (field editing). This application has 12 different years of Aerial Imagery as well as providing users the ability to view the latest imagery from Pictometry and has the ability to interactively view Street View images from Google.

This application is an in-house application. When inside the network, town employees simply navigate to the url, when outside the network employees navigate to the url and will be prompted to enter in their Active Directory credentials to gain access. Some of the tools and layers that are in Land Manager are department based. The user has the ability to (when they first log in) select their department. This feature is meant to be a time saver so that staff don't have to view data unrelated to their department.

This application is an interactive (mobile friendly) web mapping application using Esril's javascript framework.

Presenters:

Ross Baldwin, Town of Southampton
Ross Baldwin has been with the Town of Southampton GIS Dept since 2002, taking on the role as GIS Manager in 2007. He has worked tirelessly to promote GIS in the Town as well as the rest of Long Island. Outside of his responsibilities to the Town, He has also assumed the duties as chairman of the Long Island GIS User Group (LIGIS) and also serves on the NYSGISA Awards Committee.

John Daly,
John Daly started his tech career in 1997, filling the now archaic title of "Webmaster," for a music website in NYC. A friend suggested taking a look at the GIS civilian contractor jobs overseas. The pursuit of GIS education was soon to follow, and John ended up with an "almost" graduate certificate in Geographic Information Systems - "almost" because he was hired by the Town midway through his last class and has yet to return.
He has been working as Senior Programmer Analyst at the Town of Southampton for the last eight years and counting.
John's academic career includes a BA from Hofstra University, certificate in Interactive Web Programming Using CGI and Java, extensive course work from NYU SCPS, and a certificate in Geospatial Intelligence from Penn State World Campus.

James Gormley, Town of Southampton
James has been working for the Town of Southampton since April 2007 after graduating from SUNY Albany in 2006. He's worked on a wide range of projects for the town, ranging from "GPSing" town trails to website development.

Using 3D GIS Geodesign to Visualize Planning

3D GIS offers Urban Planners a powerful way to visualize and understand the built environment. Rapid progress in the development of 3D tools and datasets offers new capabilities in the support of Planning workflows including the support of development impacts, master plan creation, zoning code visualization and site plan review. This presentation will offer examples of where 3D GIS tools and data are can support common Planning scenarios.

Presenter:

Eric Brady, Bergmann Associates
Eric is the GIS Manager for Bergmann Associates. He holds a MA in Geography from University at Buffalo and has been in the GIS industry for 16 years.

Using a Fishnet to Catch Crime Hot Spots

Crime Analysts use GIS to map crimes, detect hot spots of activity, and analyze those hot spots. The Onondaga Crime Analysis Center (OCAC) uses traditional spatial density but has also adopted a grid method for identifying hot spots. OCAC established a 'fishnet', or grid, over 500 feet by 500 feet (250,000 square feet) sections of Syracuse. Crimes are geo-located to a point in the City and then counted as they lie within the individual grids. This form of choropleth hot spot analysis, in conjunction with a traditional spatial density (heat map), has allowed Analysts to refine the identification of hot spots and make more accurate recommendations for deployment. This presentation will demonstrate step-by-step how crime points are joined to the grids, how to symbolize the data, and provide ideas for further analyzing the hot spots.

Presenter:

Paula Cutrone, Onondaga Crime Analysis Center
Paula Cutrone, Senior Crime Analyst – IT Coordinator for the John F. Finn Institute for Public Safety, works in the Onondaga Crime Analysis Center in Syracuse, NY. Paula has served in several capacities at the OCAC for the past seven years, most recently specializing in creating automation procedures for mapping and reporting and developing the Center's intra-net web mapping application. Paula guest lectures on Crime Analysis and Crime Mapping for SUNY- Oswego and Syracuse University and conducts training with law enforcement agencies throughout Onondaga County. Paula received a Bachelor of Arts in Communication from Utica College of Syracuse University (NY) and a Master of Science in Criminal Justice from the University of Cincinnati (OH).

Using GDAL/AWS for Historical Aerial Photo Manipulation in a Production Environment.

At EDR we used georeferenced historical aerial photos and basic GDAL commands to automate a time consuming manual research process. A database driven application determines what images are suitable for the target property of a report and shells out the commands to crop the images to a specific location and dimension. This not only saves researcher time, but general processing time as well, as the time required to crop a 1gb image in AWS via a GDAL command string is about 8 seconds. In the past, the researchers would have to load each image individually in order to determine suitability for the report. With larger images, this could take up to twenty seconds or longer per image. When there were more than five images per report, the times quickly added up. Using GDAL commands and images stored in AWS S3 buckets has increased our speed and reliability.

Presenter:

Matthew Wilson, EDR
Matthew Wilson has been working with GIS since 1994. He started working with Arc Map, Arc Edit and Info on a Solaris box with the New York State Biology Survey. In 1995 he moved to Connecticut to pursue an opportunity with his current employer, EDR. Since 2000 he has worked from his home in Averill Park. Matthew has been involved with .net technologies since 1997 and open source GIS tools for the last few years. His responsibilities include the overall technical direction for his group as well as the maintenance of a large production system generating thousands of reports each day. He strives to see if new technologies will impact the enterprise in a beneficial manner. As a programmer, he has a grasp of a number of languages including vb.net, c#, python and multiple flavors of SQL.

Utilizing Data From American Fact Finder with TIGER/Line Shapefiles in ArcGIS

The Census Bureau's wide array of current and historical demographic data is one of the primary resources used by planners, government organizations, the business community and law enforcement for analyzing population trends. Geographic Information Systems (GIS) is a powerful mapping and analytical tool that assists planning efforts by providing a visual display and geographic reference for data. The American Fact Finder is the Census Bureau's primary data tool, and may be used to generate simple shapefiles that can be used to display one variable from a data table. This can be useful when the data user would like to download a specific area of census geography instead of having to download the geography of an entire state. The user will learn about Census Bureau surveys, and census geography. This workshop will demonstrate, and allow attendees to follow along with the use of a web browser, how to generate the shapefiles within American Fact Finder and how to join them within ArcGIS. This workshop will be helpful for GIS users because it offers a unique skill that encompasses both traditional data analysis and a newer method of acquiring the data.

Presenter:

Web Adams, U.S. Census Bureau
Web Adams, GISP, is a Data Dissemination Specialist at the United States Census Bureau's New York Regional Office. Prior to this position, Web served at Census Bureau HQ in Suitland, MD as a Geographer in the Linear Features Branch and as a Geographic Specialist at the New York Regional Census Center. He has also worked in the GPS navigation field with ALK Technologies in Princeton, NJ, in the Surveys and Mapping Department of PSE&G in Newark, NJ, and as a cartographer at Hammond, Inc. in Maplewood, NJ. He has a B.S. in Textile Science from Clemson University in Clemson, SC, and a Certification in Cartography from Salem State University in Salem, MA.

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Visionmaker NYC: A New Web-Based Urban Sustainability Visioning Tool

Visionmaker NYC (https://visionmaker.us/nyc/) is a web application that enables any user to develop and share their visions for New York City, with reference to its pre-development ecology (http://welikia.org) and current natural and built landcover. Students, urban planners and architects, and community organizations all can 'paint' ecosystems and modifiers on a web map using a Photoshop-like raster-based interface, and then calculate the effects of their changes in terms of environmental performance indicators (EPIs) centered around carbon flows, water flows, biodiversity, human population, and economics. We will give an overview of background concepts and intended audiences, demonstrate the application, and highlight novel technical aspects like the canvas-based raster painting on top of a web map, the calculation engine, and the PostGIS-based data storage scheme. Our hope is to engage everyone, from city officials to schoolchildren, in the search for ecologically informed urban sustainability, by encouraging them to think of all types of ecosystems in New York, natural and built, as part of a vital natural whole.

Presenters:

Kim Fisher, Wildlife Conservation Society
Kim Fisher is a spatial analyst and web developer at the Wildlife Conservation Society, and the co-creator and lead software developer for Visionmaker as well as the Mannahatta/Welikia projects (welikia.org) that preceded it. Fisher has worked on the creation of over 20 different websites and spatial analysis tools and scripts for conservation and business purposes, and joined WCS after co-leading a successful web development firm. He holds a B.A. in anthropology from Reed College.

Mario Giampieri, Wildlife Conservation Society
Mario Giampieri is the Program Officer for the Conservation Innovation Program. He has a background in environmental studies and urban studies from NYU and finished a GIS Certificate from Hunter College in 2015. His work at WCS consists of spatial analysis and research related to the past and present landscape of New York City, with an eye towards creating a more sustainable and equitable future.

Eric Sanderson, Wildlife Conservation Society
Dr. Eric Sanderson is a senior conservation ecologist at the Wildlife Conservation Society, and the co-creator and lead scientist on the Visionmaker project. He is also a best-selling author of Mannahatta: A Natural History of New York City (2009), which re-constructed the historical ecology of Manhattan before European discovery, and Terra Nova: The New World After Oil, Cars, and Suburbs (2013), which describes a path out of the oil-cars-suburbs economy of the US economy in the 20th century, and has authored over 45 peer-reviewed scientific papers and book chapters. He is director of the Mannahatta/Welikia Projects. He is an adjunct faculty member in the Department of Ecology, Evolution and Environmental Biology at Columbia University and in the Department of Environmental Studies at New York University. He earned a Ph.D. in ecosystem and landscape ecology from the University of California, Davis in 1998.

What's in a Name? Unique Asset Identification Using USNG Coordinates

During a recent GIS data model redesign, the Mohawk Valley Water Authority updated their asset identifiers to be meaningful/logical unique asset names based on the United States National Grid (USNG) referencing system.

The USNG is a seamless, standardized, consistent grid referencing system. Its use is supported by FEMA and emergency response organizations. It uses a UTM grid and truncated eastings and northings to easily locate an area or position. It is an ideal system to create map grids and to name assets.

The MVWA uniquely named all of its GIS features using their USNG coordinates. A typical full USNG coordinate can uniquely locate a 1-meter area. The USNG can be extended to provide unique locations to the decimeter level for valve features. This presentation will show the model builder and python expressions used to uniquely name the assets and highlight the opportunities and challenges with using the USNG system for asset identification.

The Mohawk Valley Water Authority (MVWA), based in Utica, delivers potable water to over 125,000 residents in Central New York.

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Presenter:

Elisabetta DeGironimo, GISP, Mohawk Valley Water Authority

Ms. DeGironimo is the Watershed and GIS Coordinator for the Mohawk Valley Water Authority in Utica. Before joining the MVWA, she was the GIS manager at Harza Engineering. Ms. DeGironimo has over 22 years of experience as a GIS Analyst in both public and private sectors, and has worked on GIS projects domestically and internationally in: Venezuela, Egypt, El Salvador, Mexico, and Canada. She earned BLA and MS degrees from SUNY ESF. Ms. DeGironimo was the national chairperson of the Esri Water/Wastewater/Stormwater GIS Users Group; served as a member of the NYS Geospatial Advisory Council and the Board of Directors of the NYS GIS Association. She currently serves on the NYS GeoSpatial Summit organizing committee. In 2003, a team led by Ms. DeGironimo was awarded a Special Achievement in GIS award at the ESRI International User Conference.