

## 34th Annual Conference – February 15-19, 2021

Coming to you as a VIRTUAL event this year as we modernize and move confidently forward! Please join us to celebrate 34 years of WLIA at our Annual Conference, now taking place virtually to experience the same excellent conference and training opportunities and new networking possibilities as we remain spatially distant.

The theme this year is ***Modernizing and Moving Confidently Forward***.

As the world turned upside down shortly after last year's Annual Conference, we've modernized throughout the year, hosted our Spring and Fall meetings virtually, and learned new technology along the way. While this year has certainly presented some challenges, it's also been an opportunity to reach a greater audience, attract more presenters, and modernize our approach to conference training, networking, and delivering land information to our WLIA community.

The geospatial industry has always excelled in advancing technology; this is evident in our land information workflows, the state-of-the-art hardware and software being utilized, and how we deliver this data to our stakeholders and the public. Land records modernization, GIS, and expanding technology has always been at the heart of WLIA's interests. Looking back to 1987 with WLIA's founding and we can see how much we've modernized along the way.

This year's conference will offer over 50 educational sessions, 13 technical workshops, three expert keynote speakers, eight special interest groups, and many opportunities to hear from our sponsors and networking within our virtual exhibit hall. The program also includes our popular map contest, on-demand videos, awards and scholarship presentations, and the WLIA Town Hall forum.

I greatly appreciate your commitment and support of WLIA. Your participation at this event and other meetings are the reason for our organization's success spanning these last 34 years. I would like to personally thank our wonderful Executive Services Manager, the WLIA Board members, the Annual Conference Committee members, presenters, and exhibitors for their dedication, hard work, and immense time given to this Association.

Sincerely,  
Carmen Novak  
2021 WLIA Annual Conference Chair

# 34th Annual Conference Preliminary Schedule\*

\*This schedule is preliminary and subject to change. A final program will be available prior to the conference.

## MONDAY

### FEBRUARY 15, 2021

8:30 AM Welcome!  
9:00 AM Morning Workshops  
12:00 PM Map Contest Spotlight, Sponsor Acknowledgement, and Lunch Break  
1:00 PM Afternoon Workshops  
4:00 PM LION Meeting

## TUESDAY

### FEBRUARY 16, 2021

8:30 AM Welcome!  
9:00 AM Getting the Most from your WLIA Experience - Meeting for New Members  
10:00 AM **Keynote Plenary** featuring **Dr. Este Geraghty, Chief Medical Officer, Esri**  
11:00 AM Exhibit Hall Open from 11 AM - 4 PM  
11:30 AM Exhibit Hall Focus  
12:30 PM Map Contest Spotlight, Sponsor Acknowledgement, and Lunch Break  
1:00 PM Afternoon Breakout Educational Sessions  
*Pandemic Response Track* | *Cartography and Web Maps Track*  
*State and Federal Track* | *MUGG & Municipal GIS Track*  
4:00 PM Special Interest Groups

## WEDNESDAY

### FEBRUARY 17, 2021

8:30 AM Welcome!  
9:00 AM Equity Advocates Special Interest Group  
10:00 AM **Keynote Plenary** featuring **Kevin Ehrman-Solberg, Mapping Prejudice Project**  
11:00 AM Exhibit Hall Open from 11 AM - 4 PM  
11:30 AM Exhibit Hall Focus  
12:30 PM Map Contest Spotlight, Sponsor Acknowledgement, and Lunch Break  
1:00 PM Afternoon Breakout Educational Sessions  
*Imagery and LiDAR Track* | *NG911 and Addressing Track*  
*Land Records Track* | *Enterprise and Emerging Tech Track*  
4:00 PM Special Interest Groups

## THURSDAY

### FEBRUARY 18, 2021

8:30 AM Welcome!  
9:00 AM GIS in Education Special Interest Group  
10:00 AM **Keynote Plenary** featuring **Robert Young Pelton, World's Most Dangerous Places**  
11:00 AM Exhibit Hall Open from 11 AM - 4 PM  
11:30 AM Exhibit Hall Focus  
12:30 PM Map Contest Spotlight, Sponsor Acknowledgement, and Lunch Break  
1:00 PM Afternoon Breakout Educational Sessions  
*Redistricting Geography Track* | *Unmanned Aerial Systems (UAS) Track*  
*Emerg. Response & 911 Track* | *Land Records and Register of Deeds Track*  
4:00 PM Special Interest Groups

## FRIDAY

### FEBRUARY 19, 2021

8:30 AM Welcome!  
9:00 AM Morning Breakout Educational Sessions  
*GIS Solutions and Insights* | *Professional Development*  
*Field Applications* | *(Includes Diversity Workshop)*  
12:30 PM Wrap Up & Awards  
1:30 PM WLIA New Board Meeting

# Pre-Conference Workshops

Monday, February 15, 2021, 9:00 am to 4:00 pm

Workshops are included in the weeklong conference rate. WLIA Members receive a discount.

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## Introduction to the Parcel Fabric (3 Hours)

Frank Conkling, Panda Consulting

This three-hour workshop will let attendees learn about the fundamentals of the data model and experience the editing procedures behind ESRI's ArcGIS Parcel Fabric prior to actually making the commitment to convert their data. Panda Consulting will provide a sample data set of a county that has already been converted and will review the new tools and procedures for performing consolidations (combines), splits, adjustments, and inputting a subdivision (time permitting).

## GIS Data Preparation for NG9-1-1 (3 Hours)

Cheryl Benjamin, Cheryl A. Benjamin Consulting, LLC | Jessica Frye, Geo-Comm | Jessica Jimenez, WI DMA

This workshop will introduce those who are responsible for developing and maintaining GIS Street Centerline and Address Point files for NG9-1-1 purposes to Wisconsin's new NG9-1-1 GIS Data Standard & Best Practices document. The Wisconsin standard, developed in collaboration with the Wisconsin Land Information Association, is based on the NENA Standard for NG9-1-1 GIS Data Model and includes Best Practices for developing and maintaining the required GIS layers for NG9-1-1. This workshop will:

- Explain GIS data use in NG9-1-1
- Review the Wisconsin NG9-1-1 GIS Data Standard, including an overview of the schema crosswalk from the WLIA standard into the Wisconsin NG9-1-1 GIS Data Standard
- Show how to parse addresses into the Wisconsin NG9-1-1 GIS Data Standard
- Describe Quality Control Checks for NG9-1-1 GIS Data
- Discuss best practices, recommendations for developing and maintaining Road Centerline and Address Point GIS data

This workshop will help attendees better understand how to prepare their GIS data for use in NG9-1-1 and how to use Wisconsin's new NG9-1-1 GIS Data Standard & Best Practices document.

## Extending the ArcGIS Platform with Arcade Expression Language & ArcGIS Pro Tasks (3 Hours)

Amir Bar-Maor, Product Engineer, Esri | Jason Camerano, Product Engineer, Esri  
Amy Andis, Product Engineer, Esri | Lisa Berry, Cartographic Product Engineer, Esri

Learn two new awesome GIS skills, Arcade expression language and ArcGIS Pro Tasks. Arcade is a new way to write expressions that work across the ArcGIS Platform. In this workshop we will learn what Arcade is, why it was created, and how to get started putting it to use in your projects. Tasks in ArcGIS Pro guide users through repeatable workflows, improve efficiency and promote best practices. This introductory workshop will show how you can run and design tasks. Topics include running a task, creating a new task, configuring a task and sharing a task.

## Build it Better: Become a Data Viz Wiz (3 Hours)

Jami Dennis, Geodetic Analysis

This workshop will explore the power of data visualization and how to harness that power to build maps, apps, presentations, and reports that stand out and get noticed. This 3-hour workshop will consist of 3 parts:

- 1)** Exploration of the fundamental qualities of data visualization along with tips on making maps and charts more effective.

- 2)** Building on the lessons in the first hour, we'll take a guided tour through a variety of data visualizations and turn them into effective designs that engage the reader and provoke understanding. This is when you will begin to see first hand the power of effective data visualization practices in action!

- 3)** Deeper dive. This final hour will be a deeper dive including the effective use of color and more tips for making better charts, maps, story maps, and dashboards.

This workshop will include lecture, polls, and opportunities for questions/answers. Take-away exercises will be provided for attendees that include data visualization exercises with step-by-step instructions for creating better charts and maps.

### **U.S. National Grid (USNG) (3 Hours)**

**Randy Knippel, Dakota County, MN | BJ Kohlstedt, SharedGeo**

Through the National Incident Management System (NIMS) and Incident Command System (ICS), the leadership of Department of Homeland Security (DHS) and FEMA have directed the phased introduction of numerous operational standards designed to promote and facilitate interoperability in the Emergency Services Sector (ESS). With release of FEMA Directive 092-5, "Use of the United States National Grid (USNG)", in October 2015, the ESS now has a standard for the foremost element of any response – the ability to effectively communicate "where." This workshop will provide comprehensive USNG training. It will start with an overview and background of the USNG, including practical examples for search and rescue, resource deployment, and more. This will be followed by training on how to use the USNG, with "training the trainer" content to equip attendees with skills, resources, and ideas to carry what they learn home to their organizations and jurisdictions. Finally, details of how to use ArcGIS to construct USNG maps and integrate it into GIS applications will be covered. A variety of tools and techniques will be discussed.

### **Getting Your UAS Program Off the Ground (3 Hours)**

**Scott Galetka, Bayfield County, WI | Nik Anderson, Ho Chunk Nation | Will Bomier, Carlton County, MN**

Join three experienced UAS users as they discuss how they got their programs off and flying. Basic missions will be reviewed. Get the best tips and tricks they learned and some demos to get you started!

### **Working with the ArcGIS Parcel Fabric (3 Hours)**

**Frank Conkling, Panda Consulting**

This half-day workshop will provide an overview of the workings of the ArcGIS Parcel Fabric and allow participants to work through simple splits combines and the creation of a CSM using a data set provided by Panda Consulting.

### **Addressing - A Practical Guide (3 Hours)**

**Sarah Rollins, Mark Whitby, Jeff Ledbetter, DATAMARK|Michael Baker International**

If you're an addressing authority or managing GIS data for an addressing authority, this workshop is for you! Addressing, and more specifically, documenting and managing addresses in a GIS environment, is more an art than science. This workshop will inform participants of the many considerations that need to be undertaken when establishing and maintaining GIS-based address databases and applications. The following items will be covered:

- History of Addressing
- The anatomy of an address
- Managing addressing in GIS
- Public safety implications of addressing
- Other governmental enterprise implications of addressing
- Aggregating multiple address databases into a master address database

### **Local Redistricting in Wisconsin (3 Hours)**

**Ryan Squires, Legislative Technology Services Bureau | Dan Veroff, Applied Population Lab  
Joe Kreye, Legislative Reference Bureau**

The workshop will focus on preparing for Local Redistricting in Wisconsin in April 2021. The Wisconsin Legislative Reference Bureau (LRB), Legislative Technology Services Bureau (LTSB), and the Applied Population Laboratory (APL) at UW-Madison will provide information on the US Census, the legal process of redistricting, and the software utilized for local redistricting in the State of Wisconsin.

Part one of this workshop will provide local officials, GIS professionals, and WLIA members information on the Census, local redistricting timelines, and information on current redistricting statutes. This will include an overview of the 'how and why' of redistricting for counties and municipalities, as well as discussions of procedures, guidelines, and the laws that shape redistricting in Wisconsin.

Part two of the workshop will be a 'hands-on' demonstration of the WISE-LR software, which will be used for local redistricting. WISE-LR is a web application developed by the LTSB specifically for the state statutes of Wisconsin and local redistricting laws. WISE-LR will allow local officials, or their delegates, to create, analyze, and share county supervisory plans, ward plans, and alder plans with accurate demographic data. Attendees are encouraged to bring a laptop so that they can utilize the WISE-LR application as part of the workshop.

### **A Cartographic Carnival - Tips, Tricks, Tools, and Tales to Make Better Maps! (3 Hours)**

**Colter Sikora, Public Service Commission | Daniel Huffman, somethingaboutmaps**

This workshop offers practical insight for mappers looking to improve the design and communication of their print and on-screen maps. While many of us admire and may aspire to make hall of fame-worthy maps, most WLIA members are limited to the tools and time their employer affords them. Each cartographer will offer tips from their unique mapping experiences to help attendees produce high-quality work quickly and methodically. This workshop is designed to involve an interactive discussion on the work of presenters and attendees, so be ready to share one of your maps for the discussion!

### **The Challenges of Understanding Legal Descriptions (3 Hours)**

**Bryan Meyer, La Crosse County, WI**

One of the most cherished rights we have as citizens in America is the ability to own land. Legal descriptions are intended to define the limits of property ownership. Some descriptions are well written and clearly defined while others are confusing and ambiguous. In this Workshop you will learn about the most common types of legal descriptions, the verbiage, numbers and symbols used in them and the challenges of interpreting some less than perfect legal descriptions.

### **UAS Mission Tips & Tricks (3 Hours)**

**Scott Galetka, Bayfield County, WI | Nik Anderson, Ho Chunk Nation | Will Bomier, Carlton County, MN**

Pick up the discussion from Part One as three different UAS experts discuss their more challenging projects, and how they cleared their hurdles to a successful project. A deeper look into UAS software.

## Keynote Speakers

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### **Este Geraghty**

Dr. Este Geraghty, MD, MS, MPH, CPH, GISP is the Chief Medical Officer at Esri, developer of the world's most powerful mapping and analytics platform. She heads Esri's worldwide health and human services practice and is passionate about transforming health organizations through a geographic approach. Previously, she was the deputy director of the Center for Health Statistics and Informatics at the California Department of Public Health. There she engaged in statewide initiatives in meaningful use, health information exchange, open data and interoperability. While serving as an associate professor of clinical internal medicine at the University of California (UC) Davis she conducted research on geographic approaches to influencing health policy and advancing community development programs.

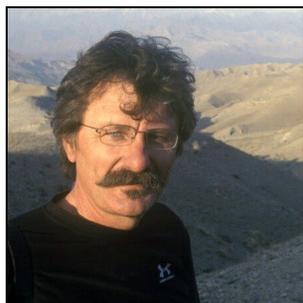
Geraghty is the author of numerous health and GIS peer reviewed papers and book chapters. She has lectured extensively around the world on a broad range of topics that include social determinants of health, open data, climate change, homelessness, access to care, opioid addiction, privacy issues and public health preparedness. She received her medical degree, master's degree in health informatics, and master's degree in public health from UC Davis. She is board certified in public health (CPH) and is also a geographic information system professional (GISP).



### **Kevin Ehrman-Solberg**

Kevin is one of the co-founders of the Mapping Prejudice Project at the University of Minnesota, which is identifying and mapping racially restrictive housing covenants in the 20th century. Combining GIS, optical character recognition, and crowd-sourcing, Mapping Prejudice weaves traditional research methodologies with cutting-edge digital tools to build comprehensive spatial databases of racial covenants for cities across the United States. An active proponent of the digital humanities, Kevin focuses on the intersection of race, historical narrative, and contested space.

In addition to his geospatial research, Kevin is also the lead web developer for the Historyapolis Project. He holds a Masters in Geographic Information Science, and has developed multiple online mapping applications for the University of Minnesota, Prologue DC, and Visible City. You can find some of his cartographic work in the Star Tribune, Open Rivers, and the Middle West Review.



### **Robert Young Pelton**

Robert's career started in marketing and product design with clients that included Marvel, Disney, Mattel and was brought on by Steve Jobs to help launch both the Lisa and the Mac for Apple Computers. However, in his forties, Pelton retired from his marketing career to focus on going inside dirty wars, conflicts and dangerous remote regions of the world to gain a greater understanding of the human condition. The unique access he has gained in these regions and independent point of view, outside media coverage, gained him the interest of the world. He has been a popular guest on Oprah, Conan, Late Night, Dennis Miller, Geraldo, Real Time with Bill Maher, Fox, CNN, CBS, NBC, ABC, TED, al Jazeera and many, many other programs. Pelton

has worked as a journalist for CBS 60 Minutes, ABC Investigative Division, CNN, National Geographic, Discovery, Bloomberg BusinessWeek, Vice, Foreign Policy and many more.

Many of his experiences became the subject of the Discovery Channel series Robert Young Pelton's – The World's Most Dangerous Places that ran from 1996 until 2003. Robert has documented parts of his two and half decades of immersion into war; some include the siege of Grozny with Chechen rebels, interviewing American jihadi John Walker Lindh at the battle of Qala-i-Jangi in Afghanistan, being kidnapped by right wing death squads in Colombia, doing missions with Green Berets, running Route Irish with Blackwater every day for a month in Iraq, tracking down the Vice President of South Sudan after an assassination attempt and living with an elusive retired Special Forces colonel training Karin rebels deep inside the jungles of Burma.

It is not all just adventure, Robert has created innovative ground networks of local reporters during the height of conflicts in Iraq, Afghanistan, Pakistan, Somalia and Libya to provide information on solving conflict, stability, kidnapping, piracy, human trafficking and local insight. He has served as an unpaid advisor to Four Star commanders in Afghanistan and heads of state and spent two years advising MOAS, the Migrant Offshore Aid Station in Malta. These days he finds himself in Libya and Sudan.

# Educational Sessions

## Track Categories

Tuesday, February 16, 1:00 pm - 4:00 pm

Pandemic Response	State and Federal	Cartography & Web Maps	MUGG & Mobile GIS
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Wednesday, February 17, 1:00 pm - 4:00 pm

Imagery & LiDAR	Land Records	NG911 and Addressing	Enterprise & Emerging Tech
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Thursday, February 18, 1:00 pm - 4:00 pm

Redistricting Geography	Emergency Response & 911	UAS	Land Records & ROD
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Friday, February 19, 9:00 am - 12:30 pm

GIS Solutions & Insight	Field Data Applications	Professional Development
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Tuesday, February 16 - Afternoon Sessions - 1:00 pm - 4:00 pm

### Track: Pandemic Response

#### **3 Counties, 3 COVID Responses (60 Minutes)**

*Kim Meinert, Waukesha County, Zachary Swingen, Milwaukee County, Eric Damkot, Washington County*  
Waukesha, Washington, and Milwaukee Counties all stood up a COVID Dashboard to disseminate public information about the pandemic and its effect on their region, but they took three very different paths. Join us as we talk about the issues, both technical and political, we all faced as the pandemic unfolded, and lessons learned that can be applied elsewhere. As this is a panel discussion, we invite others to share their experiences as well.

#### **Building, Growing and Maintaining a Coronavirus Response Hub in Racine County (30 Minutes)**

*Kimberly Christman, Racine County, Emily Szabo, Racine County, Kyle Wikstrom, Pro-West & Associates*

Discover how Racine County rapidly mobilized to respond to the COVID-19 health crisis using GIS and location-based technology. Leveraging ArcGIS Online and Hub enabled leaders and response teams to gather numerous sources of data into a single location and share it with the general public through meaningful information products. See how, using this platform, the County was able to effectively distribute information about best health practices, case rates, and its capacity to respond.

#### **Wisconsin DHS Update (45 Minutes)**

*Andy Swartz, DHS*

A GIS Team update from the state Department of Health Services will be delivered. A reflection on the past year of COVID-19 data collection and maintenance as well as the latest database news.

## **Track: Statewide Land Information**

### **2022 Datum Rollout Delayed! Now What? (30 Minutes)**

*Howard Veregin, WI SCO and Richard Kleinmann, Ayres Associates*

Now that the National Geodetic Survey has announced that the rollout of the new 2022 datums will be delayed for several years, you may think you can relax! However there are still some federal actions that will go forward in 2022 as planned, and some action items the Wisconsin geospatial community will need to complete by the end of 2021. This short update will keep you on track to be prepared.

### **Getting to Know GeoData@Wisconsin, and How You Can Participate! (30 Minutes)**

*Jim Lacy, WI SCO and Jaime Martindale, Robinson Map Library - University of Wisconsin-Madison*

GeoData@Wisconsin is a statewide geoportal containing nearly 21,000 free Wisconsin spatial datasets produced by local, regional, state and federal government organizations. First established in 2014, GeoData@Wisconsin has grown tremendously over the past two years thanks to support from the Wisconsin geospatial community. In our presentation, we will briefly demonstrate some key features of the geoportal and discuss how you can make your data discoverable through GeoData@Wisconsin. We'll also share some tips and tricks for how you can help us interoperate with your own ArcGIS Hub site.

### **WICDI Project Update: Building and Sustaining Culvert Mapping Community, Northern WI (30 Minutes)**

*Melanie Kohls, Wisconsin Coastal Management & WI SCO and Genevieve Burgess, WI SCO*

The WICDI project aims to establish a Wisconsin Coastal-Management Data Infrastructure. With funding from NOAA, the Wisconsin Coastal Management Program, and the State Cartographer's Office at UW-Madison, we are combining a mapping community of practice with an innovative digital collaborative environment to improve coastal hazard planning and policy development. At our last WLIA session, we discussed our plans to create a statewide culvert database; attend this session to hear updates on our progress, as well as WICDI's goals for the future.

### **Wisconsin Wetland Inventory – New Data - NWI Standards (30 Minutes)**

*Calvin Lawrence and Chris Noll, WI DNR*

WI DNR mapping staff have many HUC12 areas around the state that have now updated wetland mapping using LiDAR and other necessary GIS layers. We will showcase the improvement over the current data available to users as well as highlight some of the process we use to extract the wetland information from the data sources.

### **Transforming Private Land Conservation with GIS (30 Minutes)**

*Mike Koutnik, Gathering Waters*

Landmark Conservancy works to conserve private lands in 21 counties in northwest Wisconsin. They made a strategic direction to focus significant energy on conserving high-quality lands that are also resilient to climate change. Landmark wanted to proactively engage with owners and encourage them to protect their lands. To do this, Landmark needed to leverage ecological valuation data but transform that into the context of ownership parcels. You will hear the story about how Landmark was able to achieve their objective, and how GIS is helping them identify targets, and reach out to landowners.

## **Track: Cartography and Web Maps**

### **Indoor Mapping: Bringing your Campus into the Digital Age (60 Minutes)**

*Jon Hodel, Cloudpoint Geographics*

This session will highlight a recent indoor mapping project and what process was used in bringing the data into the ArcGIS Indoors Information Model and publishing maps with the ArcGIS Indoors solution. Attendees can expect an overview on the ArcGIS Indoors solution including specific workflows on importing CAD data into the AIIM, creating points of interest, generating route networks, publishing web maps to an Indoors portal, and configuring the Indoor Viewer template.

### **Making Maps That Matter: High End Cartographic Production in Today's Data Rich Environments (30 Minutes)**

*Paul Braun, Continental Mapping Consultants*

It's a safe bet to assume that many involved in the WLIA community began their careers in the geospatial industry because of a love of maps. This love of maps requires the creation, curation and maintenance of lots of data to allow us to visualize data in ways that help our organization, our constituents or our customers understand the issue we are wrestling with at the moment.

Software products have come a long way in assisting us as geospatial professionals in producing quality map products. Yet cartography is still both an art and a science and it requires specifications and a rigorous workflow to collect, condition, build and visualize data in a meaningful way. These complexities are accentuated by the numerous methods by which the final map is delivered and how that cartographic product will be used.

This presentation will walk attendees through the tools, workflow used by Continental Mapping's cartographic team in producing high end digital and paper map products for the National Geospatial-Intelligence Agency (NGA) including Joint Operations Graphics (JOGs), Tactical Pilot Charts (TPCs), and Operational Navigation Charts (ONCs) to support, among other things, safety of navigation on a global scale. Attendees will leave with key learnings about cartographic production that they can employ in their processes.

### **Avenza Map Creation and Use in Search and Rescue (30 Minutes)**

*Alex Howlett, Avenza*

Remote areas present challenges for search and rescue teams. One of the challenges is to use accurate maps offline. Avenza Systems will show how the mobile Avenza Maps app can enhance search and rescue operations regarding spatial awareness, location tracking, and other offline capabilities.

### **Building a Web Map Using Leaflet in 1 Minute, 1 Hour, and 10 Hours (30 Minutes)**

*Hayden Elza, WI SCO*

What would a web map built in one minute look like? What are some of the basics you could add with another hour? How different does a one-hour web map look from a ten-hour web map? Why do I ask so many rhetorical questions? Simple, but functional. Interactivity, styling, and purpose. Not very. Are they rhetorical if I answer them?

## **Track: MUGG & Esri Insights**

### **From Paper to Interactive Web-based Asset Management – City of Neenah Water Utility – A Case Study (30 Minutes)**

*Scott Daniel, Graef*

The City of Neenah, population 25,560, recently took a giant leap into the digital on-line world. Managing their Water Utility assets has been an evolving process for many years from paper records and wall maps to databases and GIS systems. We'll discuss the challenges they have faced and the steps they have taken over the years. We'll also have a live demonstration of some of the tools they use to manage their assets today using an interactive web-based GIS application.

### **Going Mobile - Imaging & Scanning (30 Minutes)**

*Jay Riester and Larry Heavner, Seiler Geospatial*

Mobile Mapping and Mobile LiDAR has gone mainstream. The hardware has been integrated. The software that supports asset extraction has become easier to use. Together this has made the possibility of high efficiency/mass capture in Mapping and Surveying a reality. The overall value proposition remains the same:

1. Reduce risk and enhance the Safety of the workforce
2. Rapidly increase data collection efficiency
3. Minimize unplanned maintenance
4. Maintain positional accuracy throughout the project's scope
5. Understand what you didn't know

Talking points:

- What is Mobile Imaging and Mobile Scanning?
- There are many tools to perform these tasks. Traditional setups, handheld/backpack, vehicles, drones
- Gathering data consistently and safely
- Collecting data over time
- Overcome the nature of GIS data collection

### **ArcGIS Field Maps: An Introduction (45 Minutes)**

*Ryan Sellman, Esri*

ArcGIS Field Maps is Esri's new premier maps app on iOS and Android devices. Field Maps will combine the following capabilities into a single app that is easy to use and simple to deploy:

- Simple map viewing and markup
- High accuracy field data collection and inspection
- Battery-optimized location tracking
- Work planning and task management
- Turn-by-turn navigation

In this session you will get an introduction to Esri's premiere application for field operations.

### **Survey123 for ArcGIS: Tips and Tricks (45 Minutes)**

*Ryan Sellman, Esri*

A full hour with live demonstrations uncovering not so widely known techniques to get the best of Survey123 for ArcGIS. Learn how to automate email notifications when a survey is submitted, how to create high quality reports out of your Survey123 data, how to edit existing GIS features with Survey123 and much more.

## **Track: Imagery & LiDAR**

### **Aerial & Mobile LiDAR Solutions for Pavement Surface Evaluation and Rating (PASER) (45 Minutes)**

*Richard Wohler, GPI*

Transportation corridors of all types are subject to asphalt deterioration and deformation, especially in northern climates like the Upper Midwest. PASER procedures have been developed to evaluate when a roadway requires repair and/or re-surfacing to ensure public safety. Aerial & Mobile LiDAR can be an integral component to facilitate the evaluation procedures. This presentation will demonstrate how LiDAR can be an effective tool in determining the correct PASER repair/re-surfacing recommendation for transportation corridors.

### **Hydrography from LiDAR in Wisconsin: It's Time To Go With The Flow (45 Minutes)**

*Andrew Brenner and Kirk Contrucci, NV5 Geospatial, powered by Quantum Spatial*

As LiDAR data become increasingly available over complete watersheds in Wisconsin, there is a desire and a need to utilize these LiDAR data for supporting improvements to hydrography both in positional accuracy and level of detail. The advantages of bringing the elevation and hydrology data together are that it allows a better understanding of how water flows through a watershed and the boundaries of streams and water bodies. This ultimately leads to better protection of water resources from pollutants, understanding of pollutant flow, and management of water during high and low flows, impacting the majority of human activities.

The process moves from bare earth DEMs, to hydro enforced DEMs and delineation of stream segments and water bodies. The segments are then connected into a continuous flow network and finally conflated with existing attributes and new attributes added. These processes will be briefly reviewed and challenges to these processes will be identified and possible solutions outlined. This presentation will discuss approaches to structuring a LiDAR derived hydrography program in Wisconsin that moves from a LiDAR derived bare earth DEM into a fully compliant NHD dataset, and the key partners that are needed to be part of the Program.

### **Getting More from your LiDAR (30 Minutes)**

*Adam Derringer and Tyler Kaebisch, Ayres Associates*

Processing and viewing LiDAR derivatives is time consuming, confusing, and can be difficult for some computers to handle. This leaves many to only use LiDAR for the derived DEMs and contours. As a major provider of Aerial LiDAR, Ayres works with clients to try and extract more value from this critical foundational layer. One area of focus has been developing a suite of environmental Lidar layers that can help land managers locate and mitigate risks across the landscape. Whether it's locating exactly where the water is flowing, finding closed depressions, or assessing risk of erosion, analysis of LiDAR can put your data to work to help derive answers for departments across your organization. This presentation will dive into the creation and use cases for the next generation of GIS layers derived from LiDAR base products. Be prepared to explore the terrain and environment with the help of Lidar!

### **SEWRPC - Milwaukee County High Density Lidar Project Overview (30 Minutes)**

*Zachary Nienow, Ayres Associates and Rob Merry, SEWRPC*

In 2020, SEWRPC conducted a high density aerial Lidar project for the County and its project partners. This project is the first of its kind Lidar project in Wisconsin, covering an entire county at 30 points per square meter (PPSM). Join our presentation to learn about the Lidar collection, data processing, tested accuracies, derivative datasets, and resulting plans for implementation. The presentation will include graphical comparisons of lower density data to the new high density data over various locations in the county.

### **Wisconsin Regional Orthoimagery Consortium (WROC) Image Services (30 Minutes)**

*Zachary Nienow, Ayres Associates and Andy Faust, NCWRPC*

WROC is rolling out new image services on the heels of the 2020 consortium. Technology advancements in web map tiles services (WMTS) and cloud optimized GeoTIFFs (COG) have opened the door for hosting statewide imagery in a readily consumable service. This means GIS or CAD users can tap into the image services and render up-to-date, leaf-off orthoimagery as a base map for their projects. The image service will include 2010, 2015, and 2020 ortho layers for change detection over a 10-year period. Join us to learn more about this exciting new offering through WROC.

## **Track: Land Records**

### **Ten Rules of the ArcGIS Parcel Fabric (45 Minutes)**

*Frank Conkling, Panda Consulting*

With the advent of the ArcGIS Parcel Fabric, the manner in which we map and maintain parcels have changed. This presentation will review both the rules and best practices for the new, more efficient method of maintaining parcels.

### **Accuracy, Efficiency, Engagement – Working With the Parcel Fabric (60 Minutes)**

*Lisa Schaefer, Pro-West & Associates*

Lisa will start by covering the fundamentals of the Parcel Fabric platform – what it is, why local governments are using it, how data editors can benefit, and the value it holds for other users and stakeholders, both internal and external. Then, experience the newest iteration of the Parcel Fabric – Parcel Fabric in ArcGIS Pro – with live editing demonstrations and examples. Learn about the different options available for moving to the fabric environment, whatever your current method of parcel data management. Finally, learn how data in the parcel fabric environment can be used to engage with citizens through interactive maps and apps.

### **BLM GLO Mapping Program and the Wisconsin PLSS CadNSDI (30 Minutes)**

*Nancy von Meyer, Ryan Tiejen, and Jerry Neff, BLM*

Abstract pending...

### **State Revenue Agency GIS Applications (30 Minutes)**

*David Salzer and Patrick Santoso, Axiomatic and Nancy von Meyer*

Abstract pending...

## **Track: NG911 & Addressing**

### **WI NG911 GIS Project – Questions and Answers (45 Minutes)**

*Jessica Frye, GeoComm and Jessica Jimenez, WI DMA*

The presentation will answer outstanding questions from the WLIA workshop and GIS assessment calls pertaining to the WI NG9-1-1 GIS project.

### **Getting Address Point and Street Centerline Data Ready to Publish to the WLIA Standard (60 Minutes)**

*Fred lausly, Dane County and Andy Faust, NCWRPC*

With the WI-DMA Gap Analysis project, a lot has been learned about the status of street centerline and address point data across the State of Wisconsin. This session will cover some of what was learned from the Gap Analysis. It will also discuss recommendations and best practices for managing the data. Improvements to street centerline and address point data will benefit current users of the data, foster greater data sharing and that lay the groundwork for a future NG911 system.

### **Do you have Attribute Rules in your NG911 Toolbox? (60 Minutes)**

*Erin Strickler and Hunter Ray, Cloudpoint Geographics*

As your 911 agencies begin to receive their GIS data audit reports, do you have a plan for how to transform, update and maintain the data? This process can be a monumental task and many agencies need all the help they can get to streamline this process. Harnessing the power of Attribute Rules in ArcGIS Pro is one of the most useful tools for this complex task. This session will describe the creation and illustrate the use of a subset of over 20 attribute rules we have leveraged in our Clients' NG911 projects as we cleanup and maintain data on their behalf. We will also demonstrate how these rules can be taken to the next level in an ArcGIS Enterprise environment to allow for real-time validation of updates and corrections as they are being made.

## **Track: Enterprise & Emerging Tech**

### **Tips & Tricks in SQL Enterprise Geodatabases (30 Minutes)**

*Scott Daniel, Graef*

We'll peek under the hood of SQL Spatial databases and show you how you can easily update attribute domains, field order and field type. We'll also explore the advantages of views for calculated values and dynamic layers.

### **Resiliency: Lessons Learned from High Accuracy Geospatial Data Collection and Fusion in Coastal Communities (30 Minutes)**

*Paul Braun, Continental Mapping Consultants*

Environmental resiliency is a challenge throughout communities across Wisconsin. These challenges are broad and range from rising lake levels and sensitive habitat erosion to increasing storm intensity, flooding, and water quality issues. These challenges are particularly prominent along Wisconsin's roughly 1,000 miles of coastline and 15,000 lakes. To support resiliency efforts, we need both regional scale mapping and site-specific, very high accuracy geospatial data. This presentation will review the challenges and lessons learned with collecting and fusing very high accuracy, site-specific geospatial data in a coastal environment to support environmental resiliency. This presentation will use a project at the City of Port Arthur, TX and the Port of Port Arthur as an example of approaches to collect and fuse complex geospatial data to support environmental resiliency.

Port Arthur lies on the Gulf of Mexico coast, 90 miles east of Houston adjacent to the Louisiana border. Like many Wisconsin communities, Port Arthur is a coastal community, home to approximately 55,000 people and through its port, is a significant economic engine to the region. The City and Port have been hit with many significant weather events; in 2017, Hurricane Harvey caused over 100 deaths, and in 2020 Hurricane Laura and Hurricane Delta were direct hits. Although the Midwest doesn't experience hurricane events, the challenges faced there are similar to those in Wisconsin and the knowledge gained in this project can be directly applied to communities throughout Wisconsin. Continental Mapping assessed current data repositories and completed collection, processing and fusion of all the geospatial data including aerial lidar @ 20ppm, imagery at 3.5cm GSD, land survey for utilities, radio detection of subsurface utilities, and bathymetric survey around the levee gates and structures.

This presentation will walk through the challenges faced by the Port Arthur community and approaches to resolving them. Attendees will leave with key learnings about ways to collect and fuse aerial, terrestrial and hydrographic geospatial data to help address environmental resiliency issues in their communities.

### **Helping State & Local Governments Use GIS to Create a More Racially Equitable Future (45 Minutes)**

*Clinton Johnson, Esri*

Learn how local, state, and regional governments agencies can leverage GIS to build a more equitable and just world where a person's race or ethnicity does not impact their outcomes. Worldwide, cities, counties, and states are addressing institutional racism to ensure equitable opportunity for their constituents—and geography is critical to the work. Hear from the Esri team about how GIS can advance your organization's specific racial equity work.

### **eURL, WebHooks, App Link and Other Emerging Trends with Enterprise GIS (30 Minutes)**

*Tyler Prael & Steve Mulberry, GIS Inc*

GISinc will share what these new(ish) technologies are and what they can do for an Enterprise GIS. We'll share examples and demonstrate concepts, using ArcGIS Enterprise and Cityworks as the foundation. We'll also look at AR, AI, ML, and IoT, and how we see those technologies contributing to the Enterprise GIS community.

### **Supporting Racine RENTS Housing Initiative with ArcGIS Hub (30 Minutes)**

*Megan Dudzik, City of Racine and Kyle Wikstrom, Pro-West & Associates*

Discover how the City of Racine is leveraging Esri's ArcGIS Hub to support its RENTS housing initiative, with the purpose of raising the quality of life for residents and encouraging growth. See how the City is using ArcGIS Online and Hub to share information with landlords, commercial owners, tenants, and the general public on how it is improving rental housing conditions, setting expectations and providing services and resources for each of those groups. Learn about the Hub initiative, how information is being shared, and the value it brings to helping the City achieve its community goals.

## **Track: Redistricting Geography**

### **Local Redistricting Technology (45 Minutes)**

*Ryan Squires, WI LTSB*

The Wisconsin Legislative Technology Services Bureau (LTSB) will outline and provide a demonstration of the local redistricting software called "WISE-LR". WISE-LR is a web application developed by the LTSB specifically for the state statutes of Wisconsin and local redistricting laws in 2021. This software will be used at the municipal and county level governments for local redistricting throughout the State of Wisconsin.

### **Local Redistricting in Wisconsin (45 Minutes)**

*Joseph Kreye, Michael Gallagher, Staci Duros, WI LRB*

This session will cover basic redistricting law and principles and local redistricting law and process.

### **Wisconsin's Decade in a Purple Haze: Using Geospatial Technologies to Analyze Wisconsin's Recent Electoral Patterns (45 Minutes)**

*Ryan Weichelt, UWEC*

Since 2010 Wisconsin Politics have been in a perpetual "Purple Haze." Flip flopping from one party to the next, the Wisconsin electorate has seen subtle shifts in political support, yet patterns are far from temporally and spatially uniform as many believe. Political discourses concerning the study of elections have typically been reserved for the analysis of surveys and poll results. Yet, the use of maps in studying elections has been a common practice for centuries. The most famous of these early efforts was Fredrick Jackson Turner's combination of quantitative methods and spatial analysis of election results in his Frontier Thesis. Today, with the help of geospatial technologies, electoral geographers have developed new techniques to study the spatial patterns of voters. This presentation will highlight how geospatial technology can be used to understand election patterns at various scales, how geography can help understand the electorate, and how proliferation of publicly available election data allows for a better understanding of Wisconsin's recent electoral geography. This analysis will all be based on elections in the State of Wisconsin over the past few decades at the voting district and county levels.

### **Redistricting for Elections (45 Minutes)**

*Greg Grube, WEC*

In this session, we will be discussing redistricting from an election administration perspective - once the final wards are created for the 10 year period, how do those get used for election purposes? We will talk about how clerks use the wards in their election planning and how those help determine what ballot a voter gets. We also will talk about the importance of regular updates of ward lines when annexations occur between redistricting periods, how to know when to create a new ward with changes in boundary lines and how having good school district information factors into the process. Finally, we will discuss some basics of election laws when it comes to district lines and how you as a GIS professional can help your clerks maintain better districts and address data to run smoother elections.

## **Track: Emergency Response & 911**

### **Introduction to U.S. National Grid (45 Minutes)**

*Randy Knippel, Dakota Co, MN*

US National Grid (USNG) is the national standard for communicating location during an emergency response. Per the 2015 FEMA Directive 092-5, FEMA now requires its use by all federal responders, and encourages local jurisdictions to do the same.

This presentation will introduce USNG basics and show examples of maps, applications, mobile apps and other resources that support its implementation in your community. FEMA, the National Search and Rescue Committee, Department of Defense, and several states have already implemented USNG as the “language of location” for both disaster and everyday operations. Tune in and find out how you as a GIS professional can contribute to moving the nation forward on this issue.

### **U.S. National Grid Emergency Location Markers - Reducing Response Times and Saving Lives (45 Minutes)**

*Steve Swazee & BJ Kohlstedt, SharedGeo*

Developed in response to requests from Search and Rescue teams in Northern Minnesota, Emergency Location Markers (ELM) for recreational trails have now spread to nine states. Leveraging the power of the U.S. National Grid, significant and well publicized installs can now be found in places like the Atlanta and Minneapolis-St. Paul metros, Kennedy Space Center, and Kennesaw Mountain Battlefield National Park. This presentation will address the wide range of issues inherent in an installation, from planning to implementation so you can determine if an ELM project makes sense for your community or club.

### **GIS in Public Safety - The New First Response Frontier Part 2 (60 Minutes)**

*Sarah Rollins and Drew Fioranelli, DATAMARK|Michael Baker International*

As a follow-up to last year's award-winning presentation, we are holding a panel discussion for all the Geospatial First Responders out there!

Come with your questions about NextGen 9-1-1, GIS for NextGen, ideas for next steps... It's an open floor. Some topics we'll cover are:

- What have you learned about GIS and NextGen over the last year?
- What have you learned about your data?
- Where do you want to go next in your preparation?
- Your question here

### **Pulling Back the Curtain on the 9-1-1 Center (30 Minutes)**

*Drew Fioranelli and Brian MacMurdo, DATAMARK|Michael Baker International*

As GIS professionals, we don't always get to see how our data is used by our data 'customers'. This is especially true when it comes to supporting Public Safety – unless we have the opportunity to visit the PSAP we are supporting, it can be hard to imagine what the end-user is experiencing.

As the former Operations Manager at the Hamilton County Communications Center in Ohio, Brian MacMurdo has an inside view of what PSAPs are experiencing as they get ready for NextGen 9-1-1. He will share his Public Safety perspective of GIS in the PSAP, common obstacles that get in the way of collaborating with GIS, and ideas of how to cultivate the relationship between the PSAP and GIS.

## **Track: UAS**

### **UAS Lidar/Imagery Collection for the GIS/Mapping Professional (45 Minutes)**

*Matt Vinopal, Ayres Associates*

The presentation will examine practical methods for using airborne LiDAR and imagery data for GIS and mapping professionals. This includes background information on lidar technology, best practices for use, and expected accuracies.

In addition this presentation will compare three approaches for surveying and mapping site specific projects. Lidar and Imagery collected from UAS will be compared and contrasted to other aerial platforms. I will distinguish between LiDAR and photogrammetry, and discuss the most appropriate approach to various project types. I will cover the topics of expected accuracies and best practices for generating and using elevation datasets and planimetrics.

### **UAS Lidar Pilot Project, Southeastern Wisconsin (45 Minutes)**

*Richard Kleinmann, Ayres Associates*

As part of a WisDOT Innovation Program, Ayres Associates conducted a UAS lidar pilot project using State Transportation Innovation Council grant funding. The test flights involved urban, suburban and rural roadway cross sections along STH 60 in Jackson, WI located in WisDOT's Southeast Region. The focus of the project was to determine what level of accuracy can be achieved using lidar sensors on a UAS platform in a challenging environment. This required balancing data acquisition workflows needed to achieve accurate results with regulatory flight restrictions, all while maintaining a safe flight environment. Data comparisons were made between previously collected manned aerial lidar, multiple UAS mounted lidar sensors, terrestrial static lidar and imagery based UAS platforms over the project test site. Learn how the benefits of UAS lidar technology can be realized if you accept these real-world challenges.

### **Using Drone-Based Multispectral Imaging for Land Management (45 Minutes)**

*Drew Baustian, MicaSense*

This session will provide an introduction to multispectral imagery, cover specifics on the steps of collecting and processing drone-based multispectral imagery and present examples of how such data is used for land management. Specific examples may include image/species classification and weed identification.

### **Introduction to Loc8.Life, a Patent-Pending Image Analysis Software Suite (45 Minutes)**

*Gene Robinson, Loc8, LLC*

As sUAS programs expand around the globe, the volume of aerial imagery data collected grows exponentially. Unfortunately, there are few tools designed to analyze these terabytes of data captured by the growing squadron of drones. Loc8 was designed to address the expanding need for image analysis.

Loc8 is a patent-pending image scanning technology that analyzes the individual pixels in any JPEG formatted digital image by searching for color(s) that match a user-defined color palette. Once the defined pixel color(s) are detected in the scanned images, Loc8 reports the latitude, longitude, and altitude of the location of the detected item(s).

Loc8 was initially developed to quickly and effectively scan digital images (still and video, RGB or thermal) collected during search and rescue (SAR) missions to look for missing persons or objects.

After its initial launch, Loc8 has expanded the range of industries where our patent-pending image scanning software can provide mission-critical analytical capabilities. As part of Loc8's research and development strategy, we have affiliated with several colleges where Loc8 has been incorporated into courses and research projects. To date, the courses and projects cover search and rescue, law enforcement, criminal investigations, crime scene analysis, public safety operations, emergency management, debris field mapping, wildlife population surveying, precision agricultural management, and utility infrastructure inspections. The educational institutions include Purdue University - School of Aviation, Embry-Riddle Aeronautical University, Warren Community College - Criminal Justice Program, and Texas State University - Forensic Anthropology Research Facility.

## **Track: Land Records & ROD**

### **Confidential Records Identity Shielding: Balancing Privacy in the Land Records (60 Minutes)**

*Lindsay Hall Harrison, Alliant National Title Insurance Corp*

This session will introduce the topic of Confidential Records Identity Shielding (CRIS) and Privacy Redaction of the public land records. As more concerns over the privacy of protected parties are taken up by state legislatures across the country, how do we balance privacy concerns with the essential need to view and search land records in order to lien, convey, and examine title to real property. This presentation will introduce various laws taking shape across the U.S. and discuss best practices for new legislation in addition to familiarizing participants with the concerns and unintended consequences of these shielding and privacy laws.

### **PRIA GIS Workgroup-Integration - More Important Than Ever! (45 Minutes)**

*Brent Jones, Jodi Helgeson, and David Rooney, PRIA*

The Property Records Industry Association GIS workgroup has developed a GIS Whitepaper and Toolkit to assist recorders and others in the industry in integrating land records in their jurisdiction. The workgroup has offered several educational webinars from beginner to intermediate on how to work with other departments and jurisdictions on integration. The workgroup is currently compiling case studies to help others as to what worked and what obstacles were encountered.

### **Greater Wisconsin PRIA Local - What is it? (45 Minutes)**

*Staci Hoffman, Jefferson County and Scott Moore, Fidler*

We invite you to join us to learn about industry-wide relationships through Wisconsin's local Property Records Industry Association (PRIA) Chapter. Industry leaders have long recognized the need for better communication between sectors at the local level, and a PRIA Local Chapter provides the structured forum needed.

Good communication between local industry stakeholders is essential. In addition, it is important that perspectives and information are shared between national and local industry levels. Recognizing these needs and supported by the success of PRIA at the national level, an alliance was formed for the purpose of creating local industry workgroups to bring business and government stakeholders together.

### **Critiquing Tax-based Land Use Models in Small Cities: A GIS-based Inquiry in Eagan, Minnesota (30 Minutes)**

*Kendell Hillis*

The postwar suburban development pattern has contributed to communities being financially unproductive, fragile, homogenous, and inefficient. Suburbs have shown to limit choices for residents, landowners, business owners, and workers. As cities throughout the United States enter second life cycles, the implications of development patterns, land use choices, and tax systems have never been more apparent. Short-term economic gains and quick outward growth has strained infrastructure systems and city services. This session will use economic data to visualize the effect of policy on community design in Eagan, Minnesota. A GIS-based model will be shared that spatially compares taxation methods and the financial outcomes of land use choices.

## **Track: GIS Solutions**

### **What to Expect When You're Expecting to Join the ESInet (60 Minutes)**

*Annie Cahill, DATAMARK|Michael Baker International*

There are a lot of varying opinions about how long it takes to prepare GIS data for the ESInet. Every state has different criteria and deadlines, and that makes it hard to set anything in stone.

This session explores recommended strategies and workflows for the process lying ahead of you, and helps set realistic expectations for determining your particular tasks, level of effort, resources, and timelines.

### **Automate the Non-Programmer Way (30 Minutes)**

*Justin Conner*

Sure there's dozens of programming languages available to automate work but honestly who has time to learn them all. For those of us who know enough to be dangerous there are ways to automate without programming.

I'll walk you through the road closure notification system I created using Survey123 and Integromat. The system automates map creation, email group management, emailing a notice and posting to Facebook.

The same basic principles apply to Microsoft Power Automate as well. So whether it be Integromat or Power Automate I hope this session encourages you to automate workflows without the need of programming.

### **Viewing LiDAR Online (30 Minutes)**

*Adam Derringer, Ayres Associates*

Viewing entire raw or classified Lidar point clouds can be daunting and confusing to users in a 2D environment. Turn your Lidar point clouds into interactive 3D maps with the new Ayres Lidar Online Viewer. This presentation will demonstrate how easy it can be to allow your users to quickly visualize entire Lidar point clouds and Lidar derived layers within a cloud environment. Measurements and site level information can be extracted and obtained directly from a Lidar point cloud by just a few simple clicks of your mouse. The Lidar viewed from any computer or mobile device without any software download needed. Tools and maps can be customized based on the specific need or on a project by project basis. Come and see just how easy it can be to visualize your project area today!

### **ArcGIS Solutions for Local and State Government: An Overview (60 Minutes)**

*Ryan Sellman, Esri*

This session will provide an overview of a set of solutions available for Local and State Government users.

## **Track: Field Data Applications**

### **Extend ArcGIS in the Field with RFID for Asset Management (60 Minutes)**

*Emily Pierce, Berntsen*

By leveraging RFID technology and integrating GIS, this new solution streamlines asset management inspections. RFID-connected assets reduce the time required to locate specific assets, help to eliminate errors in data collection, and creates a "cloud-to-ground" connected RFID solution. This is ideal for those that work in asset management for municipal water and other utilities, as well as GIS specialists who manage asset datasets.

### **Better Decisions Earlier(30 Minutes)**

*Jay Riester & Larry Heavner, Seiler Geospatial*

Augmenting the Architecture, Construction, Utility site with GIS & CAD data.

A picture is worth a thousand words, we have all heard this statement many times. Have you ever wanted to see your 3D data live, in the field, and on your cell phone?

Being able to visualize as-designed or existing GIS & CAD data can now be achieved in the field at Centimeter level accuracy. SiteVision is an easy-to-use, practical outdoor augmented reality system that lets you visualize your 3D data, and take accurate measurements. This tool helps your team and project stakeholders increase safety, explore options, and identify issues earlier in the construction process. Real world examples will be discussed.

### **What's New With ArcGIS Field Maps (30 Minutes)**

*Jay Riester & Gale Shea, Seiler Geospatial*

The Collector for ArcGIS software platform has been evolving in both the iOS and Android versions in the last year, "Again". In this presentation, we will cover what is new and what is on the horizon for the Collector platform integrated with Field Maps.

Highlights:

- Overview of ArcGIS Field Maps (View, Collect and Track)
- Tips and Tricks to setting up Field Maps on iOS and Android.
- Integrating High Accuracy GNSS Receivers with Field Maps.
- What's on the horizon for Field Maps?

### **Cloud Native Open Data for Monitoring Applications (30 Minutes)**

*Woody Wallace & AJ Wortley, Syncarto*

Embracing open data and cloud native formats can open a whole world of satellite data, including multi-spectral and SAR sensors, for you to incorporate into your monitoring programs. Even though resolutions are low for some local applications, relatively frequent return times, low costs, and now easier to use formats and better accessibility via spatio-temporal asset catalogs, make it an easy way to enhance your high resolution imagery, lidar, and parcel data. We'll provide an update on COGs and STAC and other cloud native formats, as well and update on the catalog of data becoming available in these formats.

## **Track: Professional Development**

### **Diversity Training, Microaggressions Workshop (2 ½ Hours)**

*Santo Carfora*

Abstract pending...

### **Building Your Professional Community (30 Minutes)**

*Eva Reid, Eva Reid Consulting, LLC*

As we continue to live in a world that is transacting so much business virtually, it's important to implement strategies to build your professional network. Learn what it takes to build a network authentically, keep the network alive, and benefit from all the work that you put into it!