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**2022 PA GIS Conference**  
**Breakout Sessions – Tentative Schedule**  
**June 14 – 15**

+ = technical presentation

**TUESDAY, JUNE 14**

**BREAKOUTS ROUND 1 (11 – 11:50 A.M.)**

**A Case Study: Using AGOL to Create Free GIS Web Applications Saving Time and Money**

*Chris Abbott, HDR Engineering Inc*

11 – 11:20 a.m. | Room 104

ArcGIS Online (AGOL) has become as ubiquitous in our industry for sharing geospatial content within the GIS industry. Federal, Regional, State and local agencies produce and serve geospatial data for public consumption for topics spanning from crowd sourced polls to regulatory boundaries. A co-worker expressed frustration at the time spent, reviewing web map viewers for preliminary due diligence for proposals and permitting needs. As each governing body provides data in their own viewer, we discussed that it would be easier if the high-level data could be viewed in one location. Using AGOL with out of the box web tech, applications have been made for several states in the eastern US that consume curated services, reducing maintenance and allowing the user to generate high level project impact reports in minutes. This efficient use of available data has introduced more company personnel to AGOL and placed agency data within reach across multiple endpoint platforms.

**ArcGIS Hub Premium: Engaging the Community**

*Jacqueline Nova, Esri and James Whitacre, Pennsylvania Game Commission*

11:30 – 11:50 a.m. | Room 104

ArcGIS Hub Premium is an ArcGIS Online add-on that enables organizations to share projects and invite community stakeholders to help contribute data and content, and assist in outreach campaigns. The Pennsylvania Game Commission is using ArcGIS Hub Premium to engage volunteer community scientists to collect bird and other wildlife observation data. This presentation will give an overview of ArcGIS Hub Premium and demonstrate how it has been used by the Pennsylvania Game Commission to track wildlife observations.

## **An Anderson Land-Use/Land-Cover Analysis of the Changing Tri-County Region**

*Craig Lewis, Harrisburg University*

11 – 11:20 a.m. | Room 203

Providing Tri-County Regional Planning Commission critical data to be used for planning purposes, HU's Center for Applied Environmental & Geospatial Technology recently completed work updating the Anderson Land-Use/Land-Cover dataset in Dauphin and Perry Counties. As housing developments are taking over fertile farm lands, and multi-use complexes are filling previously vacant land, maintaining current data is critical for planning agencies. Using the Anderson classification system, imagery collected in 2019 and 2020 for Perry and Dauphin counties, as well as parcel data containing the various land-use codes, were examined. Then, the vector layer that covers the entirety of the tri-county region was updated to reflect the changes that happened over the course of the last 8-10 years. Not only will this presentation focus on the Anderson system and how it was implemented but more so, will highlight some of the significant changes over the area via an interactive web mapping application.

## **Enhancing Weather Data and Visualizations for Improved Operational Support**

*Lee Ensminger, KCI Technologies, Inc.*

11:30 – 11:50 a.m. | Room 203

The Pennsylvania Turnpike Commission has access to several sources of weather data, which play an integral role in driver safety and awareness. Over the past several years, the Turnpike has integrated this data into their GIS and IT solutions as a key piece of the common operating picture. This advancement supports better decision-making by executives and other staff by providing consistent, integrated weather data within a suite of applications. This presentation will outline the steps taken by the Turnpike to enhance their foundational weather data. We will also highlight the successes and challenges in using this data to better manage and maintain the roadway, which includes the use of custom indices, multiple historical and future datasets, and unique temporally-enabled visualizations using open-source software.

## **Socio Economic Analyses and Effects of the COVID-19 Pandemic on Hospitality Industry in Lagos and Ondo State States +**

*Abidemi AINA, Morgan State University*

11 – 11:20 a.m. | Room 204

The novel coronavirus (COVID-19), which is one of its kind of humanitarian disasters, has affected people and businesses worldwide, triggering a global economic crisis. In this aspect, the tourism sector is not being left behind. The pandemic has not only affected the foreign exchange earnings (FEE) but also affected various regional developments, job opportunities, thereby disrupting the local communities as a whole. The recent coronavirus (COVID-19) has triggered a concern worldwide and by the end of March 2020, the outbreak has infected several people globally (WHO, 2020). The severity of the pandemic may be accessed based on the figures of past epidemics such as SARS, Spanish Flu, etc. Tourism and hospitality businesses are

profoundly affected by COVID-19 since it became a pandemic on 12th March 2020 (WHO, 2020). Due to the pandemic, the travel and tourism industry's employment loss is predicted to be 100.08 Million worldwide (Statista, 2020).

### **Maturing Standards for Data Sharing and Exchange**

*John MacMillan, OA/OIT*

11:30 – 11:50 a.m. | Room 204

Discuss the opportunity to improve data sharing and data exchange by adopting international or national standards.

### **Using GIS to bridge the digital divide; how McKean County supports broadband expansion efforts**

*Sean McLaughlin, McKean County*

11 – 11:20 a.m. | Room 206

Like many counties across the United States, McKean County has been allocating some of its federal relief dollars, that have arisen from COVID19 pandemic related legislation, towards Broadband expansion. McKean has partnered with an engineering & consulting firm to design & implement a fixed wireless broadband solution. Utilizing a variety of GIS applications, we have strategically completed vertical assets inventories; collected data from residents; prioritized areas of underserved/unserved constituencies; verified our findings with local, state, and national datasets; & identified solutions to help bridge the digital divide. Throughout the entirety of the process, GIS has been an integral resource & continues to pave the way for better access to high speed broadband for our constituents.

### **The Evolving Role of GIS in Countywide Property Tax Reassessment +**

*Scott Zubek, Tioga County*

11:30 – 11:50 a.m. | Room 206

In 2021 the Tioga County (Pennsylvania) Board of Commissioners sanctioned a countywide property tax reassessment project, the first reassessment to occur in the County since 2001. The purpose of this presentation is therefore to review the evolution of the Tioga County GIS infrastructure since the 2001 reassessment; and how updated datasets in conjunction with geoprocessing workflows stand to support the viability of the overall property tax reassessment effort.

### **Next Generation 911 Address Point and Road Centerline Cleanup and Maintenance +**

*David Thaler, geographIT, A Division of EBA Engineering*

11 – 11:20 a.m. | Room 207

GIS data has become mission critical for Next Generation 911. The quality, accuracy and sustainable data maintenance workflows are paramount for this mission. While working with Pa

counties to prepare their data for NextGen911, geographIT has implemented GIS analysis techniques to aid in visualizing the errors within the Address Points and Road Centerline layers. As these datasets are cleaned, we are assisting in implementing data maintenance workflows in ArcGIS Pro using attribute rules, tasks, and custom tools to ensure data integrity into the future. Discussed will be some of the analysis techniques that were helpful in data clean-up as well as the data maintenance practices that can be implemented.

### **Address of Success – Using a Web-Based Tools to Maintain Addresses +**

*Nick DiPaolo, JMT Technology Group*

11:30 – 11:50 a.m. | Room 207

Berks County is migrating to Next Generation 911 services & asked JMT Technology Group (JMT) to help prepare their data to meet NENA/PEMA standards. As a final step in the process, JMT provided the county with a web-based toolkit to support their addressing protocol and best practices guidelines positioning them for long-term success to maintain compliance.

Because soft/hard copy guidance can be cumbersome and seldom used, JMT integrated a web-based address toolkit in an Esri Story Map which allows users to confirm if a proposed address or street name is unique when checked against the county's authoritative layers and sends them for county review. Also, the tool performs critical quality control checks and tracks the quality of the address points through a dashboard.

This direct workflow and communication between the municipalities and the county ensures all parties are reviewing the same information.

### **Citizen Experience Mapping & Open Data +**

*David Partsch, Commonwealth of Pennsylvania*

11 – 11:20 a.m. | Room 218

The Commonwealth of PA would like to present an effort to support its Customer Service Transformation initiative to enhance citizen experience by offering a single, consolidated mapping capability via its Open Data Portal. The capability would benefit citizens, residents, visitors, and business entities by expanding on a set of existing commonwealth key layers / themes of interest to citizens through a menu-driven, public website mapping capability. The menu-driven approach would allow a user to "click-on" a theme or group of themes such that spatial data is visualized on a common map that address the interests of the user in whatever configuration of themes they select.

The Commonwealth will discuss: visual presentation of map layers; data harmonization to feed the visualization engine; geocoding of textual data; ensuring data quality and timeliness; accessing data sources in agency systems of record; etc.

### **Utilizing ArcGIS to Increase Efficiency in our Main Replacement Program**

*Ben Gladis, Pennsylvania American Water*

11:30 – 11:50 a.m. | Room 218

One of the largest investments we make as a water company is upgrading our infrastructure and replacing water and wastewater mains. This presentation will show how we utilize ArcGIS (a combination of Pro, Dashboards, Web Maps/Apps, StoryMaps and ArcMap) to increase efficiency in the planning phases our main replacement program.

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## **BREAKOUTS ROUND 2 (2 – 2:50 P.M.)**

### **The Benefits of Cloud Hosting for Local Governments**

*Stacey Smith, geographIT, A Division of EBA Engineering*

2 – 2:20 p.m. | Room 104

During this session, we will highlight Cloud Hosting for GIS Environments for several organizations both large and small. We will discuss their journey to the cloud, how it has benefited the organization, and lessons learned along the way. We will discuss examples from both Azure and AWS being used every day, so please join us to hear how hosting your GIS environment in the Cloud can benefit your organization.

### **Improving Field Operations with Cityworks Respond +**

*Mark Bowen, Lehigh County Authority*

2:30 – 2:50 p.m. | Room 104

Cityworks, a GIS-centric software, has accelerated Lehigh County Authority's asset management efforts. The Authority's Strategic Plan outlines measurable asset management objectives, and GIS and Cityworks is at the core of the transformation. Cityworks Respond has empowered field crews to inspect and collect important asset information. This presentation will highlight how Cityworks Respond has enabled the Authority to strengthen their asset management program and simplify workflows for field users.

### **Tree Delineations from LIDAR +**

*Joe Petroski, DCNR, Bureau of Forestry*

2 – 2:20 p.m. | Room 203

Today, more than 17 million acres of land in Pennsylvania are covered by forests and trees. In our changing world, the benefits of forests and trees are realized as increasingly important as they protect our streams and drinking water, sequester and store carbon, contain some of the highest quality hardwoods in the world, support a robust forest products industry, provide homes for plants and animals, offer citizens and visitors endless opportunities for outdoor recreation, along with numerous other benefits. This presentation will demonstrate a few ways that GIS professionals can utilize LIDAR data to analyze trees and forests. ArcGIS Pro will be

used to generate a tree canopy height dataset from raw LAS point clouds, and demonstrate how dominant and co-dominant tree crowns can be automatically extracted from LIDAR.

### **Wow That GIS Is Pretty but It's What's on the Inside That Matters**

*Steve Kocsis, GISP, Cambria County*

2:30 – 2:50 p.m. | Room 203

GIS is evolving to include a new perspective, a 3D perspective. Although this seems like the new thing it's not really new...but it sure looks nice. What about beyond the walls of the outside? Indoor mapping and data creation is the next thing GIS should embrace. Not only is the location and representation of the inside just as important as the outside, it could be argued that this is even more important. Location combined with mixed reality, indoor mapping, digital twins, data feeds, navigation, and integration with GIS, 3D and web/mobile will become the norm. See how Cambria County is putting the next frontier into this frontier already.

### **Survey123: It's not just a field collection app anymore +**

*Joe Livoti, Hampton Township, PA*

2 – 2:50 p.m. | Room 204

Survey123 has a great ability to allow non GIS people to create and populate attributes in a geopoint with its simplicity. Normally this is done in the field using a mobile device and that device's built in wi-fi/cellular signal to help create a feature point. This presentation takes the simplicity of Survey123 and makes it a viable office application in a few simple steps.

### **A Holistic Approach to the GIS Evolution**

*Jesse Suders, MPS, GISP, Dawood Engineering*

2 – 2:20 p.m. | Room 206

As GIS professionals, we work to elevate data-driven decision making—from data development, analysis, and delivery to stakeholder engagement, presentations, designs, and project workflows. This presentation will explain how infusing geospatial technologies into project workflows through a cross-discipline approach to project development and management demonstrates the power of GIS. The Dawood Engineering team will discuss using GIS in concert with Geodesign's collaborative framework to achieve public funding, shovel-ready projects, and diverse teams championing real community change.

### **Pennsylvania Hydrography Dataset (PAHD) Changes and Progress**

*Ellen Fehrs, DCNR, Bureau of Geological Survey*

2:30 – 2:50 p.m. | Room 206

The Pennsylvania Department of Conservation and Natural Resources, Bureau of Geological Survey (BGS) has designed the Pennsylvania Hydrography Dataset (PAHD) to be dynamic in nature. As technology, federal standards, and user demands change, the processes used for the

generation of PAHD geometries and data schema must also evolve. This talk will give a general overview of the updates made to PAHD in response to these changes.

**Ways to Participate in the PA GeoBoard**

*Eric Jespersen, State Geospatial Coordinating Board*

2 – 2:20 p.m. | Room 207

There are ample opportunities to engage with the GeoBoard, and each one will benefit you at the same time you are sharing your talents. Come learn the differences between Working Groups, Task Forces and subcommittees and just what kind of time might be involved.

**PA BaseMap 2030: What will the "bottom layer" look like?**

*Jeff Jalbrzikowski, NOAA's National Geodetic Survey*

2:30 – 2:50 p.m. | Room 207

You've all seen that graphic, the one that illustrates the many layers of a GIS. At the bottom of it lies geodetic control, the framework for all the other layers of truly valuable data. Have you taken it for granted that it's always there for you? Maybe you've been hearing for years about the forthcoming changes in datums, but you still don't understand how that may impact you. Join this session for a discussion on the potential future of the "bottom layer" of BaseMap 2030, but not for the typical talk you may have heard from me before.

**OPEN**

*TBD*

2 – 2:20 p.m. | Room 218

**Power of the Property Hub - Pushing past Parcel Viewers**

*Jason Shellhammer, Carbon County*

2:30 – 2:50 p.m. | Room 218

For those of us working in County GIS, typically one of our major focuses includes maintaining and sharing our parcel/cadastral data. The depth and volume of data in our parcel applications are rich and informative, but are you fully serving the public with their real property needs? Are you providing information that will minimize your time fielding basic phone calls and emails? Chances are you could be making life easier for you and the public, while enhancing your services. Let us explore the power of a Property Hub.



**BREAKOUTS ROUND 3 (3:30 – 4:20 P.M.)**

**An ROI Campaign: Our first steps to implementing a program-wide metrics and ROI gathering system in Franklin County, PA**

*Kara Shindle, Franklin County*

3:30 – 4:20 p.m. | Room 104

Franklin County has taken the first steps to communicating the value of our GIS Department using data, education, and communication. This presentation will go into our first steps, from a County-wide education campaign to implementing a department-wide metrics gathering system using a variety of methods, sources, and mediums to gather, process, and display our metrics to higher-level Administration and Elected Officials. I will include lessons learned so far during this iterative process, some visual examples of dashboards and sites, and some Python script samples utilized to automate the data gathering process. You have more to work with than you think!

### **Conserving Western Pennsylvania: Prioritizing for the Diverse Aquatic Resources of our Region**

*Eli Long, Western PA Conservancy*

3:30 – 4:20 p.m. | Room 203

WPC's work on the landscape focuses on many aquatic resources including water quality, native & wild trout, eastern hellbender salamanders and freshwater mussels. How do we determine where we can have the most impact? This talk will review a conservation planning project developed WPC to inform our conservation and restoration priorities.

### **GIS, CAD, and BIM Workflows with ArcGIS GeoBIM +**

*Andrew Creek, Esri*

3:30 – 4:20 | Room 204

Collaborative workflows, data management, and visualization during design, construction, and delivery of projects are crucial for financial and operational performance. New capabilities in ArcGIS Pro allow better integration of GIS with CAD and BIM data - locally and in the cloud, including tools built into Autodesk software allowing you to share GIS content from ArcGIS Online and ArcGIS Enterprise with your Autodesk Civil3d, Infraworks, and AutoCAD users.

The latest evolution is a cloud-cloud integration between GIS and BIM with ArcGIS GeoBIM and Autodesk Construction Cloud (ACC) software.

ArcGIS GeoBIM delivers an innovative, easy-to-use web-based experience for project teams to explore and collaborate using data from multiple systems in a geospatial context. AEC firms and Owner/Operators can create live-data project performance and issue dashboards improving insights into these critical aspects of project management and promote shared visualization among teams and stakeholders.

### **Hello GIS. You Have Several Updates Available, Click Here for More. +**

*Steve Kocsis, GISP, Cambria County*

3:30 – 4:20 p.m. | Room 207

It's about time...Most of PA recently received new LiDAR and 6" ortho imagery. What can we do with these two resources? ESRI's 3D analyst will help you use the point clouds and imagery to make products that are useful beyond what is served from PASDA. Let's classify the points, colorize the points, and make surface models to interpolate our GIS features using the 3D space. Wouldn't you like to make 3D buildings and road centerlines that don't melt at bridges and crossings? Join this session to learn how to leverage tools and technology to go from flat to fabulous GIS in no time.

### **Using Esri's ArcGIS Hub Platform to Create a One-Stop GIS Resource Tool +**

*Jason Ramsey, JMT Technology Group*

3:30 – 3:50 p.m. | Room 218

The PennDOT Bureau of Planning & Research's Geographic Information Division (GID) identified a need for a one-stop geospatial hub to act as the core communication, support, and resource center for PennDOT GIS data. Previously, PennDOT used different outlets to provide information and share data.

Using Esri's ArcGIS Hub cloud-based platform, JMT Technology Group designed the PennDOT Geospatial Hub as a modern engagement platform that organizes GIS users, data, applications, and support through a single experience. It contains both publicly accessible content along with content that is available only to internal PennDOT staff. The ArcGIS Hub is a no-code/low-code solution to web application development and leverages PennDOT's existing investment in and use of Esri's Open Data portal, ArcGIS Online, and other Esri tools.

By centralizing resources to PennDOT's GIS assets, the Hub will enable better use of data for planning, advanced analytics, and complex application development.

### **A case study in migrating a custom ArcGIS Desktop add-in tool into a ArcGIS Web AppBuilder custom Widget +**

*Rich DeBell, geographIT, A Division of EBA Engineering*

4 – 4:20 p.m. | Room 218

Demonstrate a successful custom development project utilizing ArcGIS Online, Esri's premium spatial analysis REST service, Web AppBuilder Development Edition and Amazon Web Services. We will discuss the applications use case for migrating a deprecated ArcGIS Desktop add-on tool for processing County Parcel Assessment Act 319 Clean and Green Applications to a web GIS application widget that has a foundation in ArcGIS Online and AWS. We will outline the projects technical approach for the application migration and the biggest hurdles and lessons learned.

## WEDNESDAY, JUNE 15

### **BREAKOUTS ROUND 4 (10:15 – 11:05 A.M.)**

#### **Oblique Imagery - Challenges +**

*Srini Dharmapuri, Sanborn*

10:15 – 11:05 a.m. | Room 104

The oblique imagery has become an essential geospatial data in the local govt activities in addition to the vertical imagery. Though the vertical imagery has proven helpful, it has few limitations. For example, using the vertical images, one can view only the roofs of buildings, with no perspective on building height and other features. Introducing oblique imagery has enabled us to fill in some limitations of the vertical imagery. Though oblique imagery collection, processing, and dissemination are well established, a few points are to be considered, and they are listed here.

- Camera characteristics
- Accuracy specifications
- Software and data related
- Additional products

The presentation will address the above points in an oblique project.

#### **Determining Habitat Suitability for a Species using ArcGIS Notebooks +**

*Emily Kerstetter and James Whitacre, Pennsylvania Game Commission*

10:15 – 10:35 a.m. | Room 203

The Pennsylvania Game Commission is exploring the feasibility of a species reintroduction through geospatial analyses using Habitat Suitability Indices (HSI). To effectively create a model for this project, documentation, ease of modification, and presentations are all considered in the process. ArcGIS Notebooks has proven to be a great option for workflows like this project and many others within the agency. Creating python code to be powerful yet understood by all individuals involved is pertinent for these projects and is why ArcGIS Notebooks was utilized and will be in the future. This presentation will go over a practical approach to using ArcGIS Notebook in modeling projects.

#### **Combining Field Data & GIS to Prioritize Culvert Replacements**

*Eli Long, Western PA Conservancy*

10:45 – 11:05 a.m. | Room 203

Western PA Conservancy has completed over 1,700 culvert assessments under the NAACC (North Atlantic Aquatic Connectivity Collaborative) protocol. This data has generated hundreds

of potential project sites. This presentation will explain WPC's methodology for determining where to invest restoration funds based upon culvert condition and aquatic resources.

### **A Modern Approach to ArcGIS Enterprise +**

*Drew Fioranelli, Esri*

10:15 – 11:05 a.m. | Room 204

ArcGIS Enterprise is a secure and foundational software for a modern GIS powering mapping, analytics, and data management. Moving away from legacy server environments (Arc Server) to distributed, hybrid solutions allow for advancing capability to support your organization's needs, such as tracking real-time data, performing big data analysis, and securing your system of record.

While most currently have this capability, successful modernization is reliant on the adoption and utilization of the technology according to best practices. This session will "go back to basics" to define ArcGIS Enterprise, emphasize the role of Portal in a modern GIS, and highlight the importance of data security.

### **A Look at a USGS Pilot Project Deriving Hydrography from Elevation Data in Pennsylvania**

*Eliza Gross, U.S. Geological Survey*

10:15 – 10:35 a.m. | Room 206

The United States Geological Survey (USGS) National Geospatial Program is in the process of establishing the 3D Hydrography Program to modernize the mapping of the Nation's inland waters. High-resolution light detection and ranging (lidar) elevation data that have been collected across much of the conterminous US (CONUS) through the 3D Elevation Program will be used as the source to derive a positionally accurate and detailed stream network. The USGS is assessing the acquisition of elevation-derived data through pilot projects in several states including Pennsylvania (PA). The Raystown project in central PA encompasses three 8-digit hydrologic units and is one of the first projects that the USGS has undertaken in CONUS. This presentation will provide (1) background information on USGS spatial data and programs, (2) a synopsis of the Raystown project, and (3) a general overview of the USGS elevation-derived hydrography data evaluation methods with examples specific to PA.

### **NWS's Use of ArcGIS Online**

*Amanda Wagner, NOAA – National Weather Service*

10:45 – 11:05 a.m. | Room 206

The National Weather Service's mission is to provide weather, water and climate data, forecasts, warnings, and impact based decision support services for the protection of lives and property and enhancement of the national economy. One innovative way the NWS meets this mission is through the use of online GIS applications as powerful tools for education, outreach, and

impact-based decision support services. ArcGIS StoryMaps, Dashboards and Hub provide a platform for SkyWarn spotter training, post-event reviews, situational awareness dashboards, and more! See examples of how the NWS is using Web-GIS, and how these applications are reshaping the way we do weather.

### **NG911 SSAP Data Development**

*Justin Smith, Cumberland County and Christian Przybylek, PEMA*

10:15 – 11:05 a.m. | Room 207

Next Generation 911 will utilize Site Structure Address Points (SSAP) to route 911 calls and validate location. Over the last 5 to 15 years, most counties have developed address point layers to map call and dispatch services in local PSAP 911 call centers. To meet NG911 requirements, PEMA and GeoComm have deployed the Data Hub for counties to provision their authoritative SSAP. County SSAP must meet spatial and attribute standards to aggregate into a statewide coverage. Synchronization ensures quality to replace legacy ALI and MSAG databases.

County GIS, PEMA, and their vendors have been working on NG911 together since 2016. Through collaboration they have formed a strategic plan, best practices, and effective outreach. Pennsylvania is on the cusp of acquiring a statewide SSAP and establishing the workflows to maintain SSAP as an accurate base map layer.

### **Supporting Drone Mapping with Site Scan for ArcGIS +**

*Jacqueline Nova, Esri*

10:15 – 10:35 a.m. | Room 218

Many organizations are incorporating drones to enhance their image capture and mapping capabilities and support their work in public safety, planning, infrastructure, utilities and more. In order to get the most value from drone-captured imagery, it's important to have an end-to-end solution that will support all aspects of your program, including fleet management, flight planning, and image processing to create 2D and 3D outputs. In this session, attendees will learn about the capabilities that Site Scan for ArcGIS offers, and how it can help connect a new or existing drone program to your organization's GIS. The presentation will include examples and demonstrations that highlight the unique capabilities of Site Scan for ArcGIS, including scalable cloud processing, analytics (including volumetrics, cut/fill and change over time) and its abilities to quickly share data and integrate drone imagery outputs across your organization.

### **Mobile GIS Data Collection Alternatives: The Fulcrum App in New Zealand and Ohio**

*Alex Smith, EHS Support LLC*

10:45 – 11:05 a.m. | Room 218

There are numerous field collection solutions that are tied to commercial GIS software platforms, but what are your options if those tools do not fit with your project? EHS Support has set up a

field sampling program that uses location-aware digital field forms created with the Fulcrum Mobile Data Collection App.

Fulcrum is a flexible low-code application that can be used to implement anything from field inspection photo logs, to lithology logs, to groundwater purge logs. To demonstrate this flexibility, we'll explore two projects on different continents: a lead-based paint inspection field effort in New Zealand and a remediation system inspection and sampling field effort in Ohio. We'll cover project set up, use in the field, data export and analysis, and advantages/disadvantages of this alternative field data collection application that combines both user friendly field forms and location-aware GIS data collection.

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## **BREAKOUTS ROUND 5 (11:15 A.M. – 12:05 P.M.)**

### **Data Sharing & Access Updates**

*Maurie Kelly, PASDA*

11:15 – 11:35 a.m. | Room 104

This session will explore the status of data sharing, available data, and access options for data that is being acquired through the PA GeoBoard data sharing initiative. The Services Task Force of the PA GeoBoard will answer questions and provide information on how to share and how to find data.

### **Building a GIS Experience for Economic Development in Northwest PA**

*Mark Maguire, GISP, HRG*

11:45 a.m. – 12:05 p.m. | Room 104

HRG is working with the Partnerships for Regional Economic Performance (PREP) to develop GIS tools for economic development and business attraction. This project brings together GIS data from County and State levels to both advertise and analyze the region's many assets – from transportation to utility infrastructure to outdoor recreation. This data is integrated with other site suitability indicators, including environmental resources, land use zones, and constructability factors, to build a framework for identifying development opportunities. The goal is to not create "yet another GIS site selection tool" – but rather a collaborative resource focused on County and regional needs. This presentation will provide an overview of the stakeholder engagement and data collection process, and well the ArcGIS Experience Builder dashboards and Survey123 integration that provide a data-rich and customized user experience.

### **Adventures in Broadband Mapping +**

*Andrew Scampone, GISP, Michael Baker International*

11:15 a.m. – 12:05 p.m. | Room 203

This session will highlight real world scenarios related to broadband mapping, specifically how GIS information may be interpreted differently based on the eye of the beholder. We will walk through scenarios where GIS has been used to hold organizations accountable for broadband buildout, work through the importance of local stakeholder knowledge when analyzing red areas on a map, and demonstrate how GIS professionals, planners, economic developers, and the general public can view the same broadband GIS information and come to different conclusions based on how data is represented. This session is meant to be light, fun and engaging; including the opportunity for attendees to submit live feedback via surveys during the presentation.

### **ArcGIS Survey123: Advanced Topics +**

*Jacqueline Nova, Esri*

11:15 a.m. – 12:05 p.m. | Room 204

Many organizations are using ArcGIS Survey123 and smart forms to support various field workflows and citizen engagement efforts but collecting information with ArcGIS Survey123 is just the beginning. In this session, attendees will be introduced to three advanced ArcGIS Survey123 topics:

1. Reports: use Survey123's powerful report engine to format the content and appearance of PDF reports to summarize data on demand or programmatically
2. Workflow automation: use out-of-the-box connectors for Microsoft Power Automate and Integromat to automate tasks commonly associated with surveys, like email and SMS notifications and data management tasks.
3. Web App JavaScript API: learn how to lead forms into your web apps, set values and properties and respond to events using the Survey123 Web App JavaScript API.

If you're interested in incorporating these more advanced capabilities into your Survey123 workflows, this session will provide you with a great starting point.

### **Prepare for Response and Recovery with Intelligent Insight from Nearmap Imagery, 3D and AI +**

*Kayla Smith, Nearmap*

11:15 a.m. – 12:05 p.m. | Room 206

Prepare for anything with cloud-based access to high-res imagery (5.5cm), 3D (15cm) and GIS layers from Nearmap. We will demonstrate data-driven scenarios for resiliency, national security, asset management, and public safety. You'll learn to:

- Gain new insights and perspectives on your objective with Nearmap AI and measurable oblique imagery
- Combine post disaster aerial imagery, 3D, and AI with Esri applications for powerful disaster response and recovery
- Design a security plan with Nearmap 3D textured mesh to give your scenario accurate context

- Create a controlled environment using Nearmap 3D to conceptualize event scenarios, road blockages and exit points
- Nearmap proactively captures imagery up to 3x/year for over 80% of U.S. population. Our 3D and AI-derived GIS layers are the most current, high-quality view for Homeland Security missions such as humanitarian and disaster response (HADR), tactical planning for public safety, and general asset management for resiliency efforts.

## **Towards Road Centerline Data Standardization in Pennsylvania: Comparing NG911 and PennDOT Roads Data**

*Christian Przybylek, PEMA*

11:15 a.m. – 12:05 p.m. | Room 207

PennDOT maintains a uniform dataset that models the statewide road network. This roads data is submitted by PennDOT to the Federal Highway Administration (FHWA) to help build the national All Roads Network of Linear Data (ARNOLD). Counties each maintain their own dataset of roads within their county, and their practices and data models may differ among counties. With support from PEMA, counties roads data is being integrated to build a statewide NG911 road centerlines dataset. The advent of NG911 and the Federal initiative to build a National Road Network (NRN) presents an opportunity to integrate the NG911 and ARNOLD datasets in the State of Pennsylvania. This presentation describes findings from a detailed study into differences in roadway inventory, attribution, and geometries between Pennsylvania NG911 road centerlines and PennDOT's road centerlines. This is a PennDOT, PEMA, and FHWA initiative to explore opportunities for roads data modeling, integration, and standardization.

## **Improving your Rural Edge**

*Drew Fioranelli, Esri*

11:15 – 11:35 a.m. | Room 218

The Rural Edge, a sensitive zone that exists between Urban and Rural environments - a geospatially demanding place where landscapes are transformed by irreversible changes that can have significant impact on the quality of life and the environment - fundamentally changing a community. The rural edge is not limited to areas surrounding urban or metropolitan centers. It can be found almost anywhere across the state where development is occurring.

We will introduce how imagery and remote sensing can be used by GIS professionals to accurately map impervious surfaces, visualize the loss of greenspace, and manage the overall environmental impact of development. We will investigate remotely sensed sources that can help with developmental projects, GIS updates, and tax assessment. Finally, we will leverage the power of advanced AI visualization/analysis and 3D GIS to improve public outreach, economic development and decision making.

## **Connecting Open Mapping and Education through Lessons, Programs, and Courses**

*Thomas Mueller, Ph.D., GISP, California University of Pennsylvania*

11:45 a.m. – 12:05 p.m. | Room 218

Open Street Map (OSM) is an open-source "Wikipedia for spatial data." Open Street Map is relatively easy and requires little geographic or geospatial technology knowledge. This ease has allowed OSM to be included in many different educational courses, from high school to college. The presentation will examine OSM resources, including OpenStreetMap MapSwipe, and Field Papers. TeachOSM, an education support group, has developed different exercises using these resources for high school students, including the Advanced Placement Human Geography course. There are also two Open Street Map "education" communities, TeenMaptivist and YouthMappers, that will be discussed in the presentation. TeenMaptivist introduces high school students to OSM through presentations and local area Mapathons, while YouthMappers is a network of college students worldwide using OSM for humanitarian mapping. Finally, there will be a discussion on the best practices of incorporating OSM into your courses.