ESRI-MUG Spring Meeting Agenda 2021 (4/22/2021 9:00-4:30)

Time	Session	Abstract
9:00-10:00	**Opening Plenary** **Title:** ArcGIS Solutions Help Solve Common Business Problems **Presenters:** Chris Fox, Dan Wickens, Scott Oppmann **Organization:** Esri	ArcGIS Solutions are industry-specific map and app configurations of ArcGIS that sit at the intersection between business and technology. In this plenary session, we will demonstrate how ArcGIS Solutions can be used to solve common business problems and provide repeatable patterns for success. The presentation will include technical demonstrations and regional user examples of ArcGIS Solutions deployed for data management, operational systems, and public engagement. We'll also cover how you can get started with ArcGIS Solutions, and what's to come in 2021.
10:00-10:10	Break	
10:10-11:20	Lightning Talks	
10:10-10:20	**Title:** Remote Utility Monitoring Technology and GIS/CMMS integration **Presenter:** Russell Vrhovac, GISP **Organization:** Duncan-Parnell Inc.	The presentation will investigate the marriage between GIS technology and utility network monitoring for system variables such as pressure, level, pump-runtime, rain, flow, chlorine and others. Through partnership and integration between Trimble and Esri technologies, Trimble Unity offers users the ability to leverage web-hosted Esri Feature services allowing utility providers access to rich, accurate GIS positional data of assets and sensors as well as dashboarding Key Performance Indicators (KPIs) on utility networks. Network sensor data is pulled into Unity utilizing pre-configured analytical dashboards while also allowing output into Esri dashboards giving users flexibility to access a richer system-awareness suite of solutions.
10:20-10:30	**Title:** Developing a Municipal Zoning Search App for Cumberland County, Pennsylvania **Presenter:** Patrick McKinney **Organization:** Cumberland County PA	In January 2021, Cumberland County (Pennsylvania) launched a web application to enable residents to identify the zoning district(s) for their property. Residents can locate their property by searching by their property address or parcel ID. They can also zoom and pan the map to their property's location. When the resident searches for their property or clicks on it, the geometry of their property is passed into a spatial query against the corresponding zoning district web service. When the query is complete, an information window displays on the map with the resident's municipality and zoning district. The application is built on Bootstrap, Leaflet.js, and Esri REST services.
10:30-10:40	**Title:** Using Esri Tech for International Disaster Coordination **Presenter:** John C. Morrison **Organization:** Fairfax County Fire and Rescue Department	How do you utilize the full suite of ArcGIS products to coordinate search and rescue efforts after large scale disasters? The UN's International Search and Rescue Advisory Group (INSARAG) has undertaken this monumental task, providing a digital implementation of an existing paper process to develop an end-user focused system. This technical lightning talk will discuss the purpose, method and technologies used, including Survey123, Explorer, Jupyter Notebooks, Hub, Apps, Dashboards and more!
10:40-10:50	**Title:** Geospatial Tracking App for Survival Systems **Presenter:** Sachin J. Phanse **Organization:** University of the Potomac	The Geospatial Tracking App (G-APP) can be used by emergency services, law enforcement, or rescue teams. It provides location of a person or vehicle by using data from various digital sources. For example, the G-APP can track a vehicle or a parking spot in an area, the location of a person or crowd waiting to be rescued in a remote area or in the wilderness. Emergency services can use this app to trace people during flooding or hurricanes. The engine of this app is multitasking and can be easily installed when needed.
10:50-11:00	**Title:** Mobile GIS Collections, A Solution to Collect/Catalog Existing ADA Conditions for Bicycle-Pedestrian Priority Areas Along the MTA Purple Line **Presenter:** Daniel Ataalla **Organization:** Stantec (Laurel, MD)	This presentation will cover the design and construction of bicycle and pedestrian capital improvements in the Bicycle-Pedestrian Priority Areas (BiPPAs) identified in County master plans. Examples of such improvements include: sidewalk,curb, and curb ramp reconstruction to meet ADA best practices, bulb-outs, cycle tracks, street lighting, and relocation of utility poles. This project involved developing a mobile GIS collections workflow for field and post field work.
11:00-11:10	**Title:** Encouraging Student Participation with Survey 123 for ArcGIS Online **Presenter:** Jackie Strager **Organization:** West Virginia University	This presentation will highlight a quick application of ArcGIS Survey123 to conduct an interactive survey of students in an introductory GIS course. The students were asked to take a short survey that included a map-based question. The class survey results were then made available to the students using a simple ArcGIS Online web map application. This enabled students to learn more about their fellow classmates in an interesting and relevant way.
11:10-11:20	**Title:** The Effects of Winter Weather on School District Transportation **Presenter:** Cody Barnhart **Organization:** California University of Pennsylvania	ArcGIS Online was used to create a school district zone with several layers of data that could contribute to safe bus routes for school districts. Student home addresses were layered with elevational features to indicate danger-prone travel regions during winter storms. Information from mPING, a weather precipitation reporting app, was added to the map, along with faculty housing addresses. The datasets of housing location, elevation, and precipitation type helped detect regional trends for hazardous travel. This configuration can be adapted and modified for any school district across the United States to assist in safe and responsible travel.
11:20-12:30	Break	
12:30-4:00	Afternoon Sessions	
12:30-12:50	**Title:** Esri's Utility Network: Quick Dive into Water Utilities **Presenter:** Steve Mulberry **Organization:** GISinc, a Continental Mapping Company	The Utility Network is a world where telecom and utility networks unite. Let's talk about the water distribution utility network, data management, and analysis and what it means to your organization.
12:50-1:10	**Title:** What are Survey123 Feature Reports? **Presenter:** John A Mosheim, P.E., CEM **Organization:** GHG Engineering	GHG Engineering recently finished a project in MD where Survey123 Feature Reports were used to generate inspection reports for the work we were conducting. In our opinion, Survey123 Feature Reports are a great, but not widely-known capability of Survey123.The inspection data was collected using the Web version of Survey123. Using Feature Reports saved GHG Engineering a significant amount of time, reduced errors, and reduced the amount of report writing in a significant way which ultimately benefited our Client. This presentation includes a brief description what Feature Reports, how to start generating the Feature Reports, and Feature Report design - Survey123 data collection form design considerations. Included in the presentation is the workflow used and two or three screenshots of the results we obtained.
1:10-1:30	**Title:** Practical Use of Ops Dashboard in Policing: CompStat and Survey123 Integration **Presenter:** Lynn Gaines, Meir Engel, Michael Urciuoli **Organization:** Philadelphia Police Department	The current presentation discusses the integration of Ops Dashboard and Survey 123 in CompStat and shooting review meetings. CompStat is a bi-weekly command staff meeting to review crime stats, trends, and patterns. CompStat Dashboard integrates statistics and map in a single platform. Ops Dashboard and Survey 123 integration facilitates not only entering new data but also reviewing/editing previously entered records. Specifically, the current presentation discusses how the Philadelphia Police Department is using it to code data on shootings as part of weekly shooting review meetings in real-time.
1:30-1:50	**Title:** Prescribing Runoff-Related BMPs in the Rock Creek Watershed of Washington, D.C. **Presenter:** Ryan Corcoran **Organization:** GKY & Associates, Inc.	This research seeks to detect where DC could improve its stormwater management in the Rock Creek watershed by using a Python code to recreate the Soil and Water Assessment Tool (SWAT), a computer model that calculates runoff and prescribes Best Management Practices (BMPs) based on unique land use and soil type characteristics. The Python script is similarly able to identify runoff hotspots and match them to BMPs. With the code's output, it is possible to compare these ideal locations to existing BMPs in the District and better direct where BMPs are installed rather than letting the installation process be controlled by residents.
1:50-2:10	**Title:** The Next Generation is Here: NG9-1-1 GIS Efforts in Virginia **Presenter:** Matthew J. Gerike, PhD **Organization:** Virginia Geographic Information Network	The first Virginia public safety answering points (PSAPs) are receiving calls delivered via geospatial call routing with NENA i3 NG9-1-1 standards-compliant systems. Virginia's 9-1-1 & Geospatial Services Bureau supports locality PSAP and GIS staff in these efforts. As with most projects of this scale, our initial GIS plans required revision and refinement. This presentation traces the evolution of Virginia's NG9-1-1 GIS program messaging to share our recommendations for other localities and states as they move through their own migrations.
2:10-2:20	Break	
2:20-2:40	**Title:** How New Jersey Disseminates Large Data Files **Presenter:** Brian R. Embley **Organization:** New Jersey Office of GIS	The New Jersey Office of GIS (NJOGIS) is data steward to a catalog of digital aerial photography and elevation data totaling over 9 TB. For years, these large datasets were available to anyone that asked via physical media such as portable hard drives and flash drives. Since the arrival of the COVID19 pandemic, the entire catalog has been moved into cloud storage and made available for public download leveraging ArcGIS technology and Amazon Web Services' Public Dataset Program. We will cover the technical aspects of this solution as well as the business impacts.
2:40-3:00	**Title:** How the City of Philadelphia Leverage GIS, Imagery and Data to become a Smart(er) City **Presenter:** Brian Ivey **Organization:** City of Philadelphia	GIS and geospatial technology and data have been a part of the City's business process since 1995. Nearly all municipal data has a location component. I will walk you through how the City has leveraged GIS, imagery and data to evolve into a Smart(er) City while grappling with governance, data sharing, data integration, and application development. Will finish with how current enterprise solutions and services put the City in better position to deal with the effects of the pandemic.
3:00-3:20	**Title:** GIS Application in Baltimore City Transit Equity Analysis **Presenter:** Nick Walls AICP, GISP, Hannah Davis **Organization:** Wallace Montgomery and Associates	This presentation will discuss the methods Wallace Montgomery and Associates used to assist the City of Baltimore in identifying transit service gaps through a lens of social equity. Specifically, this presentation will detail the application of Esri's geospatial tools that helped drive this analysis; that facilitated the communication of key data points to internal workgroups and the general public; and that allowed our team to generate the data needed to improve Baltimore's transit investment patterns.
3:20-3:40	**Title:** Operational Range Assessments using LiDAR, ESRI 3D Analyst and ArcGIS Collector **Presenter:** Katie Wheatley, GISP **Organization:** EA Engineering, Science and Technology, Inc., PBC	Using multi-year high-resolution LiDAR data, we are able to model and compare physical changes over time to the impact berm structures found at active firing ranges and complexes. The model results are then used to create systematic sampling grids referenced by field personnel to field screen for detected munition constituents utilizing x-ray fluorescence in surface and subsurface soils. Field personnel use ArcGIS Collector to capture and submit the data of the soil samples collected in the field. Sample results are overlayed onto the sampling grids to identify areas with concentrations of munition constituents that exceed applicable human health and ecological screening criteria. This information is then used to determine the extent of necessary remediation to prevent further migration of contamination and eliminate risks to receptors.
3:40-4:00	**Title:** Spatial Modeling of Palustrine Forested Wetland Occurrence Using ArcGIS Pro **Presenter:** Michael P. Strager **Organization:** West Virginia University	The Forest-based Classification and Regression command of ArcGIS Pro was used to map the occurrence of palustrine forested wetlands in West Virginia. The command uses random forest machine learning with training data derived from the US National Wetland Inventory (NWI) data and WV Division of Natural Resources (WVDNR). Topographic variables were created from high resolution digital elevation models (3m) and proved to be effective explanatory variables along with more basic distance variables such as distance to water. This presentation will focus on the process of building the model variables, evaluating variable importance, and overall model performance. The ability to access the random forest machine learning algorithm within the Forest-based Classification and Regression command allows for advanced spatial modeling in an easy to use and access interface.
4:00-4:30	Virtual Hang Outs - people randomly put in breakout rooms to network. Redo every 10 minutes.	