Central Pennsylvania GIS Day 2023

| November 15th, 2023 |

[Conference Website](#)

Exhibitors (Common Area on 11th Floor)

9:00am – 3:00pm

· AlphaRTK

· Commonwealth of PA Bureau of Geospatial Services

· Esri

· GeoDecisions

· Harrisburg University

· LAYERMARK

· PA Drone Association

· Pennsylvania Game Commission

· Pennsylvania Spatial Data Access

Morning Schedule

(Accessible on Airmeet)

9:00am – 10:15am *(11th Floor, Room 1151)*

Welcoming Remarks

Mike Bialousz, ESRI [*Keynote Address*]

Breakout Sessions – Track 1 *(11th Floor, Room 1151)*	**Breakout Sessions – Track 2** *(13th Floor, Room 1305)*
10:30am – 11:10am	10:30am – 11:10am
· Introduction to Imagery	· Geospatial Gestalt: Building Next Generation 9-1-1 in Pennsylvania with GIS
11:15am – 11:35am	11:15am – 11:35am
· Address Point Roadmap	· LionVu: A Data-Driven Geographical Web-GIS Tool for Community Health and Decision-Making in a Catchment Area
11:40am – 12:00pm	11:40am – 12:00pm
· On Demand, Custom, Topographic Maps from the USGS with topoBuilder	· The Pivotal Processing Power of Python and (Geo)Parquets!

LUNCH 12:00 - 1:00pm

Student Lunch Pickup & Presentation *(12th Floor, Room 1205)*

Breakout Sessions – Track 1 *(11th Floor, Room 1151)*	**Breakout Sessions – Track 2** *(13th Floor, Room 1305)*
1:00pm – 1:20pm	1:00pm – 1:20pm
· PennDOT Videolog - 20th Anniversary	· Integrating Insights: Uniting Data with ArcGIS to Empower the PA Game Commission
1:30pm – 1:50pm	1:30pm – 1:50pm
· How Not to Create a Vector Basemap	· Leveraging GIS in Emergency Situations within the Conservation & Environment Delivery Center (CEDC)
2:00pm – 2:20pm	2:00pm – 2:20pm
· Sharing Travel Experiences Using GIS	· Accounting for Nature - Mapping the Value of Ecosystems Services
2:30pm – 3:10pm	2:30pm – 3:10pm
· Mapping Washingtonia, Greece's First Refugee Settlement	· Creating Maps Online: A Guided Tour of Felt
3:20pm – 3:40pm	
· Drones, GIS, and the Future of Flight	

Keynote Speaker 9:00am – 10:15am

Biography for Mike Bialousz – Central PA GIS Day 2023 Keynote Speaker

Mike Bialousz is a Senior Consultant and Practice Lead for state and local government environment and natural resources customers at Esri. Mike has more than 28 years of experience working in GIS and mapping, including management positions in the private sector and Pennsylvania state government. This included 15 years with the PA Natural Heritage Program, Fish and Boat Commission and the Department of Conservation and Natural Resources where he was centrally involved in many statewide initiatives including the formation and leadership during the beginnings of the PA GeoBoard. All of Mike's experience has involved implementing GIS for natural resources challenges and he also taught GIS at several Pennsylvania colleges and universities for 14 years.

Mike is a graduate of Shippensburg University where he earned his M.S. in Geoenvironmental Studies (while doing command line Arc/Info!) and he has undergraduate degrees in Forest Technology and Geography. In his spare time, Mike enjoys spending time with his family and is an avid angler, hiker, camper, runner and loves watching sports of almost all kinds.

Presentation Abstracts

Geospatial Gestalt: Building Next Generation 9-1-1 in Pennsylvania with GIS
Presenter: Christian Przybylek
Organization: Commonwealth of Pennsylvania
Time: 10:30am – 11:10am (EST) [13th Floor, Room 1305]
Abstract: Pennsylvania is in the middle of the largest upgrade to its 9-1-1 system in over 30 years, replacing outdated legacy 9-1-1 call routing technology with an Internet Protocol (IP) based Next Generation 9-1-1 (NG911) system.

NG911 relies on GIS data to support more accurate and efficient caller location validation and routing of 911 calls than the legacy system it is replacing. In Pennsylvania, county built and maintained GIS datasets provide the backbone for NG911 call delivery. These datasets must meet a rigorous set of quality control standards to be considered NG911-ready. Through collaboration, PEMA and its county partners have been successfully deploying GIS-based (geospatial) call routing for all counties that have migrated to date, making the Commonwealth one of the first states to include geospatial call routing as part of its initial deployment of NG911 service. Currently, 42 counties are served by NG911, with the remainder expected to be fully migrated by August 2024.
In this session, you will learn about the critical role that county-authored GIS data is playing in Pennsylvania's NG911 system and how it is being leveraged to save lives and property. You will hear about how PEMA collaborated with its county government partners to develop resources and prepare for the statewide migration.

Introduction to Imagery

Presenter: Jacqueline Nova
Organization: ESRI
Time: 10:30am – 11:10am (EST) [11th Floor, Room 1151]

Abstract: This session will provide an overview of the powerful desktop, enterprise, and SaaS solutions for managing, mapping, analyzing, visualizing, and sharing your imagery in ArcGIS. Learn how ArcGIS is designed to work with all kinds of imagery and raster data, including satellite, aerial, and drone imagery. Find out about the latest developments in cloud-based image management, advanced image analysis, precision mapping, image exploitation, and more.

LionVu: A Data-Driven Geographical Web-GIS Tool for Community Health and Decision-Making in a Catchment Area

Presenter: Nathaniel Geyer
Organization: Penn State College of Medicine
Time: 11:15am – 11:35am (EST) [13th Floor, Room 1305]

Abstract: In 2018, the Penn State Cancer Institute developed LionVu, a web mapping tool to educate and inform community health professionals about the cancer burden in Pennsylvania and its catchment area of 28 counties in central Pennsylvania. LionVu, redesigned in 2023, uses several open-source JavaScript libraries (i.e., Leaflet, jQuery, Chroma, Geostats, DataTables, and ApexChart) to allow public health researchers the ability to map, download, and chart 21 publicly available datasets for clinical, educational, and epidemiological audiences. County and census tract data used in choropleth maps were all downloaded from the sources website and linked to Pennsylvania and catchment area county and census tract geographies, using a QGIS plugin and Leaflet JavaScript. Two LionVu demonstrations are presented, and 10 other public health related web-GIS applications are reviewed. LionVu fills a role in the public health community by allowing clinical, educational, and epidemiological audiences the ability to visualize and utilize health data at various levels of aggregation and geographical scales (i.e., county, or census tracts). Also, LionVu is a novel application that can translate and can be used, for mapping and graphing purposes. A dialog to demonstrate the potential value of web-based GIS to a wider audience, in the public health research community, is needed.

Address Point Roadmap

Presenter: Justin Smith
Organization: Cumberland County GIS
Time: 11:15am – 11:35am (EST) [11th Floor, Room 1151]

Abstract: Site Structure Address Points (SSAP) is a GIS layer required for Next Generation 9-1-1 (NG9-1-1) system functionality. SSAP has a two-stage approach to data stewardship, county data maintenance and state aggregation. This roadmap will outline the current state of Pennsylvania SSAP and how lessons learned can be leveraged to support greater use of SSAP.

The Pivotal Processing Power of Python and (Geo)Parquets!

Presenter: Kyle Snyder
Organization: Pennsylvania Broadband Development Authority
Time: 11:40am – 12:00pm (EST) [13th Floor, Room 1305]

Abstract: Python is taking a bigger role in spatial data analysis, and you can continue to further optimize the speed and processing times by using GeoParquet files. This talk will show examples of how to optimize your workflow with the use of GeoParquet files.

On Demand, Custom, Topographic Maps from the USGS with topoBuilder

Presenter: Eliza Gross
Organization: USGS
Time: 11:40am – 12:00pm (EST) [11th Floor, Room 1151]
Abstract: The U.S. Geological Survey (USGS) National Geospatial Program has released the topoBuilder application. This application allows users to create custom topographic maps on demand using the best available data derived from the geographic information system (GIS) data of The National Map. In topoBuilder, users can generate USGS topographic maps, called OnDemand Topo, centered anywhere in the United States or Territories, with customized contour smoothing, and GIS-friendly export formats (GeoTIFF or GeospatialPDF). TopoBuilder, its capabilities, and OnDemand Topo maps will be demonstrated.

Integrating Insights: Uniting Data with ArcGIS to Empower the PA Game Commission

Presenter: Eric Castonguay
Organization: Pennsylvania Game Commission
Time: 1:00pm – 1:20pm (EST) [13th Floor, Room 1305]
Abstract: Join us as we delve into the innovative techniques used by the Pennsylvania Game Commission to harness the power of ArcGIS Insights. Our presentation will showcase how this cutting-edge platform seamlessly integrates data from disparate sources, enabling us to gain comprehensive insights into wildlife conservation, habitat management, and population dynamics. Discover how we transform raw data into actionable intelligence, fostering a more efficient and informed decision-making process for the preservation of our state's natural resources. Let's explore the future of data-driven conservation together!

PennDOT Videolog - 20th Anniversary

Presenter: Jeffrey Fennimore
Organization: PA Office of Administration
Time: 1:00pm – 1:20pm (EST) [11th Floor, Room 1151]
Abstract: This year marks the 20th Anniversary of the PennDOT Videolog application. VideoLogging is a term PennDOT uses to describe its automated collection of pavement conditions and roadway imagery. Images used in the VideoLog Application are collected as part of PennDOTs pavement survey. PennDOT and its many business partners, including local governments, regional planning organizations, planning and engineering consultants, and utility companies use the VideoLog Application to improve communications and reduce travel costs. Let's take a closer look at the application's 20 year history and demonstrate its current features and ease of use.

Leveraging GIS in Emergency Situations within the Conservation & Environment Delivery Center (CEDC)

Presenter: Kevin Eaton
Organization: PA Office of Administration
Time: 1:30pm – 1:50pm (EST) [13th Floor, Room 1305]
Abstract: This presentation will demonstrate several applications that were stood up to help manage and assist Commonwealth staff and agency partners make critical decisions during emergency situations. Examples will be shown from the PA Department of Environmental Protection, and PA Department of Agriculture. Also a behind the scenes look will be provided of the newest CEDC GIS Framework based interactive mapping application - the Geographic Environmental Emergency Response (GEER) app.

How Not to Create a Vector Basemap

Presenter: Patrick Kielty
Organization: PA Office of Administration
Time: 1:30pm – 1:50pm (EST) [11th Floor, Room 1151]
Abstract: PennDOT has learned valuable lessons in creating a vector tile cache basemap. This presentation will guide you through the process, with the goal of helping you avoid the mistakes we made. From preparing your data to styling your map, we will show you how to save time, minimize delays, and streamline updates. By sharing our errors, omissions, and oversights, we hope to ensure your experience is better than ours. We will demonstrate how we used ArcGIS Pro, JSON, and the Vector Style Editor to correctly publish our basemap.

Accounting for Nature - Mapping the Value of Ecosystems Services

Presenter: Tom West, AICP
Organization: Greener Planning LLC
Time: 2:00pm – 2:20pm (EST) [13th Floor, Room 1305]
Abstract: Overview of GIS processes (modelling, mapping, outreach) used for Return on Environment (ROE) projects completed for Kittatinny Ridge Conservation Landscape communities. The use of ROE findings, which translate the value of services provided by nature, has been gaining traction with many communities since the information highlight the need and strategies to help maintain a healthy environment that supports a stronger, durable economy.

Sharing Travel Experiences Using GIS

Presenter: Joel Rogers
Organization: Harrisburg University/PA DEP
Time: 2:00pm – 2:20pm (EST) [11th Floor, Room 1151]
Abstract: It is difficult to describe places you visit to family and friends in a meaningful way. Pictures don't often convey the scope of the places you travel to, and paper maps of the world on a coffee table are not detailed enough. Enter the power of GIS to share geography and photos of those places. Using a GPS receiver, desktop GIS software, and Esri Storymaps a more complete idea of what was encountered during the exploration can be conveyed. I will demonstrate the method I have been using for the last several years of capturing my travels around the globe and sharing my stories with others using these technologies.

Creating Maps Online: A Guided Tour of Felt

Presenter: Patrick McKinney
Organization: Pennsylvania Department of Health
Time: 2:30pm – 3:10pm (EST) [13th Floor, Room 1305]
Abstract: Felt is an online platform that allows you to create maps in a web browser. It has easy to use tools to add text and shapes to your map. You can also add data from the web, or upload data. Maps created in Felt can downloaded as a pdf or image file. This session will provide a guided a tour of Felt. We will learn the basics of the platform by creating a map.

Mapping Washingtonia, Greece's First Refugee Settlement

Presenter: Albert Sarvis*, David Pettegrew+, Kostis Kourelis^, Alex Shehigian+, Brooke Rhodes*, and Keli Ganey+
Organization: Harrisburg University*, Messiah University+, Franklin & Marshall College^
Time: 2:30pm – 3:10pm (EST) [11th Floor, Room 1151]
Abstract: In this session, faculty and students from Harrisburg University of Science and Technology and Messiah University will discuss the recent discovery and mapping of "Washingtonia," Greece's first known refugee colony dating to 1829. Founded by the famous American physician and philanthropist, Samuel Gridley Howe, in partnership with the governor of Greece, the colony marked a significant humanitarian effort to support the victims uprooted through war. We will highlight the geospatial technologies and layers that made the discovery possible, including collating 19th century maps, World War II aerial photographs, and high-resolution drone survey through ESRI's Field Map app. Students will showcase a multimedia Story Map they are creating that will provide a public spatial history of the site. The session will underscore the value of undertaking an array of geospatial approaches to mapping the environmental and historical past.

Drones, GIS, and the Future of Flight

Presenter: Steve Kocsis*, David Heath+, Dr. John Benhart^
Organization: Cambria County*, Pennsylvania Drone Association+, Indiana University of Pennsylvania^
Time: 3:20pm – 3:40pm (EST) [11th Floor, Room 1151]
Abstract: As the Drone Advocate for Pennsylvania, the PA Drone Association is uniquely positioned to bridge a variety of public and private stake holders together. With drones becoming an invaluable tool to GIS, GIS is proving to be just as valuable towards advanced aviation and the integration of the National Air Space. Learn how Cambria County is supporting a collaborative regional effort using GIS as a building block for emergency response drone operations and more.