

PENNSYLVANIA DATA ACCESS  
**PASDA ANNUAL REPORT**  
**2023-2024**





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## Background

Pennsylvania Spatial Data Access ([PASDA—https://www.pasda.psu.edu](https://www.pasda.psu.edu)), the official public geospatial data clearinghouse for the Commonwealth of Pennsylvania marked its 29th year in 2024. PASDA, which has grown from a small website offering 35 data sets in 1995 to the expansive user-centered open data portal that it is today, has become a staple of the GIS community in Pennsylvania.

PASDA is a cooperative project of the Governor's Office of Administration, Office for Information Technology, and Penn State Institutes of Energy and the Environment of the Pennsylvania State University. Funding and support is provided by the Pennsylvania Office for Information Technology. Penn State provides significant contributions to PASDA including system administration support and infrastructure from the Institute for Computational and Data Sciences (ICDS) and the College of Earth and Mineral Sciences.

PASDA was developed as a service to the citizens of the Commonwealth of Pennsylvania. The purpose of PASDA is to serve as the Commonwealth's comprehensive and coordinated open geospatial data portal that provides free public access to geospatial data and information by, for, and about the Commonwealth of Pennsylvania.



PASDA provides access to credible and authoritative source data. Maintaining PASDA as a coordinated and comprehensive open data portal eliminates the creation of data silos that can frustrate and complicate public access to data.

One of the primary purposes of PASDA is to facilitate data sharing in a streamlined environment, making the process fast and easy for data sharing stakeholders. Any state, local, or federal government, non-governmental agency, or academic institution can freely share its geospatial data through PASDA.

Data on PASDA is indexed by search engines such as Google to ensure wide dissemination and broad impact. In addition, the metadata may be harvested via a web accessible folder (WAF) for integration into other search engines/repositories. PASDA is currently integrated with the US data repository Data.gov, esri's AGOL, and the Big 10 Alliance Geoportal. PASDA staff collaborate with individuals and organizations at the national level to ensure that it meets standards for metadata and data delivery. PASDA creates an archival copy of all data which is stored in long term archival storage via ICDS that will ensure that access to the data in perpetuity. Users come from a broad spectrum of organizations and backgrounds, from teachers and citizens to businesses and government agencies.

PASDA provides free access to data, applications, and customization tools to meet the needs of every user.

## **PASDA Staff**

The PASDA project has 2.7 FTE. Our staff members are:

- Maurie Kelly, Director
- Ryan Baxter, Information Technology Coordinator
- James Spayd, Database Systems and Data Specialist
- Scott Dane, Data Manager

## **PASDA Services**

PASDA provides a number of key services and support to the Commonwealth and the GIS community and Pennsylvania Stakeholders:

- Data Storage
- Data Management
- Metadata Development
- Metadata Training
- GDAL Data Harvester

# The keystones of PASDA

The success of PASDA is based on a long-term vision that incorporates the ideas of free access to data, outreach, and community service. The keystones in the success of the program are:

- **Collaboration**—PASDA understands that collaboration among the geospatial community benefits everyone in the Commonwealth. Collaboration saves money, time, and makes the most of the limited resources of data providers.
- **Cooperation**—PASDA cooperates with all levels of government, non-profits, academia, business, and citizens to support the geospatial data infrastructure and access to data.
- **Innovation**—PASDA continues to be the leader in geospatial data portal operations and services.
- **Continuity**—PASDA works with data providers to ensure continuity of data access and storage.
- **Active Engagement**—PASDA engages the geospatial community to foster understanding and data sharing.
- **Efficiency**—PASDA's streamlined processes make data sharing fast and easy for our partners.
- **Free Access**—PASDA provides data storage, data access and retrieval, and metadata services free of charge.

PASDA will continue to provide free storage of geospatial data, as well as build partnerships that enhance ease of access and benefit the data provider, and to develop data access resources and innovative tools to enhance the use and benefits of geospatial data for all citizens of the Commonwealth and geospatial community.

The data made available through PASDA is provided by our data partners to encourage the widespread sharing of geospatial data, eliminate the creation of redundant data sets, and to further build an inventory (through the development and hosting of metadata) of available data relevant to the Commonwealth.

PASDA serves as a resource for locating data throughout the Commonwealth through its data storage, interactive mapping applications, and metadata/documentation efforts.

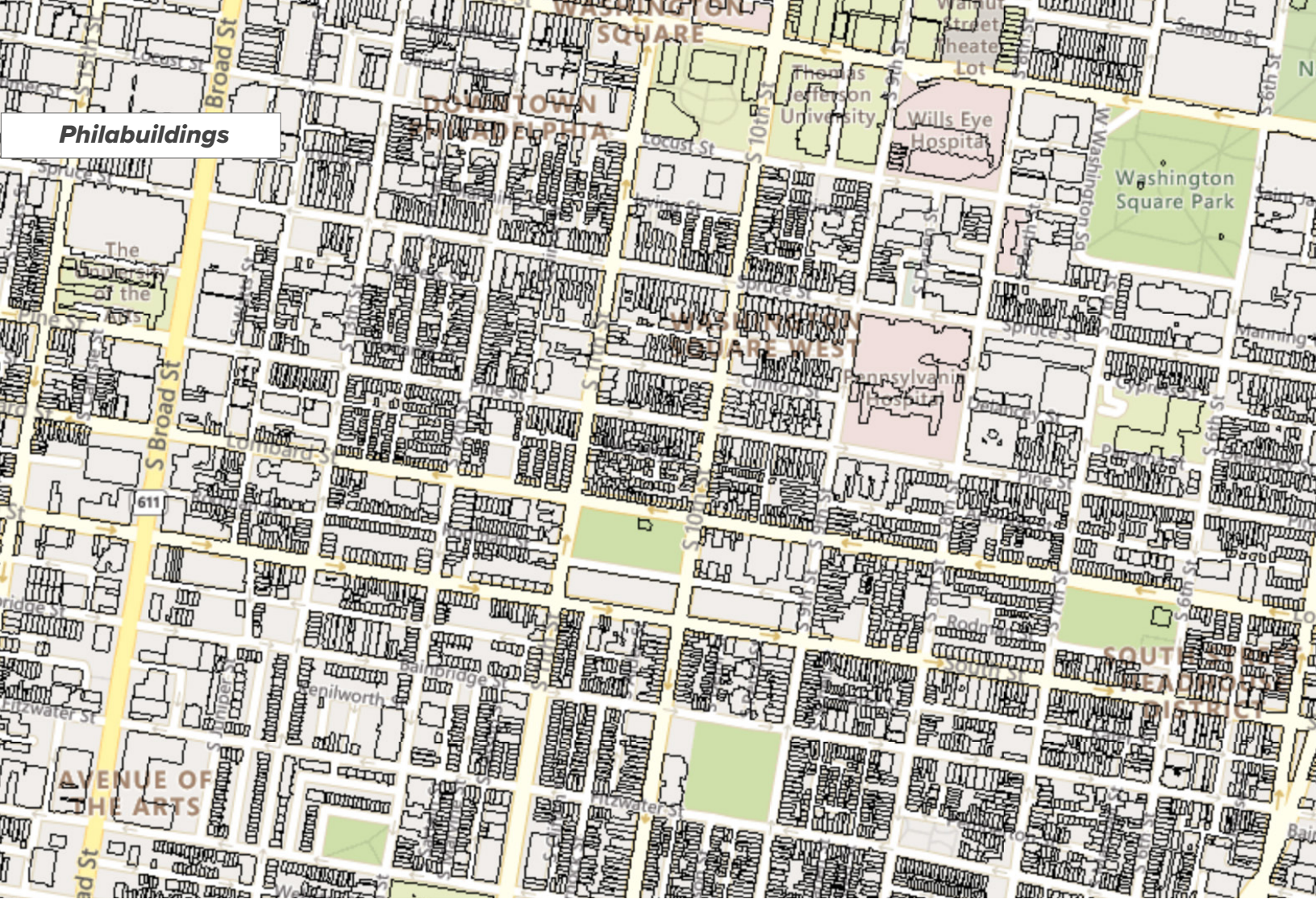
- Portal to Portal Connector
- Data Search and Retrieval
- Data Download (in multiple formats)
- Map Services/APIs/KMLs/Rest Services
- Data Preservation and Archiving
- Online Mapping Apps
- Data Previewer
- PA Imagery Navigator
- PA Atlas
- PA Mine Map Atlas
- PA Lidar Navigator
- PennPilot
- PA Flood Risk Assessment Tool
- User Support
- PEMA Imagery project
- Offline Data Access
- Integration with Additional Resources such as Data.gov, esri, and other national/international platforms.
- Participation on the PA GeoBoard, Services Delivery Task Force, Governance Task Force, Elevation Working Group, PA GIS Day Committee, PA GIS Conference

## PASDA FY 2023/2024 Activities

### Staff

A major change occurred this year with the retirement of a long-time employee, Scott Dane. Scott's position focused on imagery and lidar and responding to user requests. In the last few months, Scott created documentation of his processes and procedures and created lists of data, contacts, and actions so that we would be able to move forward.





## Philabuildings

We also focused on training for staff. The most important being that James Spayd was able to attend esri's Experience Builder training via support from Penn State.

## PEMA Imagery

The PEMA Statewide Aerial Imagery Program continued throughout 2023/2024.

Data received: Allegheny, Beaver, Cambria, Forest, Greene, Lawrence, Mercer, Warren, Washington.

In addition, we received flightline data which is often requested.

Acquired data was added to PASDA and counties/areas added to the cached mosaic service.

Deliveries were made to each county as follows:

- Tiles (in Metric and Survey Feet) in the following formats:
  - GeoTIFF
  - MrSID
  - JPEG2000
- County Mosaics (in Metric and Survey Feet) in the following formats:
  - MrSID
  - ECW
- FGDC-compliant XML Metadata for all imagery products



- Tile Layout shapefiles for the North and South Pennsylvania State Plane zones
- Flightlines shapefile for collection of 2022-2023 PEMA imagery data

Several issues were identified by PASDA staff including:

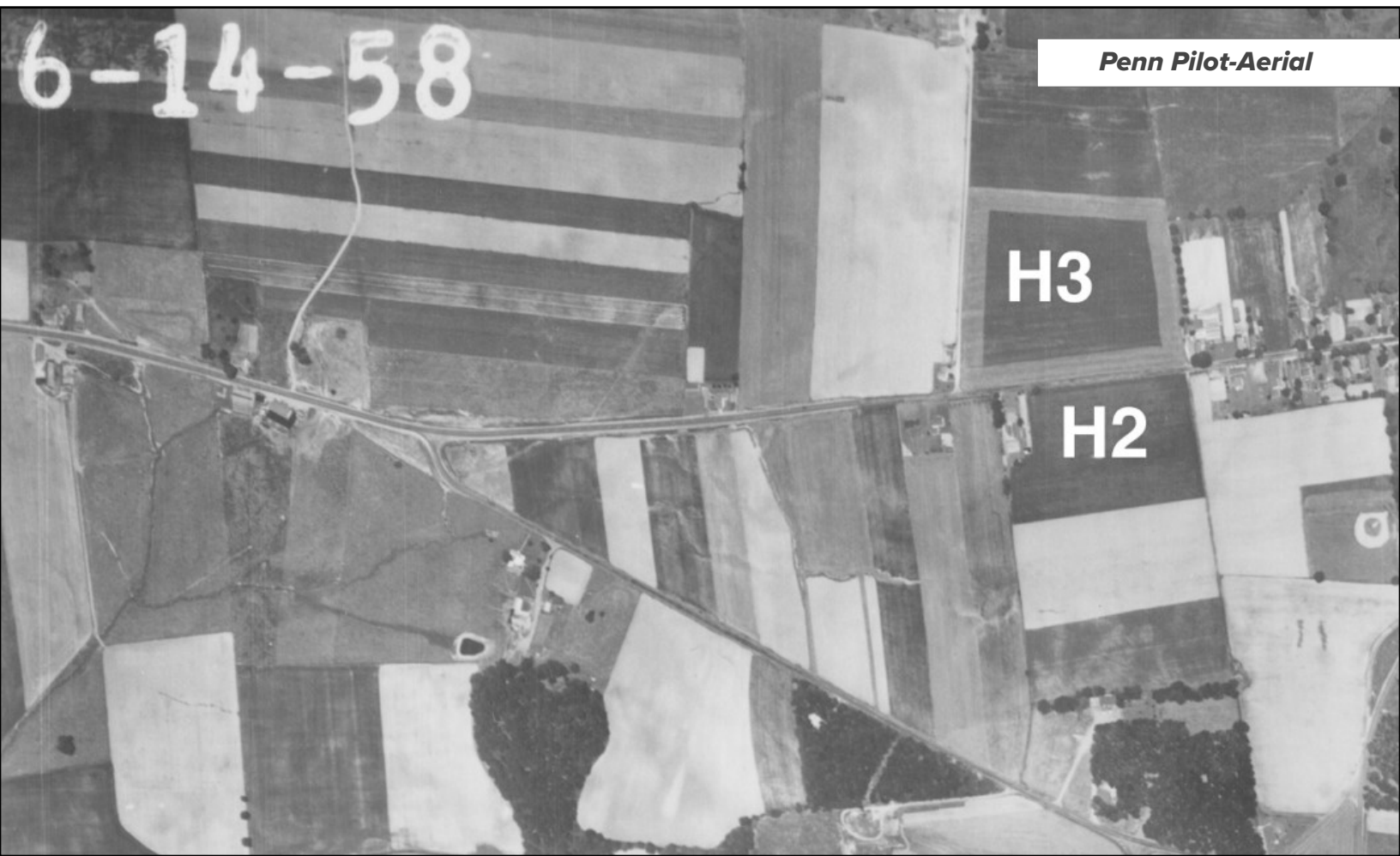
- Warren County: Metadata not included in initial delivery. Also needed to acquire new flightline shapefile for PEMA imagery collection of the Western and Central sectors that spanned from 2/27/2022 to 4/13/2022 as area was outside of initial planned area.
- Beaver County: There were 142 tiles delivered for Beaver County instead of 221 as listed on delivery sheet.

All issues were communicated to NV5 and addressed within 24 hours.

PASDA returned 17 external hard drives to NV5.

## PASDA Stats

In the past year, over 2.5 million files were downloaded from the PASDA site; while usage on the entire site was over 550 million hits from almost 10.4 million visitors. The PASDA Internet Map Services and applications were accessed over 206 million times. The Pennsylvania Imagery Navigator, an application used for viewing and downloading aerial photography, topographic data, DEMs, and LIDAR was accessed almost 12.4 million times in FY 2023/2024. The Pennsylvania Mine Map Atlas service which is an



application that provides users with both viewing and downloading capabilities for 100,000 underground mine maps was accessed almost 5 million times.

The statistics this year show an increasing use of data and map services and a dramatic increase in the use of long-time data providers. The statewide imagery cached serviced was hit over 69 million times. The DEP map services over 7 million views, PennDOT map services almost 46 million views, the PA Game Commission received over 5.5 million hits and the PA Fish and Boat Commission with almost 11 million views.

## **PASDA GDAL/OGR Data Harvester**

Geospatial Data Abstraction Library (GDAL) is a translator library for raster and vector geospatial data formats that was developed by MIT and is an open-source data harvesting/image abstraction library of programs. GDAL works on both raster and vector data types. It allows PASDA to send out a request to a partner's data site and retrieve specific data. This data is then pulled into PASDA and made available to the public.

PASDA has developed a partnership with Cambria County to pull its data via the Data Harvester. Currently recruiting other partners for this initiative.

## **PA Basemap/3D PA**

PASDA has continued to work on the PA Basemap 2030 initiative and has

## **PASDA Stats Snapshot**

**PASDA Total Site Hits: 551,404,602**

**Total Site Users: 10,426,203**

**PASDA Downloads: 2,508,091**

**Map Service Requests: 200,623,341**

**PA Imagery Navigator: 12,303,833**

**Penn Pilot/Historic Imagery: 14,390,643**

**PA LiDAR Navigator: 1,737,002**

**PA Mine Map Atlas: 4,758,487**

**PA Flood Risk Assessment**

**Tool: 2,215,522**

**All Imagery Related**

**Services: 99,286,378**

Most accessed state data services:

1. PennDOT: 45,819,741

2. PA Fish and Boat

Commission: 11,418,895

3. PA DEP: 7,229,590

4. PA Game Commission: 5,516,551

Most accessed county data:

**Allegheny County: 3,063,547**

Most accessed NGO:

**WeConservePA: 10,697,853**

made significant progress toward implementing 3D data and services to support overall goals for the basemap.

Penn State has supported this effort by purchasing Skyline software for PASDA. The purchase (which cost over \$15K) includes:

- Skyline LGA Bundle:
  - TerraBuilder
  - PhotoMesh
  - TerraExplorer Pro
  - TerraExplorer Plus
  - SkylineGlobe Server

In addition, as part of the Services Delivery Task Force, PASDA drafted the special report on 3D PA based on input from other board members and the Basemap 2030/3D PA working group results. This report will be published in August 2024.

## PA GeoBoard

PASDA continued to be an active member of the PA GeoBoard in 2023/2023. PASDA once again supported the development of the Annual Report of the GeoBoard by contributing both content and design support. PASDA staff also served as members of all of the task forces and several of the working groups and subcommittees including: Governance Task Force, Data Task Force, Services Delivery Task Force, and Elevation Working Group.

PASDA facilitated the publication of the PA GeoBoard Strategic Plan and Annual Report.

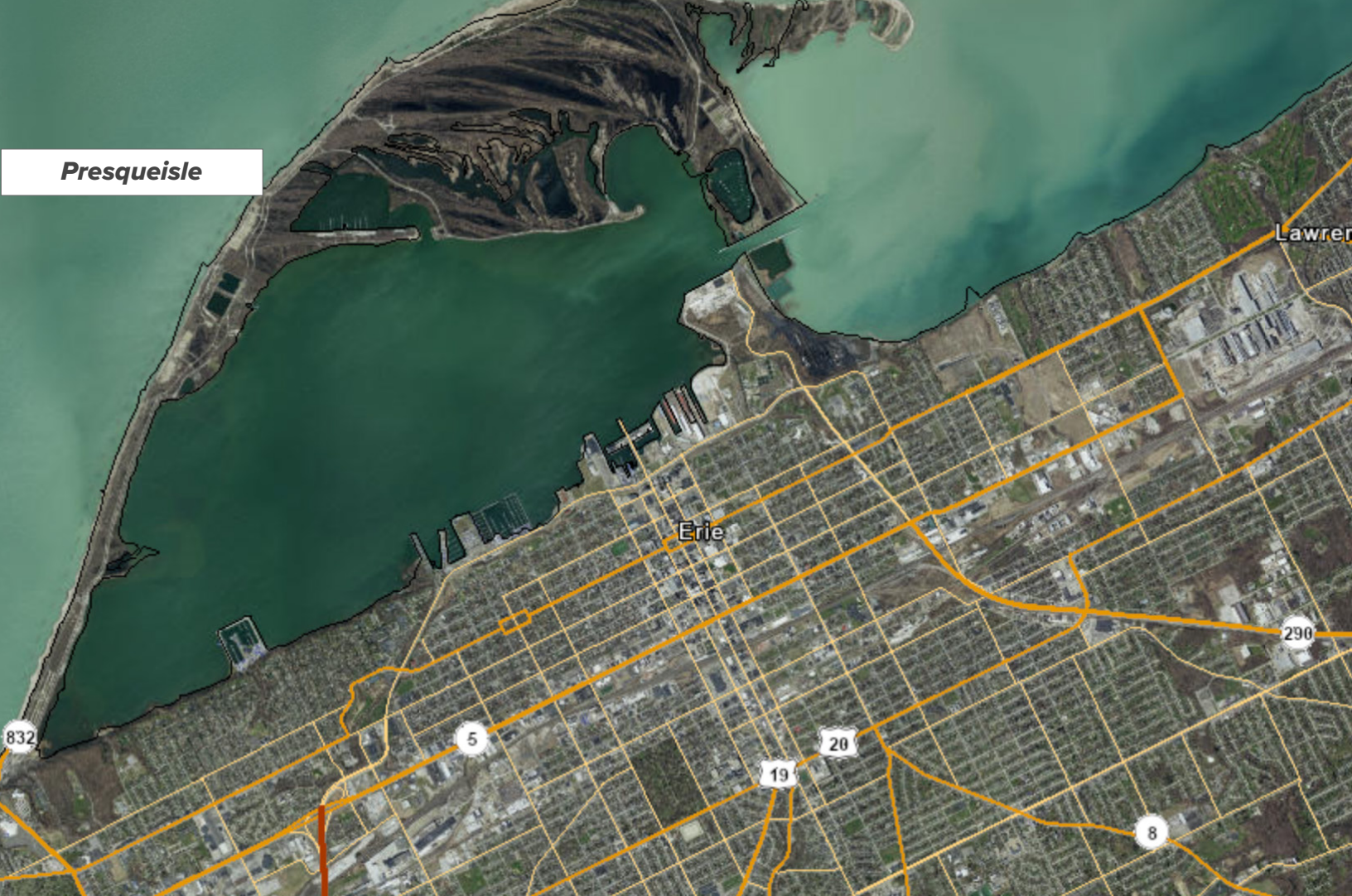
PASDA also hosted and presented for the Let's Talk Metadata online seminar with almost 40 attendees. PASDA also organized and hosted the Let's Talk Metadata 2 online seminar with almost 70 attendees and presentations from the State GIS Coordinator, PennDOT, PA Game Commission, and esri.

As part of Services Task Force, worked with chair to reach out to remaining counties that have signed but have not shared data including Potter County, Tioga County, Schuylkill County.

## Outreach & Meetings

- Weekly Geospatial Services status meetings
- Weekly PASDA staff meetings
- Monthly meetings with system administration staff including ICDS and EMS computing
- Member, PA GIS Day Committee
- Member, PA GIS Conference Committee
- Member, Keystone GIS Education Committee
- Member, PA View Executive Committee
- Exhibited at PA GIS Day
- Presented and exhibited at NW PA GIS Conference
- Moderated a session for





## Presqueisle

- PA GIS Conference
- Exhibited at PA GIS Conference
- Presented at PA Flood Plain Managers Annual Conference
- Presented at PA NENA Conference
- Participated in PA Geospatial Coordinating Board meetings
- Participated in GeoBoard Governance Task Force
- Participated in GeoBoard Services Delivery Task Force
- Participated in GeoBoard Elevation Working Group Meetings
- Participated in GeoBoard Parcel Working Group Meeting
- Participated in GeoBoard joint task force meetings
- Participated in PEMA State Hazard Mitigation Plan Update Meetings
- Participated in Services Task Force meetings with county data sharing agreement partners.
- Meetings with Susquehanna River Basin Commission about reach data
- Meeting with PA Civil Air Patrol
- Facilitated Services Task Force PA Basemap 2030/3D PA working group meetings, survey, sessions with Center for Immersive Experience
- Participated in EPA Region 3 climate workshop
- Sent State Lidar and Imagery Survey to more than 70 people



# Architecture Updates and Data Acquisitions

## Architecture and Systems Updates

- Penn State purchased a new Dell PowerVault 1400 server to support map services.
- The PA Imagery Navigator code was rewritten to facilitate the addition of new years/collections of imagery.

## Data Sharing/Acquisitions

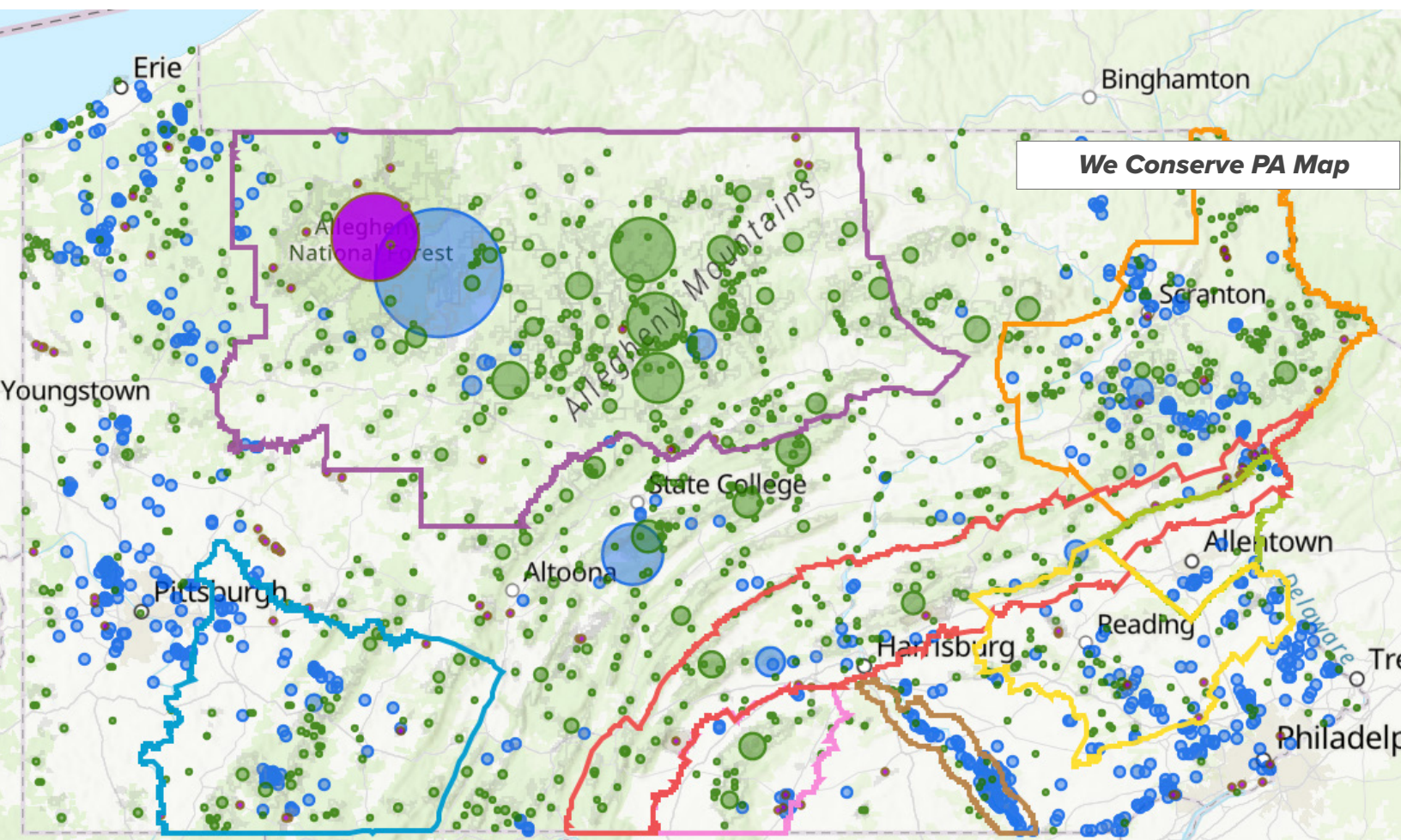
2023/2024 was a busy data sharing year. In addition to the PEMA imagery and county data sharing initiative, many new and updated data sets came in. These included:

## State Agencies

- PA DEP
- PA State Police
- PA Fish and Boat Commission
- PA Game Commission
- PA DEP Bureau of Mining Mine Maps
- PennDOT
- PA Geologic Survey
- PA DCNR
- PA Department of Health
- PA DMVA
- PEMA

## Counties & Regional Governments

- Allegheny county
- Erie County
- Butler County



- Adams County
- Franklin County
- Dauphin County
- Lancaster County
- Chester County
- Cumberland County
- Fulton County
- Crawford County
- Wyoming County
- Luzerne County
- Perry County
- Somerset County
- Carbon County
- Lycoming County
- Bucks County
- Bradford County
- Delaware Valley Regional Planning Commission
- SEPTA
- York County
- Washington County
- Mifflin County
- Centre County
- Blair County
- Bedford County
- Union County
- Snyder County
- Mercer County
- Huntingdon County
- Montgomery County
- Cambria County
- City of Philadelphia
- Venango County
- Susquehanna River Basin Commission

## NGOs, Academic

- Kittatinny Ridge Project
- Eastern PA Coalition for

Abandoned Mine Reclamation

- WeConserve PA
- PA Sea Grant
- Penn State University OPP
- Natural Lands Trust
- MRLC data (Urban Imperviousness, Tree Canopy Cover, Land Cover)

## Federal Agencies

- Army Corps of Engineers: Allegheny Bathymetry Lidar
- USDA Soils
- USGS 2023 GeoPDF data (883 quads) for PA (GeoPDF, GeoTIF, GeoKMZ, JPG)
- FEMA Depth Grids Schuylkill River Watershed related to Hurricane Ida:
  - Depth\_grid\_Chaddsford.zip (185 KB)
  - Depth\_grid\_Downingtown.zip (387 KB)
  - Depth\_grid\_Modena.zip (19 KB)
  - Depth\_grid\_Norristown.zip (677 KB)
  - Depth\_grid\_Perkiomen.zip (277 KB)
  - FF\_FrequencyAnalysis.zip (136 KB)
  - Flood\_Freq.xlsx (54 KB)
  - Flood\_Freq\_DD.xlsx (12 KB)
  - FloodExtent\_ChaddsFord.zip (9 KB)
  - FloodExtent\_Downingtown.zip (12 KB)
  - FloodExtent\_Modena.zip (4 KB)
  - FloodExtent\_Norristown.zip (12 KB)
  - FloodExtent\_Perkiomen.zip (11 KB)
  - Metadata-Ida\_flood\_products\_PA.xml (22 KB)
  - Sept2021\_HWMS.xlsx (36 KB)
  - Sept2021\_HWMS\_DD.xlsx (96 KB)
- USGS Flood Data for PA: Site Selection Data for the Development



- of a Rapid Deployment Network
- Chesapeake Bay Program Land Use/Land Cover data
- Chesapeake Bay Program 25 Year Flood Percent Change
- Chesapeake Bay Program Agriculture Most Effective Basins:
  - Agriculture\_Most\_Effective\_Basins\_2020.csv (10 KB)
  - Agriculture\_Most\_Effective\_Basins\_2020.geojson (4,789 KB)
  - Agriculture\_Most\_Effective\_Basins\_2020.kml (3,773 KB)
  - Agriculture\_Most\_Effective\_Basins\_2020.zip (1,152 KB)

## User Support & Assistance

### Special Requests

From Northampton County EMA: Needed Northampton and Lehigh County data, imagery, lidar. They dispatch for City of Bethlehem.

Created Contour service for PA. PAMAP ancillary data (data collection blocks, photo centers, checkpoints, flightlines) includes data for PAMAP imagery 2005-2008, and lidar 2006-2008. I also produced a set of jpeg maps captured from ArcGIS Pro.

Beaver County: Requested imagery for county.

### Direct User Assistance

It is often not possible to identify the organization from which assistance is requested (for example, if a user emails

us with a @gmail.com account). The following list is examples of those organizations we were able to identify. For most organizations listed, there were multiple contacts throughout the year.

### Assistance provided to the Following (some examples):

Erie County, PA DEP, PA Dept of Military and Veterans Affairs, Stiffler, McGraw, & Associates, PennDOT, Schuylkill Township, Bradford Township, Franklin County, Bedford County, PA Elevation Working Group, Northampton County Emergency Management Services, Greener Planning LLC, Kittatinny Ridge ROE Project, Lehigh County, Mining and Environmental Engineers, Wood & Mackenzie, Cambria County, Bradford County, PA DEP Office of Oil and Gas Management, Older PA Residents Outdoors Project, Philadelphia Inquirer, Delaware Valley Regional Planning Commission, Eustace Engineers, Core Logic, Department of Environmental Protection Moshannon Office - District Mining Operations, Symmetry Software, EPCAMR, Fazio Consulting LLC, Kelly Engineers, Peters Consultants, Michael Baker International, Blue Bison Energy, Christine Davis Consultants, Fehr Engineering LLC, Chesapeake Conservancy, City of Pittsburgh Department of Innovation and Performance, Western Pennsylvania Conservancy, Allegheny County, NV5, Vintondale Borough, Moshannon Creek Association, Herbert, Rowland, and Gerber, Fugro, Eureka Resources, University of Pittsburgh, Adams County, PA DEP Bureau of Mines, California District

## Pennsylvania Mine Maps



Office, Lycoming County, Cranberry Township, PA Game Commission, PA DEP Bureau of Clean Water, University of Wisconsin-Milwaukee, Victor Wetzel Associates, Franklin County Conservation District, National Weather Service—State College Office, Susquehanna River Basin Commission, Clarion University, Coleman Environmental, The Lexis Group, Hedin Environmental, Book and Proch, Kennedy and Associates LLC, Berks County, PA DEP Abandoned Mine Reclamation Northeast Regional Office, PA State Police Bureau of Criminal Investigation, Blair County, GeoEnvironmental Consulting, GeoDecisions, People's Gas, ASG Inc, Temple University, City of Philadelphia, Advantage Engineering Associates, Mercer County, Lower Macungie

Township, DEP PA Climate Action Plan Program, South Middleton Township, Division of Hematology and Oncology/ School of Medicine UPMC Hillman Cancer Center, United Way of Greater Philadelphia, Clarion County, University of Utah, US Forest Service, Allegheny National Forest, PennWest University, Washington County, Aaron Consulting, PA Fish and Boat Commission, Chester County, Liberty Forest Management, Beaver County Office of Planning and Development, Keystone Precision Solutions, US Army Corps of Engineers (MS), Bowhead Global Systems and Technology, Indiana County, Keyrock Energy, Barwiss Construction LLC, Beaver County, Liberty Forest Management, Harrisburg University, Seibert Landscape

Architects, McClure Company, Sweets Borough NJ, Magill University, Michael Real Estate, PennDOT Engineering District 10, Jaindl Land Company, TomTom, Jefferson County, Clearwater Conservancy, Washington County, PFBC Public Access and Property Services, WeConservePA, Steigerwaldt, Brook and Proch Inc, Integral Corporation, FM Global, Crawford County High School, PFBC Bureau of IT, Mifflin County, Centre County, Black Hill Energy, PA Dept of Health, Delaware River Basin Commission, Survey tech and Associates LLC, Perry County, Lebanon County, Lichty Engineering, Hardesty and Hanover LLC, Jacobs Inc, Delaware County Information Technology Division, US Army Corps of Engineers, Dennis Black Engineering, Method Automation Company, USDA NRCS, North Central Sewage Agency, Lancaster County, Venango County, DOH Health Informatics Office, York County, Adams County, PennWest University, Venango Regional Planning Commission, PA State Police, Lawrence County, Cumberland County, Columbia County, DCNR Bureau of Forestry, EDR Lightbox, IAG Consulting, Terrasurv Inc, Honor Engineer Company, Lehigh Valley Planning Commission, Nature Conservancy, Philadelphia Inquirer, PA One Call, PennDOT Engineering District 2, Delaware Valley Regional Planning Commission, Western Ecosystems Technology Inc, PA Turnpike Commission, PEMA, PEMA NFIP Coordinator, Shoe Ortho Company, Western PA conservancy, Stantec, WTAE TV, Millersville University, Madison Township, Graff

Surveying, Duquesne Light, University of Pennsylvania, The Crossroads Group LLC, Glen Hawbaker Inc, Nave Newell Corp, Mr. Map Group, PA Historic and Museum Commission, Havertown Fire Department, ARC Zone, Envirosite Corporation, SSM Group, TrueMapping, OpenDataPhilly, Earth Engineering Incorporated, University of Delaware, DC Gohn Associates, Pashek & MTR, Colliers Engineering and Design, Borough of Carlisle, Union County, Lawn and Landscaping Plus, Allegheny College, MHE Engineering, West Environmental, Appalachian Mountain Club, Allegheny Professional Services LLC, Navarro and Wright Consulting Engineers, Bucks County Planning Commission, Hershey Medical Center, HERE Technologies, AE Group LLC, Savanis, Kane, and Gallucci, LLC, Kleinfelder Corp, Westmoreland County, Cedarville Engineering Group, esri, Luzerne County 911, Temple University, Township of Hampton, Becker Engineering, Copper Beach Advisors LLC, Lancaster County, Keyrock Energy, US Forest Service, Barwis Construction LLC, Beaver County, Liberty Forest Management, Seibert RLA, Chester County, McClure Corporation, McGill University, Nathan Real Estate, HRG, Harrisburg Area Community College, PennDOT Engineering District 10, Jaindl Land Company, Tioga County, Wiseman and Taylor, SAI Engineering, Federal Aviation Administration, Chesapeake Bay Program, Delaware River Basin Commission, Larson Design, Carbon County.



*Indiana County*







July 1, 2023-June 30, 2024  
Completed by Maurie Caitlin Kelly  
Penn State Institutes of Energy and the Environment  
The Pennsylvania State University  
August 1<sup>st</sup> 2024