PENNSYLVANIA DATA ACCESS

PASDA ANNUAL REPORT
2022-2023

PASDA

Overview of PASDA

Pennsylvania Spatial Data Access (PASDA—pasda.psu.edu), the official public geospatial data clearinghouse for the Commonwealth of Pennsylvania marked its 28th year in 2023. 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.

Philadelphia Center City

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 Users

PASDA was accessed by over 6 million users in FY 21/22. Users come from a broad spectrum of organizations and backgrounds, from teachers and citizens to businesses and government agencies.

PASDA serves a diverse software user community as well and the staff work diligently to provide easy access to data, applications, and customization tools to meet the needs of every user.

PASDA Staff

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

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.
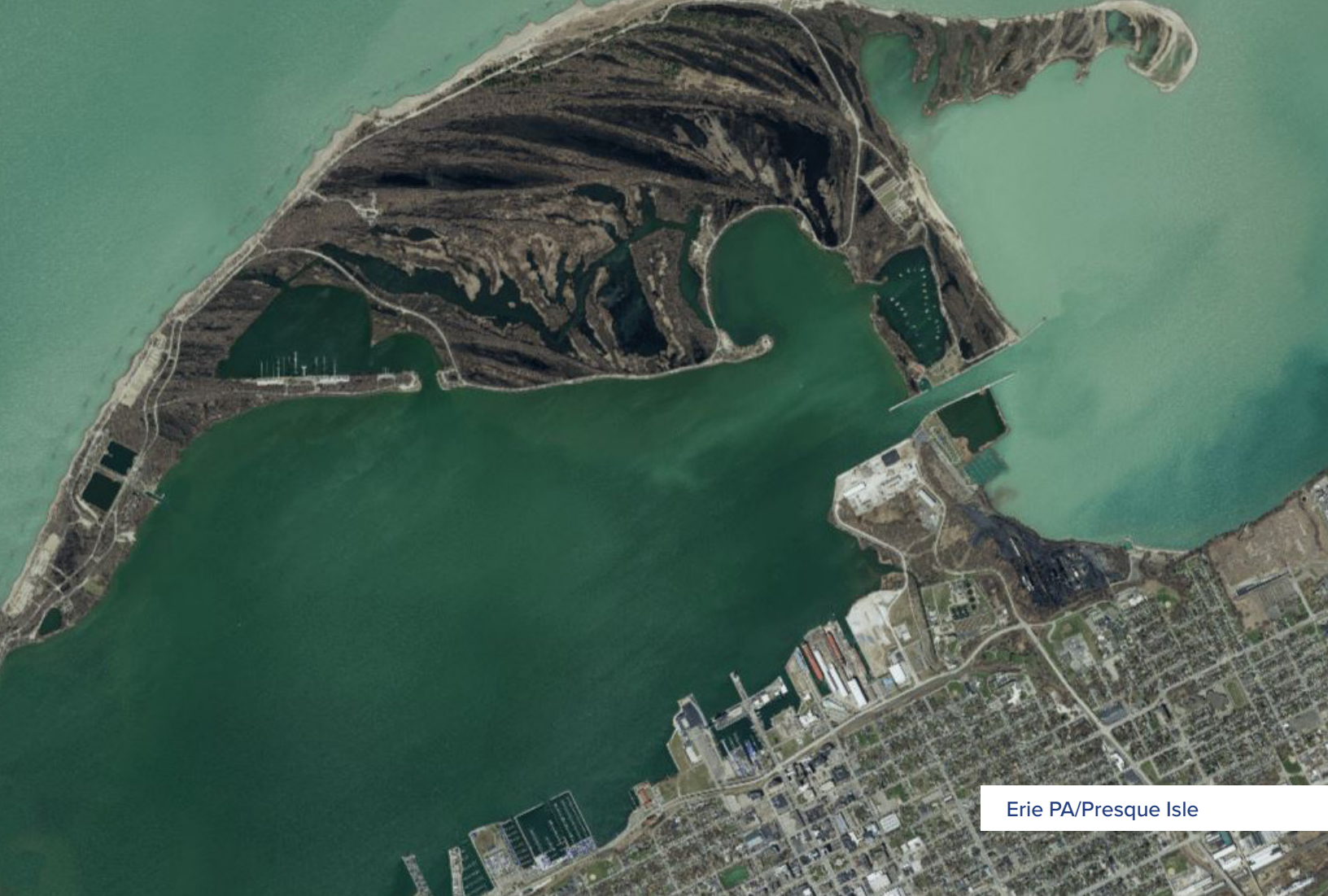
PASDA Services

PASDA provides a number of key services to the Commonwealth. PASDA services and support includes:

- Data Storage
- Data Management
- Metadata Development
- Metadata Training
- 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
- Offline Data Access
- Integration with Additional Resources

PASDA Stats

In the past year, almost 2.3 million files were downloaded from the PASDA site; while usage on the entire site was over 560 million hits from almost 6.5 million visitors. The PASDA Internet Map Services and applications were accessed over 200 million times. The Pennsylvania Imagery Navigator, an application used for viewing and downloading aerial photography, topographic data, DEMs, and LIDAR was accessed almost 12.5 million times in FY 2022/2023. The Pennsylvania

Erie PA/Presque Isle

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 over 5 million times.
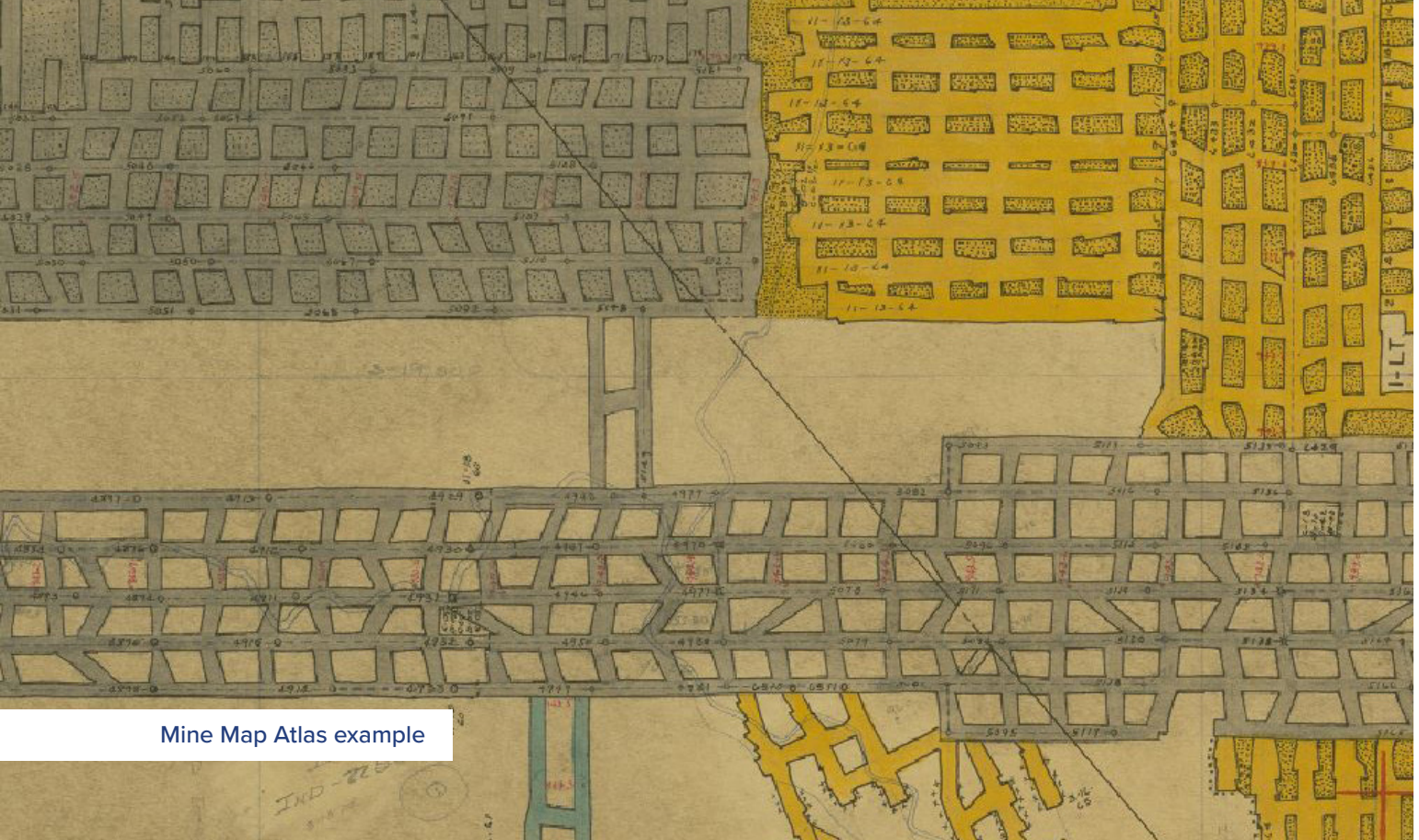
The statistics this year show an increasing use of data and map services and a dramatic increase in the use of long-time data providers. The statewide imagery cached serviced was hit over 60 million times. The DEP map services almost 10 million views, PennDOT map services over 49 million views, the PA Game Commission received almost 4 million hits and the PA Fish and Boat Commission with almost 4 million views.

PASDA FY 2022/2023 Activities

PEMA Imagery

The PEMA Statewide Aerial Imagery Program continued throughout 2022/2023.

Data received: Cumberland, Perry, York, Wayne, Pike, Dauphin, Lebanon, Montour, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Northumberland, Philadelphia, Lancaster, Delaware, Chester, Lehigh, Northampton, Schuylkill, Berks, Bucks, Montgomery, Crawford, and Erie.

Mine Map Atlas example

In addition, we received flightline data which is often requested. Several issues were identified by PASDA staff including:

- Luzerne County: we did not receive the full delivery for the metric JP2 imagery. There should be 227 images composed of 908 files (227 each of .aux, .aux.xml, .jp2, and .j2w file types). Instead, there were only 296 files composed of 152 .jp2 files and 144 .j2w files.
- Northumberland County: 4 tiles that were updated, staff noticed that when working with the data, the SID tiles were twice the normal size.
- Crawford County: Metadata included with Crawford County and noticed systemic errors with dates. They mainly were related to with title dates.

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

PA GeoBoard

PASDA continued to be an active member of the PA GeoBoard in 2022/2023. 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 staff continued to support and update the PA Parcel Mapping service. PASDA staff also and worked with the Services Task Force to encourage sharing among state and county entities.

PASDA director, Maurie Kelly, also wrote a follow up report on COVID 19 and GIS in Pennsylvania. This report was published on the PA GeoBoard site. Also wrote a report on PA GIS Data Sharing in October 2022 PASDA and the STF also hosted 3 sessions for the PA Basemap 2030/3D PA working group. This group included: Jim Querry (Philadelphia University), Laura Lettiere (Mifflin County), Steve Kocsis (Cambria County), Keith Previc (PA DEP), Patrick Jaquay (PA DEP), Matt Cavanaugh (PA DEP), Emily Mercurio (CivicMapper), Eliza Gross (USGS), Matt McCullough (FEMA), Mike Anderson (SpatialIT), Scott Dane (Penn State), Rachel Ralls (The Nature Conservancy), Robin Wallace (PA State Police), Maurie Kelly (Penn State), Al Guiseppe (PA Geologic Survey), Patrick McKinney (PA Department of Health), Jeff Zimmerman (Susquehanna River Basin Commission), Megan Birch (Dauphin County), Mark Leitzell (PennDOT), Christian Przybylek (PEMA), Tom Mueller (PennWest University), Charles Ross (NOAA/NWS). As part of this effort, PASDA also created a survey that was sent out to the GIS community. The survey received 270 responses. In addition, multiple meetings with the Center for Immersive Experience at Penn State were held that included representatives from the GeoBoard and other state agencies and local governments including: DMVA, PEMA, OA, DCNR, Mifflin County, Cambria County.

PASDA Stats

PASDA Total Site Hits: 561,410,656
Total Site Users: 6,429, 635
PASDA Downloads: 2,271,083
Map Service Requests: 202,873,353
PA Imagery Navigator: 12,422,724
Penn Pilot/Historic Imagery: 15,454,944
PA LiDAR Navigator: 1,972,497
PA Mine Map Atlas: 5,073,122
PA Flood Risk Assessment
Tool: 2,215,522
All Imagery Related
Services: 73,729,183

Most access state data services:
1. PennDOT: 49,011,450
2. PA Fish and Boat Commission: 13,852,883
3. PA DEP: 9,931,496
4. PA Game Commission: 4,559,536

Most accessed county data:
Allegheny County: 2,174,721

Most accessed NGO:
WeConservePA: 7,653,624

3D PA

In relation to the PA Basemap/3D PA effort described above, PASDA has been exploring serving out 3D data and various scenarios related to hosting the data. PASDA received 3D data from the City of Philadelphia that was created for the visit of Pope Francis in 2015. Discussions have also been held with Cambria County and as noted above, PASDA has been collaborating with the Penn State Center for Immersive Experiences.

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 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 three climate workshop

Architecture Updates and Data Acquisitions Acquisitions

Architecture and Systems Updates

- A major migration to new storage occurred when PASDA moved from the GPFS system at the Penn State Data Center to the new storage known as ROAR. This occurred in early June 2023 and required extensive preparation and backup by

- both PASDA and data center staff.
- Two new Dell PowerVault 1400 servers were purchased by Penn State to support map services.
- In July of 2022, the PASDA filer was moved from EMS computing to the Penn State Data Center.
- In February of 2023, PASDA migrated to a new website.

Data Sharing/Acquisitions

2022/2023 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

FEMA Flood Data

- 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
- Philadelphia LAS/Lidar 2022
- Philadelphia 3D data
- Bedford County
- Union County
- Snyder County
- Mercer County
- Huntingdon County
- Montgomery County
- Cambria County PA 2001 Aerial Photos: Cambria County PA 2001 Aerial Photos
- These include: Images, digital Shapefile index, metadata

- Cambria County 2001 Aerial Photos (1=1000): (457 images)
- Cambria County 2001 Aerial Photos (1=2000): (403 images)
- Cambria County 2001 Aerial Photos (1=500) (553 images)
- Cambria County 2001 Aerial Photos (1=600) (17 images)
- City of Philadelphia 2022 Imagery

NGOs, Academic

- Eastern PA Coalition for Abandoned Mine Reclamation
- WeConserve PA
- PA Sea Grant
- Penn State University OPP
- Natural Lands Trust
- Penn State University Libraries historic imagery: 1940s National Archives NARA Scans [1937-1942] and 1940s [1937-1942] Updated Photocorners
- Penn State University Commonwealth and University Park Campuses 1985-1986 Aerial Photos: Penn State University Commonwealth and

DCNR Rail Trails

University Park Campuses 1985-1986 Aerial Photos. Includes images, flightlines in an image, metadata.

- Includes Allentown 1986, Altoona 1985, Beaver 1985, Berks 1985, Capitol 1985, Delaware 1985, Fayette 1985, Hazelton 1985, Hershey 1985, Mckeesport 1985, Mont Alto 1985, New Kensington 1985, Ogontz 1986, Schuylkill 1985, Scranton 1985, Shenango 1985, Wilkes-Barre 1985, York 1985; State College 1995; University Park 1985 campus airport; University Park 1985 Farm, University Park 1985 indexes, Rock Springs 1985, and Stone Valley 1985
- Penn State University Park Centre County PA 1949 Aerial Photos: Penn State University Park, Centre County PA 1949 Aerial Photos. Includes images, digital shapefile index, metadata.
- State College PA 1995 Aerial Photos: State College PA 1995 Aerial Photos- Includes images and metadata.
- State PA Toftrees PA 1997 Aerial Photos: State College PA Toftrees 1997 Aerial Photos: Includes images and metadata

Federal Agencies

- USDA 2022 NAIP
- USGS Transportation and Structures
- TopoMapVector USGS data
- USDA NASS Cropland data
- PA Wetlands Inventory
- USDA NRCS PA Statewide soils data update
- FEMA: NFHL Adams, Allegheny, Blair, Centre, Columbia, Crawford, Cumberland, Dauphin, Delaware, Lackawanna, Philadelphia, Lehigh, Mifflin, Montgomery, Northumberland, Tioga, York, Franklin, Bucks, Chester, Montgomery, Philadelphia, and PA Statewide
- Centers for Disease Control Social Vulnerability Index

User Support & Assistance

NOTE: PASDA provides user support via email, phone, and in person. 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):

PA State Police, Tioga County, Temple University, Bucks County Planning Commission, PennDOT, Hershey Medical Center, D.E.M. Surveying, Haven Capital, C2C Design Group, WJP Engineers, Community Bank, Taylor, Wiseman, & Taylor Inc., D.L. Howell & Associates, PA Office of Admin Bureau of Solutions Management, PA Game Commission, Larson Design Group, SAI Consulting Engineers, Stahl Sheaffer Engineering, Jacobs Inc, Tree Pittsburgh, ARM Group LLC, Clauser Environmental LLC,

ERIS, Rettew Associates, DEP Bureau of Abandoned Mine Reclamation, PennDOT Engineering District 8-0, Earth Engineering Incorporated, Princeton University, Fazio Consulting LLC, Kelly Engineers, Peters Consultants, Michael Baker International, Apex Companies LLC, PA DCNR Geological Survey, Mifflin County Extension, Garvin Boward Beitko Engineering, Van Cleef Engineering, Interagency Readiness Solutions LLC, Dept of Military and Veterans Affairs, Rosebud Mining Company, ARRO Consulting, RK&K Inc, HRG Inc, Inland Design, SAI Engineering, Range Resources Appalachia LLC, JHA Companies, Clark Surveying and Engineering, WSP USA, Nave Newell Inc, LTL Consultants, Porcupine Inc, PA Office of Administration Conservation and Environment Delivery Center, Barry Isett & Associates, WeConserve PA, David Miller & Associates, GD Keener LLC, Keystone Associates, PEMA, Eastern PA Coalition for Abandoned Mine Reclamation, Allegheny Professional Services LLC, Duquesne Light Inc, GeoTech Engineeting LLC, Wilkinson & Associates Inc, Apex Companies, PA DEP Northeast Regional Office, HNT LLC, PA Office of Administration Infrastructure, Lancaster County, FMG Inc, University of Virginia, Federal Aviation Administration (Airpot Modeling and Simulation Branch), EJ Water Science LLC, Cambria County, Erie County, Oracle, Empire Access, Ansys Inc, California State University, Hatch Inc, MCM Consulting Group, Hunt Valley Environmental LLC, Historical Society of Upper St. Clair, City of Philadelphia, Bucks County Community College, ELA Group, Marywood College, Franklin County, Adams County, PA Open Data Portal, SciTek Consultants, University of Texas, Coleman Environmental Engineering Inc, Evans Mill Environmental Inc, DeVon Henne Surveying, Colliers Engineering & Design, City of Lancaster,

California, PA

Snyder Environmental Engineering, Gilmore & Associates Inc, PA Office of Admin Environment center, PA Office of Administration Infrastructure, Alliance Consulting, NEP Telephone Company, Antero Resources LLC, York County Planning Commission, New Castle Engineers, Harrisburg Area Community College, Wilkinson & Associates, Tioga County, Wayne County, Lycoming County Department of Planning & Community Development, HERE Technology, North Central Planning Commission, Blair County GIS, Greenir Solutions, Kent College, PA Fish and Boat Commission, Duquesne Light, University of Pennsylvania Department of Emergency Medicine, Eschelon Ag Inc, PA Dept of Health, Victor Weltzer Associates, PA Office of Admin Conservation and Environment Center, Bieber Land Surveying, Keystone Consulting Engineers, Barry Isett Inc, Pennsylvania General Energy Company, Keystone Surveying, Citron Cloud Inc, PA Game Commission, Union County, Harrisburg University, PA DEP Bureau of Mining, University of Pittsburgh Department of Epidemiology, PA Office of Administration Office of Information Technology, Mercer County, LVL Engineers, Greater Pittsburgh Community Food Bank, Symmetry Software, US Enviornmental Protection Agency, PennDOT Bureau of Planning and Research, US Data.Gov, PennDOT District 11-0, RCAP Solutions,

US Department of Transportation, Frontier Inc, New York State Archives, Bird Library Cornell University, Vassar College, NY state office of information technology, Keystone Precision Solutions, University of Delaware Biden School of Public Affairs, GOH Inc, Patrick Britten Inc, Huntingdon County Mapping Department, West Inc, PA DEP Ebensburg, PA Broadband Authority, PEMA, Land Tech Services, Curry & Associates, Sunstone Engineering, Resilient Analytics, Book & Proch Well Drilling Associates, CT Consultants, Lennon, Smith, Souleret Engineering, Inc., Wood Makenzie Inc, Trumbull Corp, MT. Lebanon Library, Verdi Consulting, Votebeat/Spotlight PA, KMA Consulting Engineers, Gallas Surveying Group, Tetra Tech, City of Pittsburgh Planning Commission, American University, Battelle Inc, HDR, Halligan Surveying, Franklin & Marshall College, Sajo Inc, Medveczky Associates, Foresight Sports, Irri Plans LLC, Ben Civil Engineering, Philadelphia Fire Department, UGI Utilities, West Leechburg PA Council, Westmoreland County Department of Public Safety, Adams Electric Cooperative, Carnegie Mellon University Libraries, The Granger Firm, Venango County Regional Planning Commission, Shoup Engineering, Pennsylvania Partnerships for Children, Clark University, Chester County, Gannett Fleming, Frontier Inc, Dawood Engineering, GeoTech Engineering, IFS Energy, Boord,

Bencheck, & Associates Inc., Hershey College of Medicine Department of Epidemiology, Delaware Valley Regional Planning Commission, Bucks County Planning Commission, Natural Lands Trust, Kittleson & Associates, US National Energy Technology Lab, PA DEP Moshannon Office, Winterberry Forestry, JHA Companies, DL Howell Companies, PA Civil Air Patrol, PSIRC, National Energy Technology Laboroatory DOE, Ludgate Engineering Corporation, Chesapeake Bay Foundation, Lock Haven University, Tioga County, University of Delaware, PA Cancer Center, Susquehanna County, SecureMyCargo, Westmont Hilltop School District, University of Pittsburgh, York County Planning Commission, PennDOT Bureau of Design and Delivery, Johns Hopkins University, Mercer County, Bucks County Planning Commission, 3rd Millenium Architects, Gorski Engineering, IAG Consulting, HDR, KCE Inc, Onyx Maps, Atlantic Broadband, Borton Lawson Inc, Franklin and Marshall College, Canibulid Corp, Victor Wetzel Associates, Liberty Environmental Inc, Allegheny County, City of Allentown, Greener Planning LLC, PA Sea Grant, Lancaster County, Crawford County, Great Lakes Commission, Kittatinny Ridge Initiative, Western PA Conservancy, DEP Southwest Regional Office, PPL, Tract Engineering, Jacobs Inc, PA Game Commission Bureau of Wildlife Habitat Management, DEP Bureau of Abandoned Mine Reclamation, Natural Lands Trust, Luzerne County, KCE, EADS Group, Delaware Valley Regional Planning Commission, General Code Corp, Carnegie Museum of Natural History, Lightbox, Hexagon, University of Vermont, LSSE Civil Engineers, Three Oaks Communities, DCNR Bureau of Forestry, LVL Engineers, PA dept of Agriculture, Lehigh University, GHD, S&P Global, Allegheny National Forest, Carbon County.

Bucks County 1938

PASDA

July 1, 2022-June 30, 2023
Completed by
Maurie Caitlin Kelly
Institutes of Energy and the Environment
Penn State
September 1, 2023