

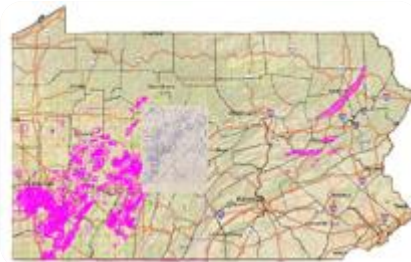
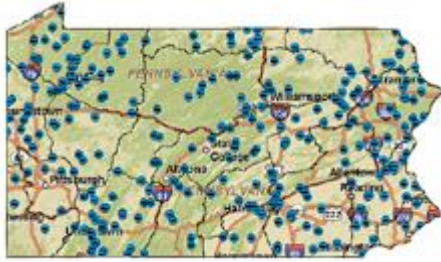


P A S D A

PENNSYLVANIA
SPATIAL DATA ACCESS

The Pennsylvania Geospatial Data Clearinghouse

The Pennsylvania Geospatial Data Clearinghouse



2014-2015 Annual Report

July 1, 2014-June 30, 2015

Submitted

by

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Penn State Institutes of Energy and the Environment

The Pennsylvania State University

July 30, 2015

OVERVIEW

Pennsylvania Spatial Data Access (PASDA—<http://www.pasda.psu.edu>), the official public geospatial data clearinghouse for the Commonwealth of Pennsylvania marked its 19th year in 2013. PASDA, which has grown from a small website offering 35 data sets in 1996 to the expansive user-centered data clearinghouse that it is today, has become a staple of the GIS community in Pennsylvania. PASDA provides access to thousands of data files, terabytes of data, and hundreds of Internet Map Services, Google Earth KML files, metadata, mapping applications, and other information like guides and tutorials.

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 saw a dramatic increase of use in almost every sector driven in part by factors such as Marcellus Shale exploration, environmental conservation, economic development initiatives, expanded use of geospatial data in universities, non profits, and the private sector, and the increased interest from average citizens who are able to access geospatial information via PASDA's data previewer and KML files without the need for specialized GIS software.

The use of PASDA has continually increased over its history.

In the past year, almost **1.3 million** files were downloaded from the PASDA FTP site; while usage on the entire site topped **70 million** hits. The PASDA web servers, which provide access to Internet Map Services and PASDA applications like the Imagery Navigator, supported over **57 million** map views. The statistics this year demonstrate more than any other that there is a wide range of data that is of great interest to the user community. Data (and map services created from data) from our partners at the PA Department of Environmental Protection, PennDOT, PA Department of Conservation and Natural Resources, Allegheny County, the DCNR PAMAP Program, the Delaware Valley Regional Planning Commission, and the City of Philadelphia received phenomenal use. In addition, PASDA has created highly significant applications and services that dramatically increase the value of the data available. The Imagery Navigator supported almost **6 million** views, the DEP map service **1.4 million** views, PennDOT mapservice over **1 million views**, and the PA Fish and Boat Commission with over **1 million views**. Users also could view data in Google Earth through PASDA's KML services which supported almost 800,000 views.

Substantial initiatives in the past year involved the expansion of the PA Mine Map Atlas to be integrated with PHUMMIS, expansion of the mine map data, implementation of new storage and virtual machine environment, , and ongoing intensive data loading efforts.

Finally, PASDA has continued to give back to the GIS community. As in past years, PASDA staff have participated in numerous meetings including PA GIS Day planning meetings, the PA GIS conference planning meetings (for both of which PASDA developed sessions, obtained speakers, and also presented), PAVIEW meetings, Northwest PA GIS conference, Pennsylvania Land Surveyors Association, Pennsylvania Association of Sewage Enforcement Officers, and as the keynote speaker for the Pennsylvania Energy

GIS Conference. PASDA has also provided support and guidance for counties and local governments, regional entities, other states and federal agencies in particular supporting the USGS Hydrology Survey and the FGDC/Library of Congress Historical Data Users Group.

ABOUT PASDA

PASDA was developed by the Pennsylvania State University as a service to the citizens, governments, and businesses of the Commonwealth. PASDA is a cooperative project of the Governor's Office of Administration, Office for Information Technology, Geospatial Technologies Office and Penn State Institutes for Energy and the Environment of the Pennsylvania State University. Funding is provided by the Pennsylvania Office for Information Technology, Geospatial Technologies Office. The Pennsylvania State University provides additional substantial support to PASDA for system administration, database technologies administration, and infrastructure. The High Performance Computing Center at Penn State is also providing significant resources and support for PASDA. PASDA is housed at Penn State Institutes of Energy and the Environment (PSIEE). The PASDA staff include:

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

Note: In addition, the PASDA staff would like to gratefully acknowledge the continued assistance and support of the Penn State High Performance Computing Center and the Earth and Environmental Engineering Institute.

The Purpose of PASDA

The purpose of Pennsylvania Spatial Data Access (PASDA) is to serve as a comprehensive geospatial data digital library by providing free, universal access to geospatial data and information by, for, and about the Commonwealth of Pennsylvania. PASDA has served for the past sixteen years as the Commonwealth's node on the National Spatial Data Infrastructure (NSDI), Geospatial One Stop, and the National Biological Information Infrastructure.

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.
- **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/webgis applications, and metadata/documentation efforts.

PASDA Services

- 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/webgis applications, and metadata/documentation efforts. PASDA services are provided free of charge to all users and data providers. The data on PASDA is provided by federal, state, local and regional government agencies, non-profit organizations, and academic institutions throughout the region.
- **Data Storage and Access**--PASDA works directly with state and federal agencies, local and regional governments, non-profit organizations, and academic institutions to access to the widest variety of data possible. There is no fee to store or provide access to data via the PASDA clearinghouse.
- **Inventory and Documentation (Metadata)**--PASDA will create FGDC standard metadata free of charge for any agency, organization, or data stakeholder. The metadata will also be hosted by PASDA for the purposes of developing the state data inventory.
- **Data Liaison Activities**--PASDA staff work directly with state agencies to identify, document, and provide access to agency data. PASDA works directly

with state and federal agencies, local and regional governments, non-profit organizations, and academic institutions to access to the widest

- **Metadata Training**--PASDA staff provide free metadata training and training in the use of PASDA for individual organizations and groups. PASDA offers formal training twice a year at different locations throughout the Commonwealth. If you would like to participate in or host a metadata or PASDA training session, please contact pasda@psu.edu.
- **Educational Outreach**--PASDA works with non-profit organizations such as watershed groups and K-12 schools to promote the knowledge and use of GIS. PASDA develops lessons, tutorials, and guidelines for new GIS users.
- **Presentations & Seminars**--PASDA staff offer seminars and presentations at meetings, conferences, and schools.
- **User Assistance**--PASDA is committed to providing timely user assistance with the PASDA website and the data available through PASDA.

Data & Metadata

In the past year, PASDA has received numerous new and updated datasets and metadata. A more detailed listing is included in the detailed description of activities below but the following represents a quick overview of data.

Data updates to existing datasets come to PASDA at different intervals and are based on the update frequency of our data partners. Monthly, quarterly, and annual updates are the norm and include PennDOT, PA Department of Environmental Protection, PA Fish and Boat Commission, PA Department of Health, PA Department of Conservation and Natural Resources, Chester County, Allegheny County, Lancaster County, City of Philadelphia, Southeast PA Transportation Authority, Delaware Valley Regional Planning Commission, PA DCNR Rivers Conservation Program, and the Natural Lands Trust.

DETAILED INFORMATION FOR THE PERIOD OF PERFORMANCE:

JULY 1, 2014-JUNE 30, 2015

PASDA Benchmarking Activity

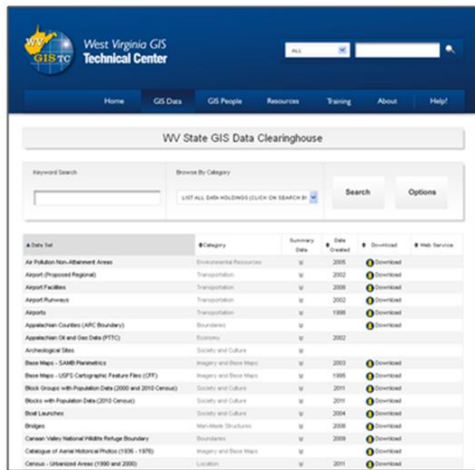
Approximately every five-six years the PASDA staff undertakes a benchmarking effort to research current trends and advances in GIS data clearinghouse development. In late 2014 the PASDA staff embarked on such an effort. The goal was to identify best practices in the field as well as examine and evaluate alternatives and enhancements for the PASDA clearinghouse. The four areas of focus for the effort were:

- Data search and retrieval functionality
- Applications and visualization tools
- Open data portal capabilities

- Available data, in particular imagery and LIDAR

Search Interface

In our examination of search interfaces we reviewed dozens of clearinghouses. The best user interface that we could find is the interface for the West Virginia Clearinghouse:



Imagery & Lidar

The clearinghouse that seemed to provide the most access to imagery and lidar was the clearinghouse at the University of Connecticut. However there were no real comparable clearinghouses for imagery and lidar to PASDA in both size, temporal data, and ease of availability.

Open data

Open Data is a term that is becoming more popular. As part of the PASDA benchmarking activity, we decided to look at open data sites. It's a trendy term, with a social media vibe but what exactly does it mean? No one could really answer our question completely so we decided to research this trendy new phenomenon. We found that there is no single correct definition for open data. Sometimes *open data* is:

- data in "open formats" meaning not software specific formats.
- code that created an application, model, or data is open for other uses who can download and alter the code.
- data that can be edited or added to through crowdsourcing—like adding to a data set of fire hydrants by sending in the coordinates of your local hydrant.
- is just cool to say but it actually is just a new term for something that already exists.

The one common denominator and most often discussed qualification for *open data* is "data must be freely accessible to the public". PASDA therefore serves as an open data portal for Pennsylvania.

Results

Our research found that PASDA was still the leader in state geospatial data clearinghouses. Pennsylvania has greater integrated cooperation among state agencies and other members of the data community who share data than other state. Our data providers are committed to providing access to their data!

Pennsylvania has had a long term commitment to the PASDA clearinghouse, with no interruptions in service or funding. We are going into our 20th year in 2016!

There is a depth and breadth to the types of users in Pennsylvania and their ongoing support for maintaining the PASDA clearinghouse.

Recommendations for Improvement

- Update the PASDA website (minor update to graphics, text, etc).
- Improve performance—possible use of VMs.
- Upgrade the PASDA computing infrastructure.
- Integrate new resources such as Story Maps.
- Expand data formats—full KML files (for some data), json formats.
- More outreach efforts to educate users about new data and resources.
- Update tutorials and help.
- Explore potential mobile apps that support data access.
- And finally--PASDA is a leader in the field. Few of the state GIS data clearinghouses are comparable to PASDA in terms of amount of data, applications, services, and capabilities.

DATA & METADATA

The following is a listing of some of the data PASDA has received in the past year. Most of the data received involves multiple datasets and at times hundreds of files (imagery, lidar, dems, topos).

Note: When data is received by PASDA, metadata is either created for the data or updated to reflect date and distribution (only for existing data sets), data is loaded to FTP site, geodatabases are created, map services and KML files are created for the data. Records are added or updated in the PASDA search database (supports data search on website). Imagery, LIDAR, Topographic maps, DEMs are also added to Imagery Navigator search interface.

June 2015

- Allegheny County Parcels, street centerlines and address points, building footprints.
- Updated data from Lancaster County: This is an update to an existing data sets: Buildings, Drives, Hydroarcs, Hydropoly, Land Use Land Cover, Municipal Boundary, Parking Lots, road centerlines and types, Road Edge arc, Road Edge Poly, Urban Growth Area – Polygon
- Updated data from FEMA Federal Emergency Management Agency:
FEMA NFHL Data
42001 - Adams
42003 - Allegheny
42017 - Bucks

42027 - Centre
42029 - Chester
42031 - Clarion
42039 - Crawford
42043 - Dauphin
42045 - Delaware
42081 - Lycoming
42091 - Montgomery
42095 - Northampton
42101 - Philadelphia
42105 - Potter
42111 - Somerset
42115 - Susquehanna
42007 - Beaver
42015 - Bradford
42049 - Erie
42059 - Greene
42085 - Mercer
42107 - Schuylkill
42113 - Sullivan
42117 - Tioga
42121 - Venango

- Updated Data Sets from DEP: Oil and Gas wells, Oil and Gas wells conventional and unconventional, Longwall mining attaining, non attaining stations, Mined Out Areas, Underground mining permits, attaining lakes, non attaining lakes.
- Updated data from PA Fish and Boat Commission June 2015: Access points, ClassA_Streams, ClassA_Streams_pt, Coop_nurseries, Hatcheries, Trout_NaturalReproduction, WaterTrails_line, Wilderness_Trout_Streams
- Updated soils data for PA from USDA for the following counties:

001 – Adams
003 – Allegheny
005 – Armstrong
603 – Beaver/Lawrence
009 – Bedford
011 – Berks
013 – Blair
610 – Bradford/Sullivan
017 – Bucks
019 – Butler
021 – Cambria
607 – Cameron/Elk
025 – Carbon
027 – Centre
029 – Chester

031 – Clarion
033 – Clearfield
035 – Clinton
037 – Columbia
039 – Crawford
041 – Cumberland
043 – Dauphin
045 – Delaware
049 – Erie
051 – Fayette
055 – Franklin
057 – Fulton
611 – Greene/Washington
061 – Huntingdon
063 – Indiana
065 – Jefferson
605 – Juniata/Mifflin
069 – Lackawanna
071 – Lancaster
075 – Lebanon
077 – Lehigh
079 – Luzerne
081 – Lycoming
083 – McKean
085 – Mercer
089 – Monroe
091 – Montgomery
093 – Montour
095 – Northampton
097 – Northumberland
099 – Perry
101 – Philadelphia
103 – Pike
105 – Potter
107 – Schuylkill
109 – Snyder
111 – Somerset
115 – Susquehanna
117 – Tioga
119 – Union
121 – Venango
609 – Warren/Forest
127 – Wayne
129 – Westmoreland

131 – Wyoming

133 – York

May 2015

- Allegheny County Parcels, street centerlines and address points, building footprints.
- Updated Data Sets from DEP: Oil and Gas wells, Oil and Gas wells conventional and unconventional, Longwall mining attaining, non attaining stations, Mined Out Areas, Underground mining permits, attaining lakes, non attaining lakes.
- Updated data from PA DEP California Mine Office:
 - 1) DEP_Pottsville: 1130 Archive Tiffs, 1130 Ungeoreferenced MrSids, and 58 Georeferenced MrSids.
 - 2) DEP_WilkesBarre: 395 Georeferenced MrSids.
 - 3) DCNR_Penfield: 12 Archive Tiffs, 13 Ungeoreferenced MrSids, and 1 Georeferenced MrSid.
 - 4) Other_Collection- Alumbaugh_PBS: 1 Georeferenced MrSid.
 - 5) Other_Collection- Rochester_Pittsburgh: 771 Archive Tiffs, and 780 Ungeoreferenced MrSids.
 - 6) Updated Index Shapefile (dated 4/23/2015).
- Corrections DEP Mine Map: Emergency Change to PA Mine Map Atlas: On Wednesday May 20th The customer (DEP) alerted us to a problem with several scanned georeferenced maps in the PA Mine Map Atlas. They requested that we remove these files because the georeferencing is incorrect. The files:
 - /Map_Repository/DCNR_Penfield/SID_Images/geor_PENN_UMM_400_4646_25289.zip
 - /Map_Repository/DCNR_Penfield/SID_Images/geor_PENN_UMM_100_2989_25722.zip
 - /Map_Repository/DEP_NewStanton/SID_Images/geor_BMSB_UMM_100_0511-001.zip/Map_Repository/Other_Collections/Alumbaugh_PBS_Coal_Collection/SID_Images/geor_ALMB_UMM_100_190_B.zip
 - /Map_Repository/Other_Collections/Alumbaugh_PBS_Coal_Collection/SID_Images/geor_ALMB_UMM_100_022.zip
 - /Map_Repository/Other_Collections/CONSOL_Hardbacks/SID_Images/geor_CLHB_UMM_100_xsl197.zip
- Were removed by PASDA staff on Friday May 22nd and notification was sent to PA DEP. The impact is that the files will not be available in georeferenced form until corrections are sent by PA DEP. They will resend the files when the corrections are completed. DEP checked and approved the corrections Wednesday May 27th.
- Inventoried FEMA NFHL data on PASDA and compared to FEMA available/updated data. Prepared list of new data to acquire and also sent to Mary Fulton. We will be acquiring this in early June to add to PASDA.

April 2015

- Allegheny County Parcels, street centerlines and address points, building footprints.
- Updated data from Penn State University: buildings, boundaries, roads, land use, paved areas, parking. Penn State is an existing PASDA data partner.

- Updated Data Sets from DEP: AML points, AML polys, AML sites, Air Emission Plants, Beneficial Land Uses, Captive Hazardous Waste Operations, Coal Mining Operations, Coal Pillar Location Mining, Coal Pillar Location Oil and Gas, Commercial Hazardous Waste Operations, Encroachment Location, Encroachment Locations Oil Gas, Erosion and Sediment Control Facilities, Industrial Mineral Mining Operations, Integrated List Attaining, Mine Drain Treat Land Recycling Project Locations, Municipal Waste Operations, Oil Gas Locations, Oil Gas Water Pollution Control Facilities, Radiation Facilities, Residual Waste Operations, Storage Tank Locations, Total Maximum Daily Load, Total Maximum Daily Load Lakes, Unpaved Roads, Water Pollution Control Facilities, Water Resources, Conservation Wells, Conservation Wells Plugged, Stormwater 167, Mined Out Areas, Longwall Mining Panels, Underground Mining Permit, Public Water Supplier's (PWS) Service Areas, Water Management Plans (WMP) - Marcellus Shale

March 2015

- Allegheny County Parcels, street centerlines and address points, building footprints.
- Updated Data Sets from DEP: Oil and Gas wells, Oil and Gas wells conventional and unconventional, Longwall mining attaining, non attaining stations, Mined Out Areas, Underground mining permits, attaining lakes, non attaining lakes.
- Updated data from the DEP California Mine Office:
 - 1) DEP_California-Active: 44 Archive Tiffs, 44 Ungeoreferenced Sids, and 44 new Georeferenced Sids (plus existing ones).
 - 2) DEP_California-Abandoned: 211 Archive Tiffs, 211 Ungeoreferenced Sids, and 32 Georeferenced Sids.
 - 3) DEP_Pottsville: 1233 Archive Tiffs, 1233 Ungeoreferenced Sids, and 0 Georeferenced Sids.
 - 3) DEP_NewStanton: 0 Archive Tiffs, 0 Ungeoreferenced Sids, and 1 Georeferenced Sids.
 - 5) DEP_WilkesBarre: 0 Archive Tiffs, 0 Ungeoreferenced Sids, and 92 Georeferenced Sids.
 - 7) Updated Index Shapefile (dated 3/2/2015).
- Updated data from the PA Game Commission:
ELK_MGMT_AREA, ELK_MGMT_ZONES, GAME_OF_C, GAME_REGION, GAME_WCO_DIST, GAMELAND_ROADS, LAND_MGMT_GRP, PARKING_AREAS, PUBLIC_SHOOTING_RANGE, STATE_GAMELAND, WILDLIFE_MGMT_UNIT

February 2015

- Allegheny County Parcels, street centerlines and address points, building footprints.
- Updated Data Sets from DEP: Oil and Gas wells, Oil and Gas wells conventional and unconventional, Longwall mining attaining, non attaining stations, Mined Out Areas, Underground mining permits, attaining lakes, non attaining lakes.
- Updated data from the PA Fish and Boat Commission: Class A streams point , Class A streams polygon, Fishing Special regulation streams, Trout Stocked Streams
- Updated data from Southeast PA Transit Authority (SEPTA): Spring 2015 Routes, Spring 2015 Stops
- Updated data from the Delaware River Basin Commission: Forest Patch Classification, Delaware River Basin, Northern Section, 2010-2011, Forest Type Classification, 2010-2011, Delaware River Basin, Northern Section

- Emergency Data removal: Peters Paper Co, BMSB_UMM_100_1485-001 from PA mine map collection and PA Mine Map Atlas. User identified that the map was georeferenced incorrectly. On 2/19/14 customer (PA DEP) requested immediate removal of the data from FTP and mine map atlas. They will be sending a properly georeferenced version with the next shipment of data. Data was removed as requested 2/19/14. Customer was notified.
- Updated data from DEP Bureau of Mining Programs: updates for the Anthracite Coal Mine Permits, Bituminous Coal Mine Permits, and Industrial Minerals Mine Permits layers.

January 2015

- Allegheny County Parcels, street centerlines and address points, building footprints.
- Updated Data Sets from DEP: AML points, AML polys, AML sites, Air Emission Plants, Beneficial Land Uses, Captive Hazardous Waste Operations, Coal Mining Operations, Coal Pillar Location Mining, Coal Pillar Location Oil and Gas, Commercial Hazardous Waste Operations, Encroachment Location, Encroachment Locations Oil Gas, Erosion and Sediment Control Facilities, Industrial Mineral Mining Operations, Integrated List Attaining, Mine Drain Treat Land Recycling Project Locations, Municipal Waste Operations, Oil Gas Locations, Oil Gas Water Pollution Control Facilities, Radiation Facilities, Residual Waste Operations, Storage Tank Locations, Total Maximum Daily Load, Total Maximum Daily Load Lakes, Unpaved Roads, Water Pollution Control Facilities, Water Resources, Conservation Wells, Conservation Wells Plugged, Stormwater 167, Mined Out Areas, Longwall Mining Panels, Underground Mining Permit, Public Water Supplier's (PWS) Service Areas, Water Management Plans (WMP) - Marcellus Shale
- Updated data from Lancaster County: This is an update to an existing data sets: Buildings, Drives, Hydroarcs, Hydropoly, Land Use Land Cover, Municipal Boundary, Parking Lots, road centerlines and types, Road Edge arc, Road Edge Poly, Urban Growth Area - Polygon
- Updated data from the PA Fish and Boat Commission: Approved_Trout_Waterbodies, Approved_Trout_Waterbodies_pt, Approved_Trout_Waters, Commissioner_Districts, Fishing_SpecReg_Lakes, Fishing_SpecReg_Lakes_Point, Fishing_SpecReg_Streams
- Updated data from PennDOT—annual refresh of data. Administrative districts, mile markers, state roads, traffic counts, exits, local roads, MPO/RPO planning organizations, county boundaries, municipal boundaries, state boundary, engineering districts, congressional legislative districts, school districts.
- Updated data from DEP California Mine Office:
 - 1) DEP_California-Active: 149 Archive Tiffs, 149 Ungeoreferenced Sids, and 144 new Georeferenced Sids (plus existing ones).
 - 2) DEP_Pottsville: 240 Archive Tiffs, 240 Ungeoreferenced Sids, and 0 Georeferenced Sids.
 - 3) DEP_Cambria: 5 Archive Tiffs, 6 Ungeoreferenced Sids, and 0 Georeferenced Sids.
 - 4) DCNR_Penfield: 513 Archive Tiffs, 525 Ungeoreferenced Sids, and 587 Georeferenced Sids.
 - 5) DEP_WilkesBarre: 4 Archive Tiffs, 4 Ungeoreferenced Sids, and 223 Georeferenced Sids.
 - 6) Other_Collection- Rochester_Pittsburgh: 360 Archive Tiffs, 361 Ungeoreferenced Sids, and 3 Georeferenced Sids.

7) Updated Index Shapefile (dated 1/15/2015).

December 2014

- Allegheny County Parcels, street centerlines and address points, building footprints.
- Updated Data Sets from DEP: This is an update to existing data sets: Oil and Gas wells, Oil and Gas wells conventional and unconventional, Longwall mining, Mined Out Areas, Underground mining permits, attaining lakes, non attaining lakes.
- Updated data from the PA Fish and Boat Commission: Cooperative nurseries--This GIS layer contains locations of nurseries that participate in the Commission's Cooperative Nursery Program.
- Updated data from DEP California Mine Office:
 - 1) DEP_California-Abandoned: 380 Archive Tiffs, 380 Ungeoreferenced Sids, and 379 Georeferenced Sids.
 - 2) DEP_Pottsville: 591 Archive Tiffs, 591 Ungeoreferenced Sids, and 0 Georeferenced Sids.
 - 3) DEP_WilkesBarre: 1 Archive Tiffs, 1 Ungeoreferenced Sids, and 0 Georeferenced Sids.
 - 4) DCNR_Penfield: 320 Archive Tiffs, 320 Ungeoreferenced Sids, and 433 Georeferenced Sids.
 - 5) Other_Collection- Rochester_Pittsburgh: 0 Archive Tiffs, 0 Ungeoreferenced Sids, and 268 Georeferenced Sids.

Updated Index Shapefile (dated 12/9/2014).

November 2014

- Allegheny County Parcels, street centerlines and address points, building footprints.
- Updated Data Sets from DEP: This is an update to existing data sets: Oil and Gas wells, Oil and Gas wells conventional and unconventional, Longwall mining, Mined Out Areas, Underground mining permits, attaining lakes, non attaining lakes.
- Updated data from the PA Fish and Boat Commission: Class A Wild Trout Fisheries (points and polylines) and Trout Natural Reproduction (polylines only).
- Updated data from the Eastern Pennsylvania Coalition for Abandoned Mine Reclamation (EPCAMR): EPCAMR small watersheds.

October 2014

- Allegheny County Parcels, street centerlines and address points, building footprints.
- Updated Data Sets from DEP: This is an update to existing data sets: Oil and Gas wells, Oil and Gas wells conventional and unconventional, Longwall mining, Mined Out Areas, Underground mining permits, attaining lakes, non attaining lakes.

Data from DEP California Office:

- 6) DEP_California-Active: 22 Archive Tiffs, 22 Ungeoreferenced Sids, and 22 new Georeferenced Sids (in addition to old in Most_Recent folders).
- 7) DEP_NewStanton: 12 Archive Tiffs, 12 Ungeoreferenced Sids, and 22 Georeferenced Sids.
- 8) DEP_Pottsville: 0 Archive Tiffs, 0 Ungeoreferenced Sids, and 131 Georeferenced Sids.

- 9) DEP_Cambria: 0 Archive Tiffs, 0 Ungeoreferenced Sids, and 3 Georeferenced Sids.
- 10) DCNR_Penfield: 1310 Archive Tiffs, 1317 Ungeoreferenced Sids, and 279 Georeferenced Sids.
- 11) Other_Collection-CONSOL_Hardbacks: 44 Archive Tiffs, 52 Ungeoreferenced Sids, and 0 Georeferenced Sids.
- 12) Other_Collection- Rochester_Pittsburgh: 0 Archive Tiffs, 0 Ungeoreferenced Sids, and 34 Georeferenced Sids.
- 13) Updated Index Shapefile (dated 10/15/2014)

September 2014

- Allegheny County Parcels, street centerlines and address points, building footprints.
- Updated Data Sets from DEP: This is an update to existing data sets: Oil and Gas wells, Oil and Gas wells conventional and unconventional, Longwall mining, Mined Out Areas, Underground mining permits, attaining lakes, non attaining lakes.
- Updated data from SEPTA. This is an update to an existing data sets fall routes and fall lines.
- Updated data from PA Fish and Boat Commission: Boating_SpecReg_Lakes201409
Boating_SpecReg_Pt201409
Boating_SpecReg_Streams201409

Data from DEP California Office:

- 14) DEP_California-Active: 52 Archive Tiffs, 52 Ungeoreferenced Sids, and 52 new Georeferenced Sids (in addition to old in Most_Recent folders).
- 15) DEP_NewStanton: 7 Archive Tiffs, 7 Ungeoreferenced Sids, and 0 Georeferenced Sids.
- 16) DEP_Pottsville: 382 Archive Tiffs, 382 Ungeoreferenced Sids, and 23 Georeferenced Sids.
- 17) DEP_WilkesBarre: 953 Archive Tiffs, 953 Ungeoreferenced Sids, and 58 Georeferenced Sids.
- 18) DCNR_Penfield: 0 Archive Tiffs, 0 Ungeoreferenced Sids, and 172 Georeferenced Sids.
- 19) Other_Collection-Altoona_Coal: 8 Archive Tiffs, 8 Ungeoreferenced Sids, and 3 Georeferenced Sids.
- 20) Other_Collection-Alumbaugh_PBS_Coal: 482 Archive Tiffs, 482 Ungeoreferenced Sids, and 109 Georeferenced Sids.
- 21) Other_Collection-Cambria_County_Courthouse: 488 Archive Tiffs, 488 Ungeoreferenced Sids, and 169 Georeferenced Sids.
- 22) Other_Collection-CONSOL_Hardbacks: 0 Archive Tiffs, 0 Ungeoreferenced Sids, and 13 Georeferenced Sids.
- 23) Other_Collection-R_Myers: 10 Archive Tiffs, 10 Ungeoreferenced Sids, and 0 Georeferenced Sids.
- 24) Updated Index Shapefile (dated 9/16/2014).

August 2014

- Allegheny County Parcels, street centerlines and address points, building footprints.
- Updated Data Sets from DEP: This is an update to an existing data sets: Oil and Gas wells, Oil and Gas wells conventional and unconventional, Longwall mining, Mined Out Areas, Underground mining permits, attaining lakes, non attaining lakes.

- Data from DEP California Office:
 - 25) DCNR_Penfield: 478 Archive Tiffs, 485 Ungeoreferenced Sids, and 0 Georeferenced Sids.
 - 26) DEP_WilkesBarre: 732 Archive Tiffs, 732 Ungeoreferenced Sids, and 359 Georeferenced Sids.
 - 27) Other_Collection-Alpha_Natural_Resources: 45 Archive Tiffs, 45 Ungeoreferenced Sids, and 0 Georeferenced Sids.
 - 28) Other_Collection-Berwind_Natural_Resources: 138 Archive Tiffs, 138 Ungeoreferenced Sids, and 0 Georeferenced Sids.
 - 29) Other_Collection-CONSOL_Hardbacks: 295 Archive Tiffs, 273 Ungeoreferenced Sids, and 123 Georeferenced Sids.
 - 30) Other_Collection-K-Sheets: 53 Archive Tiffs, 53 Ungeoreferenced Sids, and 53 Georeferenced Sids.
 - 31) Other_Collection-PSU_Fayette: 3 Archive Tiffs, 3 Ungeoreferenced Sids, and 73 Georeferenced Sids.
 - 32) DEP_California-Abandoned: 131 Archive Tiffs, 131 Ungeoreferenced Sids, and 107 Georeferenced Sids
 - 33) DEP_California-Active: 81 Archive Tiffs, 81 Ungeoreferenced Sids, and 82 new Georeferenced Sids (in addition to old in Most_Recent folders).
 - 34) DEP_NewStanton: 493 Archive Tiffs, 497 Ungeoreferenced Sids, and 169 Georeferenced Sids.
 - 35) DEP_Pottsville: 1027 Archive Tiffs, 1027 Ungeoreferenced Sids, and 100 Georeferenced Sids.
 - 36) Updated Index Shapefile (dated 8/1/2014).
- [Updated Topographic maps \(geopdfs\) from the US Geological Survey](#): 916 topographic maps in geopdf form updated 2014.
- [Updated data from PA Fish and Boat Commission](#). This is an update to an existing data set-- Wilderness Trout Streams

July 2014

- Allegheny County Parcels, street centerlines and address points, building footprints.
- New data from PA Department of Conservation of Natural Resources (DCNR).
 - DCNR_LOC_sgmr_201404
 - DCNR_Pads_sgmr_201404
 - DCNR_Pipeline_Export_sgmr201404
 - DCNR_Road_Gas_Export_sgmr201404
 - Draft_DCNR_OG_Ownership_sgmr_201404
- Updated Data Sets from DEP: This is an update to an existing data sets: AML points, AML polys, AML sites, Air Emission Plants, Beneficial Land Uses, Captive Hazardous Waste Operations, Coal Mining Operations, Coal Pillar Location Mining, Coal Pillar Location Oil and Gas, Commercial Hazardous Waste Operations, Encroachment Location, Encroachment Locations Oil Gas, Erosion and Sediment Control Facilities, Industrial Mineral Mining Operations, Integrated List Attaining, Mine Drain Treat Land Recycling Project Locations, Municipal Waste Operations, Oil Gas Locations, Oil Gas Water Pollution Control Facilities, Radiation Facilities, Residual Waste Operations, Storage Tank Locations, Total Maximum Daily Load, Total Maximum Daily Load Lakes, Unpaved Roads, Water Pollution Control Facilities, Water Resources, Conservation Wells, Conservation Wells Plugged, Stormwater 167, Mined Out Areas, Longwall Mining Panels, Underground Mining Permit, Public Water Supplier's (PWS) Service Areas, Water Management Plans (WMP) - Marcellus Shale
- Data from DEP California Office:
 - Updated Index Shapefile (dated 6/18/2014).

- DEP_California-Abandoned: 116 Archive Tiffs, 116 Ungeoreferenced Sids, and 107 Georeferenced Sids.
- DEP_California-Active: 94 Archive Tiffs, 94 Ungeoreferenced Sids, and 94 new Georeferenced Sids (in addition to old in Most_Recent folders).
- DCNR_Penfield: 485 Archive Tiffs, 487 Ungeoreferenced Sids, and 75 Georeferenced Sids.
- DEP_NewStanton: 127 Archive Tiffs, 127 Ungeoreferenced Sids, and 0 Georeferenced Sids.
- DEP_Pottsville: 27 Archive Tiffs, 29 Ungeoreferenced Sids, and 0 Georeferenced Sids.
- Other_Collection-PSU_Fayette: 159 Archive Tiffs, 159 Ungeoreferenced Sids, and 0 Georeferenced Sids.
- Data from DEP California office:
 - Updated Index Shapefile (dated 7/8/2014)
 - DEP_California-Abandoned: 3818 Ungeoreferenced Sids
 - DEP_NewStanton: 2 Ungeoreferenced Sids
 - DEP_Pottsville: 18 Ungeoreferenced Sids
 - DEP_WilkesBarre: 28 Ungeoreferenced Sids
 - Other_Collection-Altoona_Coal: 8 Ungeoreferenced Sids
 - Other_Collection-CONSOL_Hardbacks: 7 Archive Tiffs, 578 Ungeoreferenced Sids
 - Other_Collection-H_Sheets: 404 Ungeoreferenced Sids
 - Other_Collection-K_Sheets: 814 Ungeoreferenced Sids
 - Other_Collection-Pristine_Resources: 287 Ungeoreferenced Sids
 - Other_Collection-RGGS: 787 Ungeoreferenced Sids
 - Other_Collection-THAW: 15 Ungeoreferenced Sids
- Updated Allegheny County 2013 imagery.
- Updated data from SEPTA. Summer transit routes, stops by line, regional rail stations, regional lines, highspeed stations, highspeed lines.
- Updated data from Delaware River Basin Commission: 1 meter 7-class land cover dataset for the Delaware River Basin .
- Updated data from Lancaster County. This is an update to an existing data sets: Buildings, Drives, Hydroarcs, Hydropoly, Land Use Land Cover, Municipal Boundary, Parking Lots, road centerlines and types, Road Edge arc, Road Edge Poly, Urban Growth Area – Polygon
- Data update from PA Fish and Boat Commission:
 - ClassA_Streams.shp
 - ClassA_Streams_pt.shp
 - Trout_NaturalReproduction.shp.
- Created metadata for new DCNR oil and gas data.

SYSTEM ARCHITECTURE

PASDA , with the support of PSIEE and the PSU High Performance Computing Center, has continued to expand our resources to include additional storage capacity and capability. In addition, PASDA staff have worked with Earth and Environmental Engineering Computing staff to develop and deploy components of PASDA in a virtual machine environment. The PASDA website, FTP, and applications were migrated to the VM environment. In addition, the servers which formerly hosted these had to be upgraded from Windows 2003 and to the latest version of SQL Server.

MEETINGS/OUTREACH/OTHER

PASDA staff participated in weekly meetings with GTO, conference calls for state events, and staff meetings and special outreach events. These included:

- Weekly status meetings
- Weekly CMR meetings
- Weekly PASDA staff meetings
- Monthly meetings with system administration staff including HPC and EMS
- Monthly conference calls for the GIS conference
- Monthly conference calls for GIS Day
- Presented and exhibited at Pennsylvania GIS Day
- Exhibited and presented at the PA GIS Conference
- Exhibited and presented at the Northwest PA GIS Conference
- Presented at the PLSS conference
- Presented at the PASEO conference
- Keynote speaker at PA ENERGIS conference.
- Monthly WebEx Library of Congress/FGDC Geospatial Data Preservation Group
- Presented at the Western PA URISA meeting.
- Presented at the Carnegie Mellon/Ohio Headwaters Committee meeting.

Attended the Big Data Regional Hubs meeting in Boston sponsored by the US national science foundation. The purpose of the meeting was to discuss how scientific/research data can be shared more widely with the general public, how to disseminate the information more rapidly to support innovation, economic development, etc, and to identify resources currently available in the north east. I went at the request of our vice president for research on Penn State's behalf. There were about 50 people there from the region. The group included industries like GE, Microsoft, government agencies, universities, and non profits. It was also sponsored by the white house office of science and technology policy so they had their assistant director at the meeting as well. There were two representatives from the Pittsburgh region--one a supercomputing group and another a data group--non profit. We discussed barriers, opportunities, and things along those lines. We also had a chance to talk about resources that were available in the region and I let the attendees know about PASDA. The next step is setting up some workshops and they will be looking at how to overcome some of the barriers that we identified.

USER SUPPORT & ASSISTANCE

Assistance Provided to the Following (some examples):

DEP, OIT, Harvard World Map, DEP Moshannon District office, NOAA NWS, USGS, FEMA Region 3, Ott Engineering, NOAA NWS Southern Region Headquarters, Silbaugh Hydrological services, AGI, PennDOT, CCAP, Allegheny County Conservation District, Hanover Engineering, Allegheny County, PA Fish and Boat Commission, SSM Group, Range Resources, City of Philadelphia, Van Cleef Engineering, Ott Consulting, GPS Tech Inc, US DOE, Energy Resource Partners, American Minerals, University of Alabama Press,

SAP&DC, Pennsylvania Venture Capital, Millersville University, US Army Corps of Engineers, Miltech Services, TetTech, Platt & Sparks, TM Associates, Airsage Inc, GL Group, Dawood Engineering, Advanced Disposal Management, URS Corporation, PennDOT, Pennoni Associates, HACC, Pennsylvania Department of Military and Veterans Affairs, Bureau of Environmental Management, Social Radar, Caliguiri University Professor of History & Policy, Carnegie Mellon University, DEP, DCNR, Fish and Boat Commission, Gresham and Smith Partners, Central Michigan University, Ott Consulting, Penn State Mont Alto, USGS Annapolis, HDR, USDA NRCS, TetraTech, Range Resources, The Soft Edge, Next Mile Tech, Celebrity, Michael Baker International, Nayton Communications, Bechtel Engineering, Williams Midstream, Upper Dauphin Area High School, Pittsburgh Playhouse, PennDOT maintenance and operations, PASEO, EQT corporation, Ramaker & Associates, Westmoreland County, USGS, Horizon Engineering, Bohler Engineering, DCNR State Parks, Alfred Benesch & Company, Central Connecticut State University, SUNY Brockport, Kleinfelder, Deiss & Halmi, Material Matters Inc, PELSA Company, Working Systems Inc, Delaware River Basin Commission, Allegheny County, SEPTA, Philadelphia University, NLT, USGS, PASEO, Range Resources, PPL, Lambert Surveying, USDA NRCS, Kleinfelder Inc, G Force Engineering, Bohler Engineering, Hanover, PFBC, PA America Water, Western NLS, Max Environmental Technologies, Dominion Due Diligence, Regency Energy Partners, HNTB Corp, PennDOT Maintenance and Operations, Game Commission, HDR, Pa Land Surveyors Assoc. , USDA Forest Survey Northern Research Station, Allegheny County, AECOM, NOAA, PennDOT Engineering District 10-0, US Army, University of Pittsburgh, Resource Environmental Solutions, National Geospatial Program, Beitler Land Surveying, University of Delaware, Advanced Disposal, PA Association of Sewage Enforcement Officers (PASEO), SEPTA, PennDOT, DEP Mining Programs, PFBC, DCNR, Range Resources, Stahl Sheaffer Engineering, BFJ Planning, Pennoni and Associates, USGS, Allegheny County, Shippensburg University, Monroe County Planning, Langan Engineers , Pennoni Associates, Dawood Engineering, CAN Corporation, US Dept of Agriculture, University of Akron, ConSol Energy, Lockard Surveying and Mapping, James Madison University, PSLs, Chevron, US Geological Survey, Advanced Geosciences, Corelogic, PA Historic and Museum Commission, Dave Sheranko Owner & Systems Architect, Lehigh University, FEMA Region 3, Dewberry, Cleveland Botanical Garden, DCNR PAMAP Program, PA DEP, PennDOT District 10, PennDOT Semp Section, Allegheny County, City of Pittsburgh Dept of City Planning, XTO Energy, EADS Group, MyHEAT Inc, PennDOT District 3, Adams Electric Cooperative, Gingrich Apiaries, Gateway Engineers, DCNR Bureau of Forestry, Villanova University, Stein Consulting, Gannett Fleming, Chevron, URS Corporation, Shippensburg, US Navy, National Weather Service Pittsburgh, Bradford County, Rizzo Associates, University of Virginia, FEMA Region 3, Natural Lands Trust, NRCS, EPCAMR, Tri County Regional Planning Commission, Williams Gas Pipelines, Stell Environmental, Ross Consulting, Coleman Environmental Engineering, LLC, Miltech Energy Services, Inc, Earth Resources Observation and Science Center, UNC Charlotte, US Geological Survey (Pa), Hatch, Mott, McDonald, Department of Agricultural & Applied Economics, University of Georgia, NRCS Lewisburg, DEP Moshannon District, Rizzo Associates, Soil Services Company Inc, Uhler & Associates, Midatlantic Engineering, Penn State Mont Alto, Rhea Engineers, McCormick Taylor Inc, FX Browne Inc, Natural Lands Trust, PEMA, Corona Environmental Consulting, NRCS Harrisburg, CME Management, URS Corporation, Penn Township (York County), EPCAMR, Penn General Energy, Rex Energy Corporation, USGS New Cumberland, Shoup Engineering, Delaware River Basin Commission, Crow Insight LLC, DCNR Bureau of State Parks, Ross Consulting, XTO Energy, Stein Consulting, PA Fish and Boat Commission, Game Commission, Air Products and Chemicals Inc, PA Historic and Museum Commission,

PA DEP, PA Land Surveyors Assoc, Stahl Sheaffer Engineering, CyberCity 3D, Carnegie Mellon University, DeVal Soil and Environmental Consultants, Hedin Environmental, Midwest Aerial Photography, DK Lawrence and Design Studio, Lambert Surveying, Duquesne Light, U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center, Allegheny National Forest, Herbert, Rowland, and Grubic, G.D.Houtman and Son, City of Philadelphia, Office of Innovation & Technology, Environmental Consulting (NJ), Stell Environmental, Langan Engineers, Chester County, PA DEP Bureau of Mining, PennDOT District 4, California University, Rettew Associates,) The Gateway Engineers, PennDOT Engineering District 3-0, Adams/Rehmann, & Heggan Assoc, PennDOT District 4-0, National Energy Technology Lab, Delaware River Basin Commission, Blule Rock Flood Services, The Trust for Public Land, ConSol Energy, Lockard Surveying and Mapping, James Madison University, PSLS, Wyoming County, University of Pittsburgh, Stell Environmental, SEPTA, Watson Engineering, URS Corporation, Air Products and Chemicals Inc, Huntingdon County, Bushee James Engineering, Monroe County Planning, Langan Engineers, Allegheny County, DEP, PennDOT, SEPTA, PA Fish and Boat Commission, Ecology and Environment Inc, DCNR, Virginia Tech, DEP Bureau of Point/Non Point Source, Bohler Engineering, Widmere Engineers, PVE Sheffler, Stahl Shaeffer Engineering, Dawood Engineering, US EPA NERL, Paul Rizzo Associates, Core Logic, Roof Site Visit.com, Kleinfelder Assoc, Senate Engineering, University of Pittsburgh, West Chester University, Butler County Housing Authority, Dominion Due Diligence Group, Chester County, PennDOT Engineering District 3, Stevens Evaluation Group, Arrow Engineering, Headwaters Committee.
