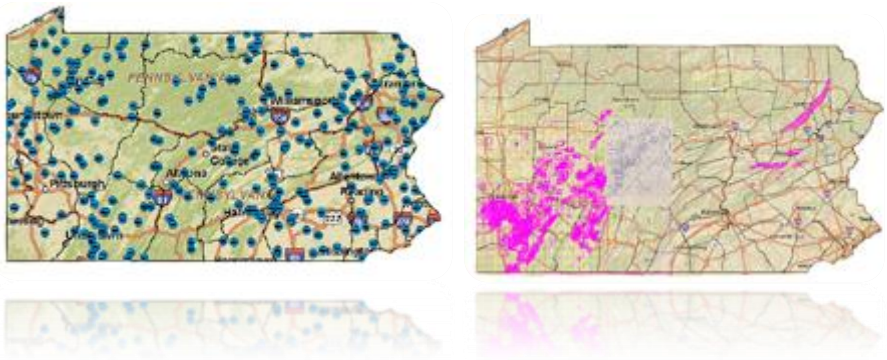
PASDA
PENNSYLVANIA SPATIAL DATA ACCESS
The Pennsylvania Geospatial Data Clearinghouse



2012-2013 Annual Report

July 1, 2012-June 30, 2013

Submitted
by
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OVERVIEW

Pennsylvania Spatial Data Access (PASDA—http://www.pasda.psu.edu), the official public geospatial data clearinghouse for the Commonwealth of Pennsylvania marked its 17th 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. PASDA in late June 2013 acquired a new statistics logging system to give us more detailed and accurate statistics by eliminating all known bots and spiders. In the past year, almost **1.5 million** files were downloaded from the PASDA FTP site; while usage on the entire site topped **75 million** hits. The PASDA web servers, which provide access to Internet Map Services and PASDA applications like the Imagery Navigator, supported over **60 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—**with map service views and data downloads in the millions or hundreds of thousands.**
In addition, PASDA has created highly significant applications and services that dramatically increase the value of the data available. The Imagery Navigator supported almost **5.5 million** views and the Aerial Photo Cache, created and deployed by PASDA in November 2010 supported **almost 17 million** views.

Substantial initiatives in the past year involved the development and deployment of a new PA Mine Map Atlas, expansion and tuning of the architecture for PASDA, and ongoing intensive data loading efforts. The new Pennsylvania Mine Map Atlas was developed with funding from the PA Department of Environmental Protection. This Atlas will provide users with access to thousands of scanned mine maps which can be viewed in the mapper or even printed.

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, and the Northwest PA GIS conference. PASDA has also provided support and guidance for counties and local governments, regional entities, other states.

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, Vijay Agarwala (director), Jason Holmes, 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, 2011-JUNE 30, 2012

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 2013

- Pennsylvania Game Commission

New layers include: Public Shooting Ranges, Parking Areas, Gameland Roads, Elk Management Zones, Elk Management Areas. Updated layers: District Boundaries, Game Regions, Land Management Groups, Office locations, Pennsylvania State Gamelands, Wildlife Management Units

- Chester County

Updated layers include: Airports, County Boundary, Bridges, Cemeteries, Higher Education Facilities, Municipal Boundaries, Railroads, School District Boundaries, Schools, Livable Landscapes Basemap Features, Livable Landscapes Natural Resources Overlay

- Allegheny County

Allegheny County update for June: Parcels, Street Centerlines, Address Points

- DEP

Department of Environmental Protection: Longwall Mining Panels, Mined Out Areas, Oil Gas Locations, Underground Mining Permit, Mined Out Areas, Oil Gas Locations Conventional Unconventional

- HAZUS Flood Analysis

A HAZUS flood analysis is an estimation of economic and social losses associated with a specific return period of flooding. Results are provided as direct and indirect losses, and direct and induced damages. Components which are modeled in the flood analysis include direct damage to buildings, essential facilities, transportation facilities and lifelines. Other components include direct losses associated with the cost of repair or replacement of buildings, essential facilities, transportation facilities, and income loss, shelter and recovery needs. NOTE: you need to download an extension to use this .hpr file in ArcGIS

- DFIRM Pennsylvania

various layers clipped to counties - The Digital Flood Insurance Rate Map (DFIRM) Database depicts flood risk information and supporting data used to develop the risk data. The primary risk classifications used are the 1-percent-annual-chance flood event, the 0.2-percent-annual-chance flood event, and areas of minimal flood risk. The DFIRM Database is derived from Flood Insurance Studies (FISs), previously published Flood Insurance Rate Maps (FIRMs), flood hazard analyses performed in support of the FISs and FIRMs, and new mapping data, where available. The FISs and FIRMs are published by the Federal Emergency Management Agency (FEMA). The file is georeferenced to earth's surface using the UTM projection and coordinate system.The specifications for the horizontal control of DFIRM data files are consistent with those required for mapping at a scale of 1:12,000.

May 2013

- Allegheny County

Allegheny County update for May: Parcels, Street Centerlines, Address Points

- Pennsylvania Fish and Boat Commission

update includes: Class A Streams, Trout Natural Reproduction, Class A Streams - point

April 2013

- Lancaster County Imagery 2012

Color InfraRed (CIR) and True Color (RGB) Orthoimages Lancaster County, Pennsylvania 2012

- DFIRM Depth Grid: 1% Annual Chance Flood Depth Grids

A 1% Annual Chance Flood Depth Grid represents the height of a 100 year flood surface elevation above ground or bottom of a stream channel measured in feet. The values are captured per cell of a defined area. The cell size for 1% Annual Chance Flood Depth Grids is variable. It is calculated by subtracting the height of the ground surface elevation from the surface height of the 1% annual chance flood. A Flood Depth Grid can assist a community in understanding, communicating, and relaying the variability and severity of flooding in a mapped floodplain.

- Allegheny County

Allegheny County update for April: Parcels, Street Centerlines, Address Points

- DEP

Department of Environmental Protection: Full April update

March 2013

- Philadelphia 2012 aerial photography - 1GB and 5GB

The dataset consists of tiled orthogonal imagery produced from nadir images captured by Pictometry International during the period of 2012-03-30 to 2012-04-28 in Philadelphia, PA. Automatic aerial triangulation (AAT) was performed. The triangulated frames were rectified to a Pictometry Produced LiDAR derived DEM. Mosaicing was performed using an automatic seaming algorithm and manually edited to eliminate seams through elevated features where possible.

- Allegheny County

Allegheny County update for March: Parcels, Street Centerlines, Address Points

- DEP

Department of Environmental Protection: Longwall Mining Panels, Mined Out Areas, Oil Gas Locations, Underground Mining Permit, Mined Out Areas

- Lancaster County

Lancaster County 2013 Spring update: municipal boundaries, road centerlines and types, urban and village growth boundary polygons

February 2013

- DEP

Department of Environmental Protection: Longwall Mining Panels, Mined Out Areas, Oil Gas Locations, Underground Mining Permit, Environmental Justice Areas 2010

- City of Philadelphia update

City of Philadelphia update: Zoning Registered Community Organizations, Zoning Overlays, Zoning Base Districts, Water Inlets, Street Centerlines, School Facilities, Sanitation Districts, Sanitation Areas, Political Wards, Political Ward Divisions, Police Districts, Planning Districts, Libraries, Hydrography - polygon, Hydrography - line, Zipcodes - polygon, Zipcodes - arc, Police District Offices - point, Highway Districts, Fire Department Facilities,Evacuation Routes, DOR Parcels Active, Bike Network

- Pennsylvania Fish and Boat Commission

update and new layers include: Approved Trout Waters, Class A Streams, Trout Natural Reproduction, Class A Streams - point, Erie Tributaries Open Fishing - point, Erie Tributaries Open Fishing Polygon, Erie Tributaries, Streams CH93 Existing Use

- City of Philadelphia new

City of Philadelphia New Layers: Census Tracts 2010, Philadelphia Farmers Markets, Combined Sewer Service Area, Green Storm Water Infrastructure, Healthy Corner Stores, Major Watersheds - Regional, Major Watersheds - Philadelphia, Police Service Areas, Golf Ranges, Ice Rinks, Major Multiuse Trails, Park - Boundaries, Parks - Points, Playgrounds, Pools Spraygrounds, Recreation Facilities

- Allegheny County

Allegheny County update: Parcels February 2013

- PennDOT

February 2013 PennDOT Data and Metadata update including: Traffic, State Roads, State, Senatorial, School Districts, Municipalities, MPO RPO Planning, Local Roads, Interstate

Mile Markers, Interstate Highway Exits, House Boundaries, County Boundaries, Congressional, Administrative State Roads, Engineering district boundaries, PA Airport Part 77, PA Airport Linear Part 77

January 2013

- Pennsylvania Department of Conservation and Natural Resources

Layers include: Forest District boundaries, Pennsylvania Wild and Natural Areas, State Forest District Offices, State Forest Lands

- Lancaster County

Lancaster County 2013 Winter update: municipal boundaries, road centerlines and types, urban and village growth boundary polygons

- DEP

Department of Environmental Protection: January update

- Allegheny County

Allegheny County update: Parcels January 2013

- PennDOT

January 2013 PennDOT Data and Metadata update including: Pennsylvania Congressional, House, and Senate boundaries

December 2012

- Pennsylvania Fish and Boat Commission

Layers include: Trout Natural Reproduction, Regional Headquarters, Law Enforcement Regions, Fishing Special Regulation Lakes (Points), Fishing Special Regulation Lakes (Polygons), Fishing Special Regulation Streams, Class A Wild Trout Streams, Boating Special Regulation Waters (Points), Boating Special Regulation Lakes (Polygons), Boating Special Regulation Streams, Area Fisheries Management Offices, Approved Trout Waterbodies, Approved Trout Waters, Approved Trout Waterbodies (points), Area Fisheries Management Areas, Fishing Hotspots

- Allegheny County

Allegheny County update: Parcels December 2012

- Pennsylvania Department of Environmental Protection

Streams Chapter 93 Designated Use - National Hydrography Dataset NHDFlowline layer with a spatial representation of designated water uses defined in Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards. The Pennsylvania Code just cited provides a list of all streams or watersheds (basins) in the state along with their associated designated water uses. This GIS layer displays these uses spatially on an interactive stream map. Public users can drill down to locations on the map to view and map the designated uses of the water bodies of interest. The layer can also be used in conjunction with other spatially referenced data for spatial analyses.

November 2012

- Work Projects Administration (WPA) Mine Maps

WPA Mapping was drawn in the 1930's as part of the "Works Progress Administration". All mining shown on the WPA Maps is assumed to have taken place 'Prior to 1935'. The WPA Maps were laid out based on the 15' USGS Topographic Quadrangles, consisting of nine (9)

5' sections. The lower right corner of the WPA Maps includes the sheet name and coal seam covered by the sheet. The latitude and longitude of each corner of the WPA Map is shown. The adjacent WPA Map is listed at each corner and mid way along each edge. The contour lines on the WPA Maps indicate the elevation of the coal seam in feet “above sea level”. The coal seam outcrop is shown using a heavy black line. The outcrop is the point where the coal seam elevation and the surface elevation are equal. The speckled areas on the maps indicate completely mined out areas. The symbol that looks like a ladder indicates a mined out area where passage ways ("Mains") were first developed. Clear areas, which are inside the outcrop, were not mined as of 1935. Occasionally mine names and operator names appear around the mined out areas, however clear mine boundaries are not shown. Oil and gas wells are shown on the maps as star-like symbols.

- Allegheny County

Allegheny County update: Parcels November 2012

- DEP

Department of Environmental Protection: Longwall Mining Panels, Mined Out Areas, Oil Gas Locations, Underground Mining Permit

October 2012

- Philadelphia Bike Network and Supporting Datasets

Philadelphia bike network and supporting datasets is an experimental dataset that combines various City of Philadelphia departments' datasets to support bike network routing. These datasets are in an experimental stage and are not yet approved for wide use. Use with caution is recommended. Datasets include Bike Network, Connector Streets, Regional Routes, and Trails and Side paths. For source, date, limitations and additional data for each supporting dataset, please see metadata.

- DEP

Department of Environmental Protection: October update

- Lancaster County

Lancaster County 2012 Fall update: municipal boundaries, road centerlines and types, urban and village growth boundary polygons

- Philadelphia Council Districts 2016

City Council Districts as redistricted from 2010 census. Effective 2016 (first election year following passage of redistricting bill.) - Features updated: 04/12/2012 - Attributes updated: 04/12/2012 - Metadata updated 09/20/2012. Bill No. 110661: "This Ordinance shall not affect the elected members of Council during the term ending the first Monday of January 2016, nor shall it affect the powers, duties or functions of their offices or of the Council or its officers during such term. The new district boundaries, as amended by this Ordinance, shall apply only to the nomination and election of the members of Council whose terms of office commence the first Monday of January 2016, and thereafter."

- Pennsylvania Department of Health

update - layers include: Birth Centers, Community Mental Health Centers, Drug Alcohol Treatment Facilities, Home Health Agencies, Hospices, Intermediate Care Facilities, Physical Speech Therapy Facilities, Portable Xray, Psychiatric Residential Treatment Facilities, Rural Health Clinic.

- Allegheny County

Allegheny County update: Parcels October 2012

September 2012

- DEP

update: Oil & Gas Locations

- Southeastern Pennsylvania Transportation Authority (SEPTA)

SEPTA Routes Fall and SEPTA Stops Fall

- Allegheny County

Allegheny County update: Parcels September 2012

- City of Philadelphia 2012 update

update layers include: Philadelphia Political Ward Divisions, Philadelphia Political Wards, Philadelphia Zoning

August 2012

- Philadelphia Zoning update

update includes: Philadelphia Zoning Base Districts and Zoning District Overlays.

- Allegheny County

Allegheny County update: Parcels August 2012

July 2012

- Pennsylvania Fish and Boat Commission

update includes: State Fish Hatcheries, Waterways Conservation Officer Districts

- DEP

Department of Environmental Protection: July update

SYSTEM ARCHITECTURE & APPLICATIONS

PASDA , with the support of PSIEE and the PSU High Performance Computing Center, has been able to expand our resources to include additional storage capacity and capability. In the last year all of our servers have been upgraded to ArcGIS 10.1 and has allowed new applications like the PA Mine Map Atlas to access services and data that had not been accessible in the past.

PASDA was asked to develop an online mapping application for the PA DEP Office of Mining and to store multiple terabytes of data. The complexity of this project was not only the volume of data stored but also providing the ability to view, print, and customize map outputs via an online interview. In addition, a transparency option was developed that allows users to view aerial photos and other base maps with the mine map overlayed.

PASDA was also able to acquire additional data storage from the PSU High Performance Computing Center to store not only mine maps but also additional data.

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 with GTO
Weekly CMR meetings with GTO
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 at the PA GIS Conference
Exhibited and presented at the Northwest PA GIS Conference
Monthly WebEx Library of Congress/FGDC Geospatial Data Preservation Group

USER SUPPORT & ASSISTANCE

Assistance Provided to the Following (some examples):

SENSEable City Lab, City of Philadelphia, US Army Corps of Engineers Baltimore District, Purdue University, NOAA/NWS Texas, Hawkes Enterprises LLC, Ohio State University, PA Game Commission, National Aviary, Beaver Excavating, North American Reserve, LT Leon Associates, ARC Atlanta, Gwin, Dobson, Foreman LTD, ESRI, GL Nobel Denton, HACC, SI Organization Inc, National Aviary, University of Rhode Island, Fenstermaker Engineers, National Weather Service (TX), Lancaster County, Villanova University, Platt, Sparks & Associates, CPE Inc., Department of Environmental Protection, Warren District Office, Mining & Environmental Engineers, Lancaster County, CMI Company, T&M Associates, UniTech Consulting Engineers, Allegheny County, FEMA RAMPP Regional Support Center, Research Planning Inc, Iowa State University Institute for Transportation, CDI Corporation, Craftmaster Manufacturing Inc, University of Washington Geography Dept, Susquehanna River Basin Commission, Jet Propulsion Lab (NASA), US Army Corps of Engineers Baltimore, Chester County, Alpha Natural Resources, CME Management LLC, Danville Public Library, Miltech Energy Services Inc, Stormwater Solutions, Bureau for Historic Preservation Pennsylvania Historical & Museum Commission, City of Philadelphia OIT, FEMA regional office III, PennDOT district 6, Lancaster County, Oman and Assoc, Westmoreland County Department of Planning and Development, Fayette County, Millersville University, US Army Corps Chicago Office, Miltech Energy Services, Chester County, Army Corps of Engineers Baltimore District, Tetra Tech, PennDOT, PA State Police Radio Network, T&M Assoc, PA DEP Mining Office, Phila Police Dept, Rutgers University, Allegheny County, CCAP, Allegheny County, Bankson Engineers, Dewberry, IMS Health Inc, DCNR Bureau of State Parks, Skelly and Loy Inc, Horsley Witten Group, TAB Online inc, Total Exploration Inc, Philadelphia University, Prime Engineering, The Nature Conservancy, FXFOWLE Inc, Armstrong County, ECHO Retail, Velocity Inc, PennDOT, FEMA Region 3, PennDOT District 6, Capital RC & D, GPS Nautical Charts Inc, California University, Rettew Assoc, Virginia Commonwealth University, City of Philadelphia, Landman Surveys, Baker Engineering, SEDA COG, Chester County, The Nature Conservancy, ESRI Content Team, Open Street Map, Vantage Energy, Nine Mile Run Watershed Association, Amfire Mining Company, PA DEP, Children's Environmental Health Initiative University of Michigan, Stromberg Garrigan & Assoc, Delta Engineers, DEP Bureau of Deep Mine Safety, NOAA/NWS Texas, DDS Engineers, Dewberry Inc, City of Philadelphia, SEPTA, PennDOT, Allegheny County, FEMA, Shoener Environmental Inc, Syracuse University, Tioga Environmental Consulting, EPCAMR, Chesapeake Bay Program, Kleindofer Omni Inc, The Jones Group Inc, Hawbaker Engineering, EPA Center for Subsurface Modeling, JMT Inc, EADS Group, CH2M Hill

Inc, DEP Bureau of Mining Programs Harrisburg, Georgia Tech University, BAI Group Inc, PA DCNR, Hedin Environmental, Uni-Tech Consulting Engineers, HNTB Corporation, SE Technologies LLC, Boundary Solutions.com, TriCounty Regional Planning Commission, TKT Midstream, Robert Blue Consulting Engineers, University of Virginia School of Architecture, McGowans Inc, Ecology and Environment Inc, Dawood Engineering, Oaks Forestry Consulting, TomTom, Hydro-Spray, Natural Lands Trust, Army Corps of Engineers, McTish Inc, RFF Inc, Land Services Group, Lancaster County, PA DEP, Allegheny County, PA Fish and Boat Commission, ESRI, Heritage Conservancy, Chesapeake Bay Program, UGI Consulting, Berks County, Consol Energy, Susquehanna River Basin Commission, Preservation Pennsylvania, TeamAg Inc, Shippensburg University, DEP Clean Water, Whitney, Bailey, Cox, & Magnnini LLC, City of Philadelphia, PA DEP California Mining Office, EADS Group, Ritter & Plante Assoc, PA Game Commission, Access Midstream Partners LLC, PA Land Holdings Company LLC, Langan Engineering & Environmental Assoc, Wallen Engineering Solutions, PHMC CRGIS, Prime Engineering Inc, Data Development Group Inc, Ecology & Envrionment Inc, John Chance Land Surveys, Burns Engineering Inc, Dawood Engineering, DEP Southcentral regional office, Pleiad Consulting, Georgia Institute of Technology, EPCAMR, SE Technologies LLC, PennDOT district 4, City of Philadelphia, XTO Energy, Lancaster Newspapers Inc, PA Audubon Society, Coleman Environment Engineering, Temple University, University of California (SF), Chesapeake Bay Program, STV Incorporated, PA Game Commission, University of Vermont Spatial Analysis Lab, Wilkinson & Associates, Environmental Data Resources, Susquehanna River Basin Commission, NTM Engineering, Geospatial Innovations Inc., PA DEP Mining Office (California), PA Dept of Health, PA DEP, Kent State University,City of Philadelphia, Sarcinello Planning and GIS Services, Miltech Energy Services, Center for Subsurface Modeling Support (CSMoS) Robert S. Kerr Environmental Research Center (USEPA - R 6), Virginia Tech, Alpha Natural Resources, Hoffert Surveyors, US Army Corps Baltimore, Epic Road Trips Inc, DEP Cambria Office, Guilford Township, RAIN network, Defense Logistics Agency, AE COM, Dossa LLC, Commonwealth Engineers, Stackhouse Bensinger Inc, Yale University, Greene County, Dieffenbach and Hirtz Engineers, EQT Inc, Delaware Water Gap Recreational Area, Ted Oman and Associates, Victor Wetzel Associates, Core Logic, City of Philadelphia, AECOM, US Bureau of Land Management, PA DEP, Stackhouse Bensinger Inc, PA Department of Military and Veterans Affairs, Allegheny College, Paloma Resources LLC, FEMA Risk Analysis Branch, Allegheny County, Blair Conservation, Gannett Fleming, Direct Energy, Trumbel Corp, PA General Energy, Powdermill Nature Center, Salvation Army, Columbia County, Glasgow Inc, Carnegie Museum, Market Planning Solutions, Hartmann Associates, Montgomery County, Direct Energy Upstream, System Design Engineering Inc, E&P Applications, Williams Inc, US Environmental Protection Agency, Center for Community GIS, Open Space Institute, McTish, Kunkle, & Associates, Pike County, Township of Dingman's Ferry, Bucks County, GeoStellar Inc, Derck Edson Associates, SE Technologies LLC, Cherry, Weber, & Associates, County Commissioners Association, CoreLogic, Kleinfelder Inc.