

State Geospatial Data Coordination Procedure

Pennsylvania

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Purpose of the Procedure

Flood insurance studies search for geospatial data during pre-scoping and scoping tasks. If needed data are not available, studies might fund the collection of new data and would like to know about other organizations that might share in these costs. Detailed information about the role geospatial data coordination plays in studies is in the *Geospatial Data Coordination Implementation Guide*, which is available at <<https://hazards.fema.gov/femaportal/docs/GeoDataImplem.pdf>>, and in *Scoping*

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Guidelines: Pre-scoping and the Scoping Meeting, which is available through the Regional Management Center (RMC).

Resources developed through FEMA's geospatial data coordination activities provide information about data and contacts for organizations that have geospatial data that cover large areas (like states) in which many studies are interested. Studies can avoid wasting time with dead-end searches and cold calls by starting with these proven sources of information.

One resource is this Geospatial Data Coordination Procedure. It outlines sources of geospatial data and contact information, preferences for base map data and state geospatial participation in studies, and other useful information for the State.

If you have questions about this procedure or other geospatial data coordination resources, contact the geospatial data coordination lead in your Regional Management Center:

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Default Flood Hazard Base Map for the State

The default base map for flood hazard maps for the State is either an image (orthophoto) or vector (road centerline) base map. Orthophotography is the preferred base map. The choice of orthophotography depends on the individual county being studied, and is selected on a case-by-case basis. Although there is no complete statewide orthophotography base currently available for use in the FEMA mapping effort, most of the state has high resolution orthophotography available through PAMAP. The State will have a complete coverage available in the next several years. When no orthophotography is available that meets FEMA standards, or at the preference of the county or communities, vector base map layers are used.

Geospatial Data Coverage

Find below information about and links to statewide (and Federal agencies' national) geospatial datasets. The list is provided to save time during pre-scoping and scoping activities when building a list of candidate geospatial datasets available for the study; it is not a prescription of datasets that must be used in a flood insurance study.

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Major State Holdings

Orthophotos

Dataset name: PAMAP Program High Resolution Color Orthophotography

Data currentness: Maintained on a 3 year cycle.

Accuracy/Scale: For 2004-2006 images, 1-foot pixel resolution, 1:2400 scale. ± 5 ft horizontally at the 95% confidence level for true 1 ft resolution. The horizontal accuracy standard follows the NSSDA-1998 standard. For 2003 images, 2-foot pixel resolution, 1:2,400 scale.

Ground sample resolution: 1 foot.

Horizontal datum: NAD 83

Fee associated? No

Available for redistribution? Yes

Dataset source: Pennsylvania Spatial Data Access (PASDA), Land Water Building, University Park PA, 16802, www.pasda.psu.edu

Dataset contact: Jay Parrish, P.G., Ph. D., PAMAP Program, PA Department of Conservation and Natural Resources, Bureau of Topographic and Geologic Survey, (717) 702-2053.

Transportation (roads, railroads, and airports)

Dataset name: Pennsylvania Administrative State and Local Roads 2007

Data currentness: January 2007.

Accuracy/Scale: Digitized from sources conforming to National Mapping Accuracy Standards for 1:24,000 scale maps. Estimated accuracy is +/- 100 Feet.

Horizontal datum: NAD 83

Fee associated? No

Available for redistribution? Yes

Dataset source: Pennsylvania Department of Transportation, Bureau of Planning and Research, Cartographic Information Division. Available through <http://www.pasda.psu.edu/>.

Dataset contact: Pennsylvania Spatial Data Access (PASDA), Land Water Building, University Park PA, 16802, pasda@psu.edu

Notes: The state does not have an authoritative road names database, or an authoritative road centerline spatial dataset. Transportation features will be obtained on a case by case basis from the best available source. PennDOT road layers do not spatially overlay the PAMAP orthophotography base very well, and as such are not spatially accurate enough to be used as vector base layers on FEMA Flood Insurance rate Maps.

Hydrography (rivers, streams, lakes, and shorelines)

Dataset name: Networked Streams of Pennsylvania.

Data currentness: 1998

Accuracy/Scale: Conforms to National Mapping Program Geospatial Data Standards.

Attribute accuracy has been checked by visual comparison against source materials and peer review at ERRI.

Horizontal datum: NAD 83

Fee associated? No

Available for redistribution? Yes

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Are hydrography names part of the dataset? Yes

Dataset source: Environmental Resources Research Institute. Available through <http://www.pasda.psu.edu/>.

Dataset contact: Pennsylvania Spatial Data Access (PASDA), Land Water Building, University Park PA, 16802, pasda@psu.edu

Notes: Hydrographic features will be obtained on a case by case basis from the best available source. Statewide layers currently at PASDA may or may not be spatially accurate enough to be used as vector base layers on FEMA Flood Insurance rate Maps. The PAMAP orthophotography should be used when comparing vector features for accuracy, with the goal of little or no spatial variance from the PAMAP base.

Political boundaries (county, municipal)

Dataset name: Pennsylvania County and Municipal Boundaries.

Data currentness: January 2007.

Accuracy/Scale: Digitized from sources conforming to National Mapping Accuracy Standards for 1:24,000 scale maps. Estimated accuracy is +/- 100 Feet.

Horizontal datum: NAD 83

Fee associated? No

Available for redistribution? Yes

Dataset source: Pennsylvania Department of Transportation, Bureau of Planning and Research, Cartographic Information Division. Available through <http://www.pasda.psu.edu/>.

Dataset contact: Pennsylvania Spatial Data Access (PASDA), Land Water Building, University Park PA, 16802, pasda@psu.edu

Notes: There is no definitive county or municipal boundary file for the State of Pennsylvania that is acceptable to all stakeholders. PENNDOT municipal boundary spatial data are not meant to be used at scales higher than 1:24,000, so this dataset is generally not suitable for use in FEMA DFIRMs. Political boundaries will be obtained on a case by case basis from the best available source, usually the individual county or regional planning agency.

Publicly owned lands (national, state, and local parks, forests, etc)

No single statewide coverage available.

Notes: No single statewide publicly owned lands dataset exists for the Commonwealth of Pennsylvania. Various specific datasets exist at PASDA and other sources, which would need to be projected, compiled and validated before use in FEMA DFIRM projects.

Cadastral (parcels)

No coverage available.

Notes: Parcel datasets exist for several specific counties in the Commonwealth of Pennsylvania, a few of which are available at PASDA.

Terrain (elevation)

Dataset name: PAMAP Program 2006 LiDAR, DTM, DEM and 2 ft. Contours

Data currentness: In Progress

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Accuracy/Scale: The data will have a 1.4 meter average point spacing (2 meter maximum) with a bare earth surface vertical accuracy of 18.5 centimeters RMSE. The data will be used to produce 2-foot contour data sets.

Vertical datum: NAVD 88

Fee associated? No

Available for redistribution? Yes

Dataset source: www.pasda.psu.edu

Dataset contact: Jay Parrish, P.G., Ph. D., PAMAP Program, PA Department of Conservation and Natural Resources, Bureau of Topographic and Geologic Survey, (717) 702-2053.

Notes: Pennsylvania is one of the first states in the country to develop and implement a plan for the acquisition of statewide LiDAR data. In Spring 2006, the PAMAP program began the project with the capture of LiDAR for twenty-one counties in the western part of the state and Luzerne County. Current PAMAP plans are to acquire LiDAR for an additional twenty counties in 2007. Deliveries of county 2006 LiDAR products, including DTMs, DEMs, and 2-foot contours will begin in September 2006 and continue through May 2007.

Data Distribution Process for State Data

As mentioned above, Pennsylvania has a centralized data distribution process for GIS data through Pennsylvania Spatial Data Access (PASDA). Data is available via FTP or via HTTP at <http://www.pasda.psu.edu/access/index.shtml>.

PASDA services are provided free of charge to all users. The data on PASDA is provided by federal, state, local and regional government agencies, non-profit organizations, and academic institutions throughout the region.

Data licensing is dealt with on a dataset by dataset basis. Use is permitted only after agreeing to a terms of use and warranty disclaimer.

Federal Nationwide Geospatial Data Holdings

Information about nationwide holdings and programs of Federal agencies is available from the Mapping Information Platform web site at <https://hazards.fema.gov/femaportal/docs/ProgFacts.pdf>.

Finding and Accessing Other Existing Geospatial Data

Find below information about and links to ways of searching for additional geospatial data available for the State. These capabilities can be useful for finding geospatial data other than the statewide and Federal data listed above, including those of special governments, counties and parishes, municipalities, tribes, universities, and other organizations.

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Clearinghouses and Inventories for the State

There is a statewide repository of Pennsylvania base layers which is hosted by Pennsylvania Spatial Data Access (PASDA). PASDA is known as the official geospatial data clearinghouse for the Commonwealth of Pennsylvania and serves as Pennsylvania's node on the National Spatial Data Infrastructure (NSDI), and Geospatial One-Stop. PASDA is a publicly accessible web site (www.pasda.psu.edu).

The state has an existing inventory of geospatial products which was prepared by the Pennsylvania Mapping and Geospatial Information Consortium (PaMAGIC) in 2004. The information is static and is based on a survey of counties that was performed in 2003.

National Digital Orthophoto Program (NDOP) and National Digital Elevation Program (NDEP) Tracking Systems

These systems allow the search of orthophoto and elevation project information entered by federal and other organizations. To access the NDOP system, go to the NDOP web site at <http://www.ndop.gov> and follow the link "Project Tracking." For the NDEP system, go to the NDEP web site at <http://www.ndep.gov> and follow the link "Project Tracking."

TED Query Tool

This tool provides access to information about Federal, state, and local government agency and private sector data holdings gathered by the Census Bureau. It is available through the geospatial data coordination lead at the Regional Management Center.

Geospatial One-Stop

Geospatial One-Stop, available at <http://www.geodata.gov>, provides access to geospatial data from many sources. Two parts of the site that should be investigated are the "data categories" for existing data and the "marketplace" for data that are planned or in-work and for potential partners for new data collection activities.

Working with People

Useful State and Federal Contacts

The main contacts for the State's geospatial activities and Federal agencies' representatives in State are available on the Mapping Information Platform web site at <https://hazards.fema.gov/contacts/StateContacts/contacts.asp?page=PA>

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Involving the State's Geospatial Coordinator in Flood Studies

The State Contact is kept informed of FEMA Map Modernization issues at bi-annual Map Mod conferences, through coordination with the RMC Geospatial Coordination Lead, FEMA Region III, and the PA NFIP coordinator.

State Coordination Process for Building Geospatial Partnerships

The Pennsylvania Bureau of Geospatial Technologies through the Geospatial Technologies Council is the lead GIS Council in the State. Jim Knudson is the current Director of Geospatial Technologies. The BGT website is located at:

<http://www.oit.state.pa.us/bgt/site/default.asp>.

In 2005, the Bureau of Topographic and Geologic Survey (BTGS) within Pennsylvania's Department of Conservation and Natural Resources (DCNR) began a new collaborative mapping initiative, PAMAP (<http://www.dcnr.state.pa.us/topogeo/pamap/index.aspx>). The goal is to leverage investments of mapping by local, state, and federal governments, and to provide a standard statewide framework for data. The PAMAP initiative is also a pilot project of the USGS National Map Program. PAMAP products will include orthophotography and LIDAR elevation data. Other local, county, and state agencies will contribute vector layers. In the July 2005 "PAMAP Leadership Plan" the PAMAP product is defined as:

PAMAP is a collaborative effort among local, state and federal governments to build a base of geographic information that serves the needs of the individual partners and provides decision making capabilities at all levels of government. The state provides orthophotography₁ and elevation/topography while counties provide key vector data that align to the orthophotos and conform to a standard.

The State will create and maintain statewide high-resolution 2' pixel or better true color digital orthophotography suitable for 1:2,400 or better scale mapping. The imagery will be re-flown regionally every year resulting in every part of the state being updated on a regular annual interval, depending on available funding. County governments that are PAMAP data partners will adopt data exchange standards, and provide their data free of charge to the state on a quarterly basis per the Data Partner Agreement ... In return, Counties receive a one-time payment of \$40/sq. mile that may be used to create or modify 1:2,400 county data layers in conformance with the standards set forth by the Pennsylvania Geospatial Data Sharing Standard (PGDSS).

The PAMAP data will become the preferred base layer source once the data is available.

Finding Local Geospatial Contacts

Local contacts, including those from special government districts (for example, a regional planning commission); counties, parishes, or equivalent governments; tribes, municipal governments; and other organizations (for example, local universities) also have geospatial data that can help a flood insurance study. Contact information is available

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from the FEMA archive and web searches at government link portals such as <http://www.statelocalgov.net>.

The State also maintains information about local geospatial contacts for counties in a database available from Jim Knudson, Pennsylvania Geospatial Technologies Office, jknudson@state.pa.us, <http://www.oit.state.pa.us/bgt/site/default.asp>.

The state does not have strong county governments. Most land use authority is in the hands of local municipalities. The state has numerous water boards, river authorities, regional planning councils, councils of government, and major universities that have GIS data holdings. Examples include the Delaware River Basin Commission (DRBC), Delaware Valley Regional Planning Commission (DVRPC), SEDA Council of Governments (SEDA-COG), Penn State University through Pennsylvania Spatial Data Access (PASDA), and others.

Provide Feedback on This Procedure

When you find information in this Procedure or in other FEMA or State resources that are outdated, please tell the geospatial data coordination lead in the Regional Management Center what was wrong and the correct information (if you know it). Use the contact information for the lead listed in the section Purpose of the Procedure.

The lead will use your feedback to update this Procedure and will notify the state geospatial coordinator of changes. Changes will also be distributed at Pennsylvania-specific FEMA Map Modernization conferences each year. A current DFIRM status map and list of FEMA priorities for elevation and base layers will be sent to key partners before each conference.

Other Useful Information

It is assumed that FEMA will work with the State to reschedule the sequencing of countywide DFIRMs to take advantage of the new LIDAR as it becomes available.