

State Geospatial Data Coordination Procedure

Virginia

Table of Contents

Table of Contents	1
Purpose of the Procedure.....	1
Default Flood Hazard Base Map for the State.....	2
Geospatial Data Coverage	3
Major State Holdings	3
Orthophotos	3
Transportation (roads, railroads, and airports)	3
Hydrography (rivers, streams, lakes, and shorelines).....	4
Political boundaries (county, municipal).....	4
Publicly owned lands (national, state, and local parks, forests, etc).....	4
Cadastral (parcels)	5
Terrain (elevation).....	5
Data Distribution Process for State Data.....	5
Useful Risk MAP Discovery Data Sources	5
Federal Nationwide Geospatial Data Holdings.....	10
Finding and Accessing Other Existing Geospatial Data	10
Clearinghouses and Inventories for the State.....	10
National Digital Orthophoto Program (NDOP) and National Digital Elevation Program (NDEP) Tracking Systems	10
TED Query Tool	10
Geospatial One-Stop	10
Working with People.....	11
Useful State and Federal Contacts	11
Involving the State’s Geospatial Coordinator in Flood Studies.....	11
State Coordination Process for Building Geospatial Partnerships.....	11
Finding Local Geospatial Contacts	11
Provide Feedback on This Procedure	12

Purpose of the Procedure

Flood Insurance Studies search for geospatial data during Discovery 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>).

State Geospatial Data Coordination Procedure

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 flood insurance studies, information for the project Discovery stage, 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 Support Center (RSC):

Anthony Scardino, Geospatial Data Coordination Lead
RAMPP Regional Support Center 3
(215) 940-9220
ascardino@dewberry.com

We appreciate the help of those who reviewed this document, in particular:

Dan Widner, VGIN Coordinator
Integrated Services Program
VITA, Virginia Geographic Information Network (VGIN)
804-343-9028
Dan.Widner@vita.virginia.gov

Diane Eldridge, Geospatial Liaison for the Commonwealth of Virginia
United States Geological Survey, ER NSDI Partnership Office
USGS National Center MS 563
12201 Sunrise Valley Drive
Reston, VA 20192
(703) 648-4521
deldridge@usgs.gov

Date Procedure last discussed: March 2007

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. VGIN orthophotography is available for use in FIRM products through the coordination efforts of Dan Widner at VGIN, David Gunn of VA DCR, Diane Eldridge at USGS, Nikki Roberts at FEMA Region III, and Regional Support

State Geospatial Data Coordination Procedure

Center 3 personnel. At the preference of specific 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 Discovery 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.

Major State Holdings

Orthophotos

Dataset name: Virginia Geographic Information Network (VGIN), 2009-2011 Virginia Base Mapping Program Digital Orthophotography

Data currentness: Last updated in 2011, 5-year maintenance cycle as funding allows.

Accuracy/Scale: One of three resolutions is available for an area in the State (varies by area):

- 2 ft pixel resolution (1" = 400' scale); 10,000 x 10,000 ft tiles
- 1 ft pixel resolution (1" = 200' scale); 5,000 x 5,000 ft tiles
- 0.5 ft pixel resolution (1" = 100' scale); 2,500 x 2,500 ft tiles (optional)

Ground sample resolution: 2.0, 1.0, or 0.5 US Survey Feet depending on scale.

Horizontal datum: NAD 83/93 (HARN)

Coordinate System: Virginia State Plane North and South zones, US Survey Feet

Fee associated? Yes. No fee for FEMA and FEMA contractor use on FEMA projects. A fee is associated for the private sector on non-FEMA projects.

Available for redistribution? VGIN prefers to be the distributor for the orthophotography, although the data also will be available through USGS.

Dataset source: VGIN at <http://www.vita.virginia.gov/isp/> FEMA Risk MAP Mapping Partners should access the copy provided to the FEMA regional office. The data are also available from the USGS through <http://nationalmap.gov/viewer.html>. Dataset contact:

Dan Widner, VGIN Coordinator, VITA.

Notes: New coverage was flown in 2009/2011.

Transportation (roads, railroads, and airports)

Dataset Name: VGIN Road Centerline File

Data currentness: 2010, continual update

Horizontal Datum: NAD 83

Accuracy/Scale:

Fee Associated: No

Available for distribution: Yes

Are road names part of the dataset: Yes

Dataset source: VGIN at <http://www.vita.virginia.gov/isp/>

Dataset Contact: Dan Widner, VGIN Coordinator, VITA. FEMA Risk MAP Mapping Partners should request the data through the FEMA regional office.

Notes: None

State Geospatial Data Coordination Procedure

Hydrography (rivers, streams, lakes, and shorelines)

Dataset name: Virginia Geographic Information Network (VGIN), 2002 Virginia Base Mapping Program Hydrography

Data currentness: March 2001.

Accuracy/Scale: Data were collected at one of three resolutions (varies by area):

- 2 ft pixel resolution (1" = 400' scale); 10,000 x 10,000 ft tiles
- 1 ft pixel resolution (1" = 200' scale); 5,000 x 5,000 ft tiles
- 0.5 ft pixel resolution (1" = 100' scale); 2,500 x 2,500 ft tiles (optional)

Horizontal datum: NAD 83/93 (HARN)

Coordinate System: Virginia State Plane North and South zones, US Survey Feet

Fee associated? Yes.

Available for redistribution? VGIN prefers to be the distributor

Dataset source: VGIN at <http://www.vita.virginia.gov/isp/>

Dataset contact: Dan Widner, VGIN Coordinator, VITA. FEMA Risk MAP Mapping Partners should request the data through the FEMA regional office.

Are hydrography names part of the dataset? No

Notes: VBMP Hydrography data were collected as part of the Digital Terrain Model (see Terrain (elevation) below). The data are available as a web service or as a physical dataset.

Political boundaries (county, municipal)

Dataset name: Virginia's jurisdiction boundaries

Data currentness: 2004

Accuracy/Scale: 1:24,000

Horizontal datum: NAD83

Coordinate System: Geographic and Lambert Conformal Conic

Fee associated? No

Available for redistribution? Unknown; check with contact.

Dataset source: VA Department of Conservation and Recreation (DCR)

Dataset contact: For access contact Karl Hubert, Department of Conservation and Recreation, karl.huber@dcr.virginia.gov

Notes: In general, political boundaries will be obtained on a case by case basis from the best available source, usually the counties or regional planning agencies.

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

Dataset name: DCR Conservation Lands Database

Dataset currentness: Biannual review

Accuracy/Scale: varies; see metadata

Horizontal datum: NAD83

Fee associated? No

Available for redistribution? Redistribution for profit is prohibited

Dataset source: Conservation lands database at

http://www.dcr.virginia.gov/natural_heritage/conslandmap.shtml

State Geospatial Data Coordination Procedure

Dataset contact: David Boyd, Department of Conservation and Recreation, (804) 371-4801; david.boyd@dcr.virginia.gov

Notes: Provides access to a composite set of boundaries and boundaries maintained by different agencies.

Cadastral (parcels)

No statewide coverage available.

Notes: Local parcel data may be available from the individual jurisdictions.

Terrain (elevation)

Dataset name: Virginia Geographic Information Network (VGIN), 2002 Virginia Base Mapping Program Digital Terrain Model

Data currentness: March 2001

Accuracy/Scale: One of two resolutions is available for an area in the State (varies by area):

- 1 ft pixel resolution (1:2,400 scale); 5,000 x 5,000 ft tiles; statewide; supports 4 foot contours (see notes)
- 0.5 ft pixel resolution (1:1,200 scale); 2,500 x 2,500 ft tiles (optional); supports 2 foot contours (see notes)

Vertical datum: NAVD 88

Fee associated? Yes

Available for redistribution? VGIN prefers to be the distributor

Dataset source: VGIN at <http://www.vita.virginia.gov/isp/>

Dataset contact: Dan Widner, VGIN Coordinator, VITA. FEMA Risk MAP Mapping Partners should request the data through the FEMA regional office.

Notes: Orthoimagery for the Virginia Base Mapping Program (VBMP) was developed using a flying height that would support the development of NSSDA standard contours. However, the DTM delivered as part of this project was developed for ortho-rectification only. Communities were provided the option to upgrade to additional products, including contours. In areas where this option was exercised, 2-foot or 4-foot contours are available, depending on the resolution of the imagery.

Data Distribution Process for State Data

VGIN hosts enterprise base map data through the Geospatial Enterprise Platform (GEP).

The GEP is a combination of data storage, application hosting and web services.

Information about accessing the GEP data can be obtained via email to

vbmp@vgin.virginia.gov. In addition, VGIN has also established a metadata portal for browsing and accessing geospatial data for the Commonwealth of Virginia.

Useful Risk MAP Discovery Data Sources

Preliminary information on Discovery data sources is provided in this document to reduce the level of effort needed on each subsequent Discovery data collection effort.

Coordination with local community sponsors for additional local data still remains an integral part of Discovery and local data should be used where appropriate.

State Geospatial Data Coordination Procedure

The *National Discovery Data Coordination Procedure* document contains information on data resources available from other Federal agencies (OFAs), including those that FEMA maintains at the national level, and should be used in conjunction with this State Geospatial Data Coordination Procedure document. In addition, FEMA and its contractors have created a geospatial Discovery Data Repository to host data that are not readily accessible through direct sources such as Web sites or subscription services and/or are not updated on a frequent basis. Instructions on accessing the Discovery Data Repository are given in the *National Discovery Data Coordination Procedure* document.

Table 1 identifies data resources that are available at the regional and State levels, and also if there are no data available other than the national datasets. Resources in this table have been identified as appropriate for Discovery projects and may not represent the best data sources for FIRM production (please see the Preferred Base Map Sources section of this document for geospatial data that meets FIRM production requirements).

Table 1. Discovery Data Resources

Data	Data Source	Location
Watershed boundaries	National	See <i>National Discovery Data Coordination Procedure</i>
Jurisdictional boundaries	Virginia Information Technology Agency	http://www.vita.virginia.gov/isp/
	VA Department of Conservation and Recreation (DCR)	Karl Hubert, Department of Conservation and Recreation, karl.huber@dcr.virginia.gov
	National	See <i>National Discovery Data Coordination Procedure</i>
Tribal land boundaries	N/A	N/A
State lands	Virginia Information Technology Agency	http://www.vita.virginia.gov/isp/
	DCR Conservation Lands Database	http://www.dcr.virginia.gov/natural_heritage/conslandmap.shtml
Federal lands	Virginia Information Technology Agency	http://www.vita.virginia.gov/isp/
	DCR Conservation Lands Database	http://www.dcr.virginia.gov/natural_heritage/conslandmap.shtml
	National	See <i>National Discovery Data Coordination Procedure</i>
Major roads	Virginia Information Technology Agency	http://www.vita.virginia.gov/isp/
	National	See <i>National Discovery Data Coordination Procedure</i>
Streams	Virginia Information Technology Agency	http://www.vita.virginia.gov/isp/
	National	See <i>National Discovery Data Coordination Procedure</i>

State Geospatial Data Coordination Procedure

Data	Data Source	Location
Coastal Barrier Resource Areas	National	See <i>National Discovery Data Coordination Procedure</i>
Coordinated Needs Management Strategy	National	See <i>National Discovery Data Coordination Procedure</i>
Topographic/ bathymetric data	VGIN	http://www.vita.virginia.gov/isp/
	William and Mary	http://www.wm.edu/as/cga/Data%20Services/VALIDAR/index.php
	National	See <i>National Discovery Data Coordination Procedure</i>
AAL data from Hazus	National	See <i>National Discovery Data Coordination Procedure</i>
Coverage areas for known community and Tribal risk assessment data	Virginia Department of Forestry	http://www.dof.virginia.gov/gis/datadownload.shtml
Status of Hazard Mitigation Plans	Virginia Department of Emergency Management	http://www.vaemergency.com/ 10501 Trade Court Richmond, VA 23236 (804) 897-6500 (voice) (804) 897-6506 (fax) pio@vdem.virginia.gov
	National	See <i>National Discovery Data Coordination Procedure</i>
Flood control structure data	National	See <i>National Discovery Data Coordination Procedure</i>
Locations of stream gages	National	See <i>National Discovery Data Coordination Procedure</i>
Locations of past flood claims and repetitive loss properties	National	See <i>National Discovery Data Coordination Procedure</i>
Locations of clusters of Letters of Map Change	National	See <i>National Discovery Data Coordination Procedure</i>
Known flooding issues not represented on effective FIRMs or listed in Coordinated Needs Management Strategy database	Local	Local
Areas of planned development	Virginia Information Technology Agency	http://www.vita.virginia.gov/isp/
Areas of land use change datasets	Local	Local
Locations of ongoing projects or updated stream studies (e.g. highway improvements)	Virginia Department of Environmental Quality	http://www.deq.virginia.gov/
Locations of wave and tide gages	National	See <i>National Discovery Data Coordination Procedure</i>
Locations of wind gages	National	See <i>National Discovery Data Coordination Procedure</i>

State Geospatial Data Coordination Procedure

Data	Data Source	Location
Proposed inland limit of the Primary Frontal Dune, if present	Local	Local
Locations of any beach nourishment or dune restoration projects	Virginia Department of Environmental Quality	http://www.deq.virginia.gov/
Comparison of preliminary stillwater elevations with effective stillwater elevations	Local	Local
Available effective study data	National	<i>See National Discovery Data Coordination Procedure</i>
Orthophotography	VGIN	http://www.vita.virginia.gov/isp/
	National	<i>See National Discovery Data Coordination Procedure</i>
Proposed discussion areas, problem areas, areas of proposed mitigation projects	Local	Local
Land use and soil information	National	<i>See National Discovery Data Coordination Procedure</i>
Reference points to locate areas with flooding issues	Local	Local
Hydraulic structures	National	<i>See National Discovery Data Coordination Procedure</i>
Coastal structures, including flood protection structures, shoreline structures, manmade embankments, surge conveyance pathways, and shoreline change data	National	<i>See National Discovery Data Coordination Procedure</i>
Local structure and topographic data from the existing hazard mitigation plans	Local	Local
Historic inundation areas and high water marks	Regional	Discovery Data Repository
Clusters or locations of Individual Assistance/Public Assistance grants and locations of grant projects completed, planned, or underway	National	<i>See National Discovery Data Coordination Procedure</i>
Locations of projects and structures completed or planned for FEMA Hazard Mitigation Assistance grant programs or mitigation funds from other agencies or entities, such as the Small Business Administration	National	<i>See National Discovery Data Coordination Procedure</i>

State Geospatial Data Coordination Procedure

Data	Data Source	Location
Other information on FEMA grants, as described in G&S Appendix I	Local	Local
Any data deficiencies identified in hazard mitigation plans	Local	Local
Information from FloodSmart on market penetration	National	See <i>National Discovery Data Coordination Procedure</i>
Community Assistance Visits / Community Assistance Contacts	National	See <i>National Discovery Data Coordination Procedure</i>
Community Rating System class information	National	See <i>National Discovery Data Coordination Procedure</i>
Information from other Federal agencies	National	See <i>National Discovery Data Coordination Procedure</i>
Information from State agencies, non-profit organizations, universities, etc.	Virginia Department of Emergency Management	http://www.vaemergency.com/ 10501 Trade Court Richmond, VA 23236 (804) 897-6500 (voice) (804) 897-6506 (fax) pio@vdem.virginia.gov
Current community plans, ordinances, or programs to alleviate flooding or manage stormwater	Virginia Department of Emergency Management	http://www.vaemergency.com/ 10501 Trade Court Richmond, VA 23236 (804) 897-6500 (voice) (804) 897-6506 (fax) pio@vdem.virginia.gov
	National	See <i>National Discovery Data Coordination Procedure</i>
Other known hazards with geographical boundaries (e.g. earthquake faults)	Virginia Department of Forestry	http://www.dof.virginia.gov/gis/index.shtml
	National	See <i>National Discovery Data Coordination Procedure</i>
Information on active disasters	Virginia Department of Emergency Management	http://www.vaemergency.com/ 10501 Trade Court Richmond, VA 23236 (804) 897-6500 (voice) (804) 897-6506 (fax) pio@vdem.virginia.gov
	National	See <i>National Discovery Data Coordination Procedure</i>
Campgrounds, recreational areas, emergency access routes, etc.	Virginia Information Technology Agency	http://www.vita.virginia.gov/isp/ See <i>National Discovery Data Coordination Procedure</i>
Any other data that might be appropriate	Local	Red Circle Data

State Geospatial Data Coordination Procedure

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.

Clearinghouses and Inventories for the State

VGIN has established a metadata portal for browsing and accessing geospatial data for the Commonwealth of Virginia.

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.

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.

State Geospatial Data Coordination Procedure

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=VA>

Additional useful contacts for the State can be found at <http://www.vita.virginia.gov/isp/default.aspx?id=8386>

Involving the State's Geospatial Coordinator in Flood Studies

The State Contact prefers to be contacted by FEMA Region III or RAMPP RSC3 when questions about VGIN or other statewide datasets arise.

State Coordination Process for Building Geospatial Partnerships

VGIN and the USGS have entered into an agreement to provide federal access to the VBMP orthophotography. Other base map data are available for free. However, regular access to data using web services, etc. does require a support fee. Thanks to coordination between FEMA (Roberts), VGIN (Widner), and VA DCR (Gunn), approval to use the VGIN Orthophotography in FEMA FIRMs was granted.

VGIN acquired a new round of orthophotography flights and derived elevation data sets in 2009-2011. FEMA, VGIN, and VA DCR are considering partnering under FEMA's Cooperating Technical Partner (CTP) program to provide elevation data upgrades to some Virginia communities that are getting new orthophotography.

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

The State provides a list of local, county, and regional GIS contacts through <http://www.vita.virginia.gov/isp/default.aspx?id=8386>

The levels of government in the list are:

- a. Universities and Colleges
- b. Cities and Counties
- c. Private Sector

State Geospatial Data Coordination Procedure

- d. State Agencies
- e. Planning districts

The state has very strong county governments and very strong independent city governments which exist outside of counties and function much like them. Most land use authority is in the hands of counties and independent cities.

The state has numerous water boards, river authorities, regional planning councils, councils of government, and major universities that have GIS data holdings. Examples include:

- Virginia Association of Planning District Commissions (<http://www.vapdc.org/gis.htm>)
- Radford University (<http://www.radford.edu/content/csat/home/gis-center.html>)
- Virginia Department of Forestry (<http://www.dof.virginia.gov/gis/>)
- Department of Transportation (<http://gis.virginiadot.org>)
- Department of Game and Inland Fisheries GIS
- (<http://www.dgif.virginia.gov/gis/gis-data.asp>)
- Department of Conservation and Recreation conservation lands database (http://www.dcr.virginia.gov/natural_heritage/conslandmap.shtml)
- Department of Economic Development Partnership (<http://gis.vedp.org/>)
- University of Virginia
- (http://fisher.lib.virginia.edu/collections/gis/virginia_gis_data.html)

In general, GIS layers available to FEMA are developed and maintained at both the State and local level.

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 Support 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.