State Geospatial Data Coordination Procedure

Vermont Geospatial Data Coordination Procedure
October 31, 2020

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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 in studies is in the *Geospatial Data Coordination Implementation Guide*, which is available at https://hazards.fema.gov/femaportal/docs/GeoDataImplem_V3.pdf and the *Geospatial Data Coordination* Guidance Document, which is available at https://www.fema.gov/media-library-data/1499957866635-db34cabb98cb9c3b2f57aad3d216fcff/GDC_Guidance_May_2017.pdf.

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 Region 1 Service Center:

Diana Rodriguez
Compass Regional Service Center 1
(312) 780-7710
rodriguezad@cdmsmith.com

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Default Flood Hazard Base Map for the State

The default base map for flood hazard maps for the State is an image base map (orthophoto).

Geospatial Data Coverage

The information below provides descriptions and links to statewide geospatial datasets available from both state and federal sources. The list provided saves time during Discovery activities when building a list of candidate geospatial datasets available for the study. A primary state source of online geospatial data is the Vermont Geographic Information System, managed by the Vermont Center for Geographic Information, Inc. (VCGI).

Datasets for DFIRM Production

Orthophotos

Dataset name: VTORTHO_0_5M_CLRIR_2015
Data currentness: Oct 2015
Accuracy/Scale: 1:4000
Ground sample resolution: 0.5 meters
Horizontal datum: NAD 83
Fee associated? No
Available for redistribution: Yes (See Notes)
Dataset source: VT Center for Geographic Information
Dataset contact: GIS Database Administrator, accd.vcgiinfo@state.vt.us
Telephone: (802) 882-3000
Notes: This orthoimagery has been acquired by the State of Vermont for use in the development of a geographic information system (GIS). The acquisition, production, and delivery of natural color digital orthoimagery covering the project area was a coordinated effort between Fugro Geospatial, Inc. and the Vermont Center for Geographic Information (VCGI).
Additional orthophoto datasets collected in VT are available here:
http://geodata.vermont.gov/datasets?t=isothemeimagery

Dataset name: 2012 NAIP 1m Truecolor and Infrared
Data currentness: June, 2014
Ground sample resolution: 1 meter
Horizontal datum: NAD83, UTM
Fee associated? No
Avaible for redistribution: Yes
Dataset source: VT Center for Geographic Information, USDA-FSA-APFO Aerial Photography Field Office

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Dataset contact: GIS Database Administrator, accd.vcgiinfo@state.vt.us
Telephone: (802) 882-3000
Notes: The NAIP_1M_CLRIR_2012 dataset is a (1 meter) truecolor and infrared (4 band) NAIP imagery product acquired during the summer of 2012 by the USDA-FSA-APFO NAIP program, then reprojected to VT State Plane Meters and cropped to the USGS quarter quad boundary by VCGI.

Transportation (roads, railroads, and airports)

Dataset name: EmergencyE911_RDS
Data currentness: December, 2018
Dataset source: VT Center for Geographic Information
Dataset contact: GIS Database Administrator, E911.info@vermont.gov
Fee associated? No
Available for redistribution? Yes
Are road names part of the dataset? Yes
Dataset source: VT Enhanced 911 Board
Dataset contact: GIS Database Administrator
Telephone: (802) 828-4911
Notes: This TransRoad layer is the most reliable source for the official VTrans road class (AOTCLASS) information. However, this layer may not include every private road, and the road name information may not match perfectly with the EmergencyE911_RDS data layer. https://geodata.vermont.gov/datasets/vt-data-e911-road-centerlines

Dataset name: VT Rail Lines
Data currentness: October 2017
Dataset source: Vermont Agency of Transportation
Dataset contact: VCGI Database Administrator, Ivan Brown, ivan.brown@vermont.gov
Fee associated? No
Available for redistribution? Yes
Are road names part of the dataset? Yes
Notes: For reference use only. Data does not represent a legal description of VTrans' assets. http://geodata.vermont.gov/datasets/VTrans::vt-rail-lines

Dataset name: VT Airports
Data currentness: June 2018
Dataset source: Vermont Agency of Transportation
Dataset contact: VCGI Database Administrator, Ivan Brown, ivan.brown@vermont.gov
Fee associated? No
Available for redistribution? Yes
Notes: For reference use only. Data does not represent a legal description of VTrans' assets. http://geodata.vermont.gov/datasets/VTrans::vt-airports

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Hydrography (rivers, streams, lakes, and shorelines)
Dataset name: WaterHydro_VHD
Data currentness: WaterHydro_NHD: Janurary 2005; WaterHydro_VHD: Janruary 2013
Accuracy/Scale: National Hydrography Dataset – 1:24,000/varies
VT Hydrography Dataset (surface waters) 1:5,000
Horizontal datum: NAD 83
Fee associated? No
Available for redistribution? Yes
Are hydrography names part of the dataset? Yes
Dataset source: VT Center for Geographic Information,
http://geodata.vermont.gov/search?tags=isothemewater
Dataset contact: GIS Database Administrator, accd.vcgiinfo@vermont.gov
Notes: To obtain NHD data, contact USGS; http://nhd.usgs.gov/data.html.

Political boundaries (county, municipal)
Dataset name: VT Data – County Boundaries; VT Data – Town Boundaries
Data currentness: March, 2019
Accuracy/Scale: Various
Horizontal datum: NAD 83
Fee associated? No
Available for redistribution? Yes
Dataset source: VT Center for Geographic Information,
http://geodata.vermont.gov/datasets/vt-data-county-boundaries,
http://geodata.vermont.gov/datasets/vt-data-town-boundaries
Dataset contact: VT Center for Geographic Information, accd.vcgiinfo@vermont.gov
Notes: http://geodata.vermont.gov/datasets/vt-boundaries-town-polygons

Publicly owned lands (national, state, and local parks, forests, etc)
Dataset name: ANR Land Dataset (Parcel)
Data currentness: August, 2019
Fee associated? No
Available for redistribution? Yes
Dataset source: Vermont Agency of Natural Resources,
http://geodata.vermont.gov/datasets/VTANR::anr-land-dataset-unit
Dataset contact: Ryan Knox, GIS Supervisor, ryan.knox@vermont.gov
Notes: http://geodata.vermont.gov/datasets/VTANR::anr-land-dataset-parcel .

Cadastral (parcels)
Dataset name: CadastralParcels_VTPARCELS
Data currentness: May 2019
Accuracy/Scale: Varies – See metadata within zip file for each town download.
Horizontal datum: NAD 83
Fee associated? No

Available for redistribution? For display of parcel boundaries on maps, as a general reference for the locations of parcels. It should not be used to determine the actual location of parcel boundaries.

Dataset source: VT Center for Geographic Information/VT towns and Regional Planning Commission; http://geodata.vermont.gov/datasets/vt-data-statewide-standardized-parcel-data-parcel-polygons

Dataset contact: http://geodata.vermont.gov/datasets/vt-data-statewide-standardized-parcel-data-parcel-polygons

Terrain (elevation)

Various LiDAR collections and products have been collected or are underway. For a current list of projects, collection areas, and download links, refer to http://geodata.vermont.gov/datasets/?t=lidar.

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.

The National Geospatial 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 Geospatial 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 National Operating Procedure
Jurisdictional boundaries	National	See National Operating Procedure
Jurisdictional boundaries	State	VCGI Boundaries (Admin – Political) BoundaryOther_BNDHASH: http://geodata.vermont.gov/
Tribal land boundaries	National	See National Operating Procedure

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Data	Data Source	Location
State lands	State	VCGI Cadastral Boundaries (Conservation land, state lands, forests, parcels): http://geodata.vermont.gov/
Federal lands	National	See National Operating Procedure
Major roads	State	VCGI Transportation Networks: http://geodata.vermont.gov/
Major roads	National	See National Operating Procedure
Streams	State	VCGI Fresh Water Resources: http://geodata.vermont.gov/
Streams	National	See National Operating Procedure
Coastal Barrier Resource Areas	National	See National Operating Procedure
Coordinated Needs Management Strategy	National	See National Operating Procedure
Topographic/ bathymetric data	National	See National Operating Procedure
AAL data from HAZUS	National	Please contact the RSC if you have problems retrieving the data.
Coverage areas for known community and Tribal risk assessment data	Regional	Risk class deciles by Census Block Group See National Operating Procedure
Status of Hazard Mitigation Plans	Regional	Contact Region 1 or Melissa Surette (melissa.surette@fema.dhs.gov)
Status of Hazard Mitigation Plans	National	See National Operating Procedure
Flood control structure data	National	See National Operating Procedure
Flood control structure data	State	VCGI Fresh Water Resources (Vermont Dam Inventory): http://geodata.vermont.gov/
Locations of stream gages	National	See National Operating Procedure
Locations of past flood claims and repetitive loss properties	CIS Report	Contact the geospatial data coordination lead at your RSC referenced earlier in this document.
Locations of clusters of Letters of Map Change	National	See National Operating Procedure
Known flooding issues not represented on effective FIRMs or listed in Coordinated Needs Management Strategy database	Local Only	

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Data	Data Source	Location
Areas of planned development	Local Only	
Areas of land use change datasets	National	See National Operating Procedure
Areas of land use change datasets	State	VCGI Earth Surface Characteristics (contains landcover change and landuse): http://geodata.vermont.gov/
Locations of ongoing projects or updated stream studies (e.g. highway improvements)	Regional	USACE, New England District maintains a list of ongoing and recent projects: http://www.nae.usace.army.mil/Missions/ProjectsTopics.aspx
Locations of ongoing projects or updated stream studies (e.g. highway improvements)	State	http://www.nae.usace.army.mil/Media/StateUpdateReports.aspx
Locations of wave and tide gauges	N/A	
Locations of wind gauges	N/A	
Proposed inland limit of the Primary Frontal Dune, if present	N/A	
Locations of any beach nourishment or dune restoration projects	N/A	
Comparison of preliminary stillwater elevations with effective stillwater elevations	Local Only	
Available effective study data	National	See National Operating Procedure
Orthophotography	National	See National Operating Procedure
Orthophotography	State	VCGI has multiple datasets; map services available. http://geodata.vermont.gov/
Proposed discussion areas, problem areas, areas of proposed mitigation projects	Local Only	
Land use and soil information	Land Use	VCGI Earth Surface Characteristics (contains landcover change and landuse): http://geodata.vermont.gov/
Land use and soil information	Soils	See National Operating Procedure
Reference points to locate areas with flooding issues	Local Only	

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Data	Data Source	Location
Hydraulic structures	Levees, Dams, Bridges Culvert	See National Operating Procedure
Hydraulic structures	Levees, Dams, Bridges Culverts	Fresh Water Resources (Vermont Dam Inventory), Transportation Networks (Culverts and bridges): http://geodata.vermont.gov/ Vermont Online Bridge & Culvert Inventory Tool: https://www.vtculverts.org/
Coastal structures, including flood protection structures, shoreline structures, manmade embankments, surge conveyance pathways, and shoreline change data	N/A	
Local structure and topographic data from the existing hazard mitigation plans	Regional	Contact Region 1 or Melissa Surette (melissa.surette@fema.dhs.gov)
Historic inundation areas and high water marks	Local Only	http://vt.water.usgs.gov/
Clusters or locations of Individual Assistance/Public Assistance grants and locations of grant projects completed, planned, or underway	National	See National Operating Procedure
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	See National Operating Procedure
Other information on FEMA grants, as described in G&S Appendix I	Local only	
Any data deficiencies identified in hazard mitigation plans	Regional	Contact Region 1 or Melissa Surette (melissa.surette@fema.dhs.gov)
Information from FloodSmart on market penetration	FEMA	https://www.floodsmart.gov/
Community Assistance Visits / Community Assistance Contacts	National	See National Operating Procedure
Community Rating System class information	National	See National Operating Procedure

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Data	Data Source	Location
Information from other Federal agencies	National Only	See National Operating Procedure
Information from State agencies, non-profit organizations, universities, etc.	Regional	
Current community plans, ordinances, or programs to alleviate flooding or manage stormwater	Local only	
Other known hazards with geographical boundaries (e.g. earthquake faults)	Tsunami	See National Operating Procedure
Other known hazards with geographical boundaries (e.g. earthquake faults)	Landslide	See National Operating Procedure
Other known hazards with geographical boundaries (e.g. earthquake faults)	Volcanic Eruptions	See National Operating Procedure
Other known hazards with geographical boundaries (e.g. earthquake faults)	Wildfire	See National Operating Procedure
Other known hazards with geographical boundaries (e.g. earthquake faults)	Dam Inundation Risk	VCGI High Risk Dam Inundation areas http://geodata.vermont.gov/
Information on active disasters	State	Vermont Emergency Management: http://vem.vermont.gov/
Campgrounds, recreational areas, emergency access routes, etc.	National	See National Operating Procedure
Campgrounds, recreational areas, emergency access routes, etc.	State	VCGI Tourism and Recreation (Trails, campsites, other): http://geodata.vermont.gov/
Additional hydrologic information and projects	State	VCGI Wetlands, stormwater outfalls, river restoration projects (Fresh Water Resources): http://geodata.vermont.gov/

Data Distribution Process for State Data

The state's centralized distribution process for GIS data and orthophotos is the Vermont Center for Geographic Information and the Vermont Open Geodata Portal (http://geodata.vermont.gov/#web-services).

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Federal Nationwide Geospatial Data Holdings

Information about nationwide holdings and programs of Federal agencies is available from the Data.gov geospatial catalog at https://catalog.data.gov/dataset?metadata_type=geospatial.

Elevation, orthophoto, boundary, and transportation data can also be found through the USGS' National Map service: https://viewer.nationalmap.gov/basic/.

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

The state's centralized distribution process for GIS data and orthophotos is the Vermont Center for Geographic Information and the Vermont Open Geodata Portal (http://geodata.vermont.gov/#web-services).

3D Elevation Program

The U.S. Geological Survey (USGS) National Geospatial Program is developing the 3D Elevation Program (3DEP) to respond to growing needs for high-quality topographic data and for a wide range of other three-dimensional (3D) representations of the Nation's natural and constructed features. The primary goal of 3DEP is to systematically collect 3D elevation data in the form of light detection and ranging (lidar) data over the conterminous United States, Hawaii, and the U.S. territories, with data acquired over an 8-year period. Interferometric synthetic aperture radar (IfSAR) data will be acquired for Alaska, where cloud cover and remote locations preclude the use of lidar in much of the State. The 3DEP initiative is based on the results of the National Enhanced Elevation Assessment that documented more than 600 business uses across 34 Federal agencies, all 50 States, selected local government and Tribal offices, and private and nonprofit organizations.

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=VT

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USGS National Map Liaisons (https://liaisons.usgs.gov/geospatial/)– The National Map partnership network cultivates and maintains long-term relationships with partners and develops agreements for The National Map and other initiatives that support USGS science. Daniel Walters is the Liaison for Vermont (danwalters@usgs.gov).

Additional useful contacts for the State are:

Vermont Center for Geographic Information (VCGI; http://vcgi.vermont.gov/) - VCGI manages the Vermont Geographic Information System (VGIS) that is the repository of free digital geographic data created by members of the VT GIS community and a clearinghouse of GIS related information.

Vermont Agency of Transportation (VTrans; http://vtransplanning.vermont.gov/) - VTrans maintains the official record of all public roadways in the state, which includes the processing of the Certificates of Highway Mileage and maintenance of the Official Town Highway Maps. The road centerline data maintained by VTrans is used by other GIS users as a base for roads within the State of Vermont.

Vermont Agency of Natural Resources (ANR; https://anr.vermont.gov/) – ANR's interactive GIS provides maps of private well locations, storm water permit locations, and hazardous waste site locations and other waste data.

USGS New England Mapping Partnership Office (http://www.usgs.gov/contact_us/?state=VT) – The USGS partnership program is the geospatial liaison between the USGS and the New England States. The office is responsible for Vermont and other New England states.

Involving the State's Geospatial Coordinator in Flood Studies

The GIS staff at VCGI has a working relationship with the Vermont Agency of Natural Resources (ANR), which is the agency responsible for floodplain management activities in the state and they have access to their state's flood map modernization business plan.

VCGI is also a Cooperating Technical Partner (CTP) in the FEMA Risk MAP Program. In addition, they are conducting Fluvial Erosion Hazard studies for ANR to be used in conjunction with the State's DFIRM maps.

VCGI will also be the State repository for Vermont's DFIRMs.

In order to participate in the FEMA flood hazard mapping effort, this office prefers to be contacted in all of the following ways:
    a. Meeting at the start of each year for Vermont
    b. Send project list at the start of each year
    c. Conference call at the start of data discovery for each individual project

    d.   Attend each kickoff/Discovery meeting
    e.   Send information once project scope is finalized

State Coordination Process for Building Geospatial Partnerships

The Vermont Spatial Data Partnership (VSDP) is an informal association of spatial data stakeholders, formed in 1997, and committed to improving the geographic information system in Vermont through networking and information exchange. You can be invovled by becoming a member of the Partnership and/or by attending periodic informal conferences called Roundtables. More information below about the history of the VSDP and the Roundtables is available at: https://vcgi.vermont.gov/partners

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 regional planning commissions (RPC) in Vermont in developing and maintaining GIS data and provides mapping services to member municipalities and organization. The list of the RPCs in Vermont and their websites are listed below:

• Addison County Regional Planning Commission (ACRPC) - http://www.acrpc.org/,
  802-388-3141
• Bennington County Regional Commission (BCRC) - http://benningtonvt.org/boards-commissions/regional-commission/ ,
  802-442-0713
• Central Vermont Regional Planning Commission (CVRPC) -
  http://centralvtplanning.org/ , 802-229-0389
• Chittenden County Regional Planning Commission (CCRPC) - http://www.ccrpcvt.org/
  802-846-4490
• Lamoille County Planning Commission (LCPC) - http://www.lcpcvt.org/ , 802-888-4548
• Northeastern Vermont Development Association (NVDA) - http://www.nvda.net/ ,
  802-748-5181
• Northwest Regional Planning Commission (NRPC) - http://www.nrpcvt.com/,
  802-524-5958
• Rutland Regional Planning Commission (RRPC) - http://www.rutlandrpc.org/ ,
  802-775-0871
• Southern Windsor County Regional Planning Commission (SWCRPC) –
  http://www.swcrpc.org/ , 802-674-9201
• Two Rivers - Ottauquechee Regional Commission (TRORC) - http://www.trorc.org/
  802-457-3188

• Windham Regional Commission (WRC) - http://windhamregional.org/, 802-257-4547

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 Region 1 Service Center what was wrong and the correct information (if you know it). Use the contact information for the lead listed in the section. The lead will use your feedback to update this Procedure.