State Geospatial Data Coordination Procedure

Vermont

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Purpose of the Procedure

Flood insurance studies search for geospatial data during pre-scoping and scoping tasks. If required data are unavailable, studies may fund the collection of new data and seek out other organizations to share costs. Detailed information about the role geospatial data coordination plays in studies resides in the *Geospatial Data Coordination Implementation Guide*, available at <https://hazards.fema.gov/femaportal/docs/GeoDataImplem.pdf>, and in the *Scoping Guidelines: Pre-scoping and the Scoping Meeting*, available through the Regional Management Center (RMC).

State Geospatial Data Coordination Procedure

Resources developed through FEMA's geospatial data coordination activities provide information about data and contacts for organizations with geospatial data inventories covering large areas (like states) of interest to the study efforts. Studies can avoid duplication of effort at project start up using these proven sources of information.

The Geospatial Data Coordination Procedure overviews geospatial data and contact information, preferences for base map data and state geospatial participation in studies, and other useful State information.

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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Geospatial Data Coordination Lead
Regional Management Center 1
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We appreciate the help of those who reviewed this document, in particular

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Default Flood Hazard Base Map for the State

The default statewide base map for flood hazard maps 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 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. A primary state source of online geospatial data is the Vermont Geographic Information System, managed by the Vermont Center for Geographic Information, Inc. (VCGI).

Major State Holdings

Orthophotos

Dataset name: Digital Orthophotography

Data currentness: Ground condition: 19980128 (Dates vary by flight areas so only a range would cover the state. The 2006 orthos for parts of the state are now available)
Accuracy/Scale: 1:5,000 and 1:1,250 for selected areas
Ground sample resolution: 0.5 meter for 1:5,000; 0.1667 meter or finer for 1:1,250
Horizontal datum: NAD 83
Fee associated? Yes – The fee associated for the purchase of the imagery will be negotiated at the time of the request. Fees will be dependant upon the extent of the imagery needed. The Vermont Mapping Program (VMP), at part of the Vermont Department of Taxes, will ensure that FEMA receives the best available data generated by the VMP at the time of the request.
Available for redistribution? Yes (See Notes)
Dataset source: Vermont Mapping Program at http://www.state.vt.us/tax/mapping.shtml
Dataset contact: Harry Roush, Vermont Mapping Program, 133 State Street, Montpelier, Vermont 05633; 802.828.0575; Fax: 802.828.0578
Notes: VMP agrees to sell, as needed, its Vermont Digital Orthophotography Quadrangles (DOQ) to FEMA to allow FEMA to produce updated Digital Flood Insurance Rate Maps (DFIRM) of the county. Under this license, FEMA may use the entire set of DOQs to produce the DFIRMs. However, FEMA agrees that only DOQs that include DFIRMs shall be distributed and/or sold with the DFIRMs. Thus, for any DFIRM distributed or sold by FEMA, FEMA shall ensure that each DOQ image shall be clipped to the extent of the DFIRM data. The images will be compressed to MrSID format 20:1 ratio.

Transportation (roads, railroads, and airports)

Dataset name: Emergency E911_RDS
Data currentness: 20070125
Accuracy/Scale: Road center lines from 1:5,000 orthophotos and GPS
Horizontal datum: NAD 83
Fee associated? No
Available for redistribution? Yes
Are road names part of the dataset? Yes
Dataset source: VT Center for Geographic Information at http://www.vcgi.org/
Dataset contact: VTrans GIS Database Administrator, 802/828-2600; info@vcgi.org
Notes: This TransRoad layer is the most reliable source for 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.

Dataset name: TransRail_RR
Data currentness: 20030303
Accuracy/Scale: Railroad center lines from 1:5,000 orthophotos and GPS
Horizontal datum: NAD 83
Fee associated? No
Available for redistribution? Yes
Are road names part of the dataset? Yes
Dataset source: VT Center for Geographic Information at http://www.vcgi.org/
Dataset contact: VTrans GIS Database Administrator, 802/828-2600; info@vcgi.org

Notes: The TransRail layer, in addition to the official active railroads on the VTrans map, has some other sections of track (notably near Rutland, a section of the Delaware & Hudson railroad near the New York border, and near St. Albans; see the RRACTIVE activity attribute). It is possible that some raillines and spurs may be missing if they were not visible on the orthophotos.

Dataset name: TransAir_AIRPORTS
Data currentness: 20040130
Accuracy/Scale: 1:24,000-scale
Horizontal datum: NAD 83
Fee associated? No
Available for redistribution? Yes
Are road names part of the dataset? Yes
Dataset source: VT Center for Geographic Information at http://www.vcgi.org/
Dataset contact: VTrans GIS Database Administrator, 802/828-2600; info@vcgi.org
Notes: The TransAir_AIRPORTS data layer includes point locations for all municipal, state, and privately owned airports. It includes a variety of attributes including airport name, runway specs, communication systems, and type of public services available. This data layer was developed by the Vermont Agency of Transportation.

Hydrography (rivers, streams, lakes, and shorelines)

Dataset name: WaterHydro_VHD
Data currentness: Publication date:20040927
Accuracy/Scale: Compiled to meet 4.92 meters horizontal accuracy at 95% confidence level of the source RF 5,000 scale VMP digital orthophotos.
Horizontal datum: NAD 83
Fee associated? No charge when downloading from the Internet and when no custom processing is required.
Available for redistribution? Yes
Are hydrography names part of the dataset? Yes
Dataset source: VT Center for Geographic Information at http://www.vcgi.org/
Dataset contact: VCGI, (802)882-3000, info@vcgi.org
Notes:

Political boundaries (county, municipal)

Dataset name: BoundaryOther_BNDHASH
Data currentness: 2006721; Updated Annually
Accuracy/Scale: The accuracy of each feature depends on its source data (refer to the ARC_SRC and SRC_NOTES attributes).
Horizontal datum: NAD 83
Fee associated? No charge when downloading from the internet and when no custom processing is required.
Available for redistribution? Yes. VCGI and the State of Vermont make no representations of any kind, including but not limited to the warranties of merchantability or fitness for a particular use, nor are any such warranties to be implied with respect to the data.
Dataset source: VT Center for Geographic Information at http://www.vcgi.org/

Dataset contact: VCGI, 802-882-3000, info@vcgi.org
Notes: In general, parcel level data can be considered more accurate than lines digitized from 1:24,000 scale topographic maps (which are approximated). However, town boundaries are notoriously difficult to accurately locate. Where two adjoining towns have parcel-level data, the common boundary often disagrees by hundreds of meters. VCGI used the most recent parcel data, however, this does not mean that it is more spatially accurate. It is assumed that more recent parcel data is more accurate.

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

Dataset name: EnvironMangareas_MAREA2004
Data currentness: Publication date: 20040901 Update as needed
Accuracy/Scale: "Various points & areas from differing data sources"
Horizontal datum: NAD 83
Fee associated? No charge when downloading from the internet and when no custom processing is required.
Available for redistribution? Yes, VCGI and the USDA Forest Service makes no representations of any kind, including but not limited to the warranties of merchantability or fitness for a particular use, nor are any such warranties to be implied with respect to the data.
Dataset source: VT Center for Geographic Information at http://www.vcgi.org/
Dataset contact: VCGI, 802-882-3000, info@vcgi.org
Notes: Data was developed to display the management area boundaries for National Forest System Lands administered by the Green Mountain National Forest for analytical and cartographic purposes. 2006 Plan revision "Management Area Boundaries" completed but not yet released, contact Bill Kirchoff at Green Mountain and Finger Lakes National Forest, 802-775-6432 for information.

Cadastral (parcels)

Dataset name: CadastralParcels_VTPARCELS
Data currentness: Varies – See notes
Accuracy/Scale: Varies – See notes
Horizontal datum: NAD 83
Fee associated? Varies – See notes
Available for redistribution? Varies – See notes
Dataset source: VCGI does not archive or distribute municipal parcel data. Please contact the municipality or relevant Regional Planning Commission to obtain the data.
Dataset contact: VCGI does not archive or distribute municipal parcel data. Please contact the municipality or relevant Regional Planning Commission to obtain the data.
Notes: GIS parcel data is publicly available for about two-thirds of Vermont towns and cities. The map below (see Figure 1) shows the availability of parcel data from the towns themselves or Regional Planning Commissions (RPCs). If a town is shaded to indicate that digital parcel data is not available, check with the RPC or town listed to see if parcel data was developed recently.

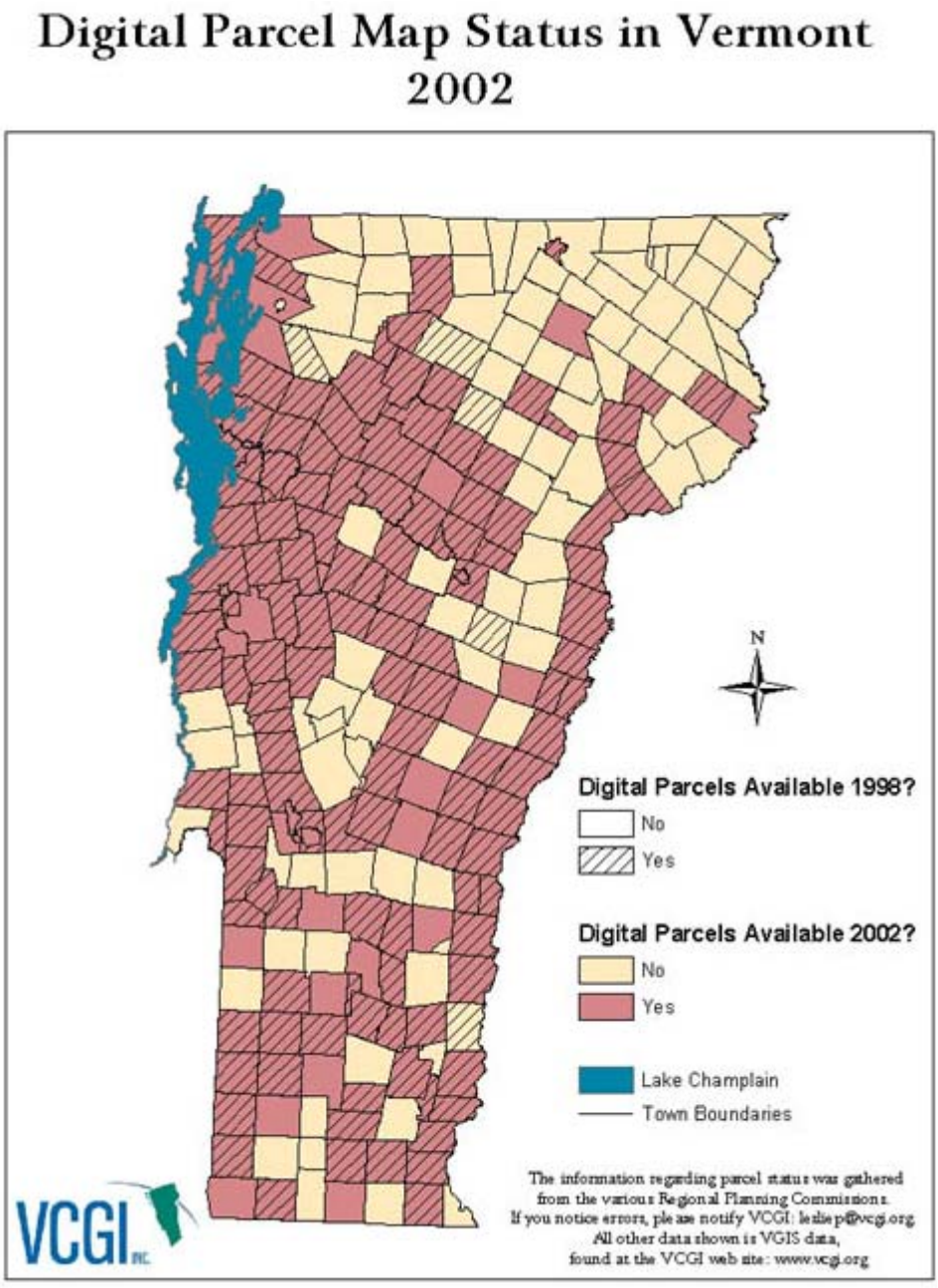

Figure 1. Availability of parcel data in Vermont.

Terrain (elevation)

Dataset name: ElevationDEM_VTHYDRODEM
Data currentness: Publication date: 20061031
Accuracy/Scale: VTHYDRODEM tested 6.05 meters, vertical accuracy at the 95% confidence level. Accuracy calculated following the FGDC "Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy" document and using higher accuracy National Geodetic Survey monument and Vermont Geodetic Survey control points. Source data inputs are 1:5k “DEM points” from the VMP.
Vertical datum: North American Vertical Datum of 1988

Fee associated? Depends on dataset(s).
Available for redistribution? Yes, statewide DEM available online, subbasin level derivative grids available via DVD product purchase only.
Dataset source: VT Center for Geographic Information at http://www.vcgi.org/
Dataset contact: Mike Brouillette, 802-882-3008, mikeb@vcgi.org
Notes: See http://www.vcgi.org/dataware/

Data Distribution Process for State Data

The state's centralized distribution process for GIS data (other than orthophotos) is the Vermont Center for Geographic Information (http://www.vcgi.org). Custom orders or hardcopy requests: Mail-fax a copy of the VCGI Data Request Form available from the VGIS web site http://www.vcgi.org/dataware/order_forms for custom processing.

Orthophotos are handled through the Vermont Mapping Program (http://www.state.vt.us/tax/mapping.shtml).

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

Below are descriptions and links for searching on 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 (other than orthophotos) is the Vermont Center for Geographic Information (http://www.vcgi.org). Orthophotos are handled through the Vermont Mapping Program (http://www.state.vt.us/tax/mapping.shtml).

VCGI provides links to other sources of data at http://www.vcgi.org/dataware/?page=./other_data/default_content.cfm

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 agencies 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 and maintained in the TIGER® (Topologically Integrated Geographic Encoding and Referencing) Enhancement Database (TED). This tool is available through the Regional Management Centers.

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=VT

Additional useful contacts for the State are:

Vermont Center for Geographic Information (VCGI; http://www.vcgi.org) - 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 Mapping Program (VMP; http://www.state.vt.us/tax/mapping.shtml) - The Vermont Mapping Program offers a number of products ranging from aerial photography to Digital Orthophotography. The VMP resides in the Division of Property Valuation and Review, Department of Taxes, State of Vermont.

Vermont Agency of Transportation (VTrans; http://www.aot.state.vt.us/Planning/MapGIS/Town_Maps1.htm) - 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; http://www.anr.state.vt.us/site/html/maps.htm) – 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://nmcatalog.usgs.gov/crreps/faces/crreps.jspx) – The USGS partnership program is the geospatial liason 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 Map Modernization 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, VCGI prefers to be contacted in 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/scooping 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 involved 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:
http://www.vcgi.org/commres/?page=./vsdp/default_content.cfm

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 sevices 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/
- Bennington County Regional Commission (BCRC) - http://www.rpc.bennington.vt.us/
- Central Vermont Regional Planning Commission (CVRPC) - http://www.centralvtplanning.org/
- Chittenden County Regional Planning Commission (CCRPC) - http://www.ccrpcvt.org/
- Lamoille County Planning Commission (LCPC) - http://www.lcpcvt.org/
- Northeastern Vermont Development Association (NVDA) - http://www.nvda.net/
- Northwest Regional Planning Commission (NRPC) - http://www.nrpcvt.com/
- Rutland Regional Planning Commission (RRPC)- http://www.rutlandrpc.org/
- Southern Windsor County Regional Planning Commission (SWCRPC) - http://www.swcrpc.org/
- Two Rivers - Ottauquechee Regional Commission (TRORC) - http://www.trorc.org/
- Windham Regional Commission (WRC) - http://www.rpc.windham.vt.us/

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.