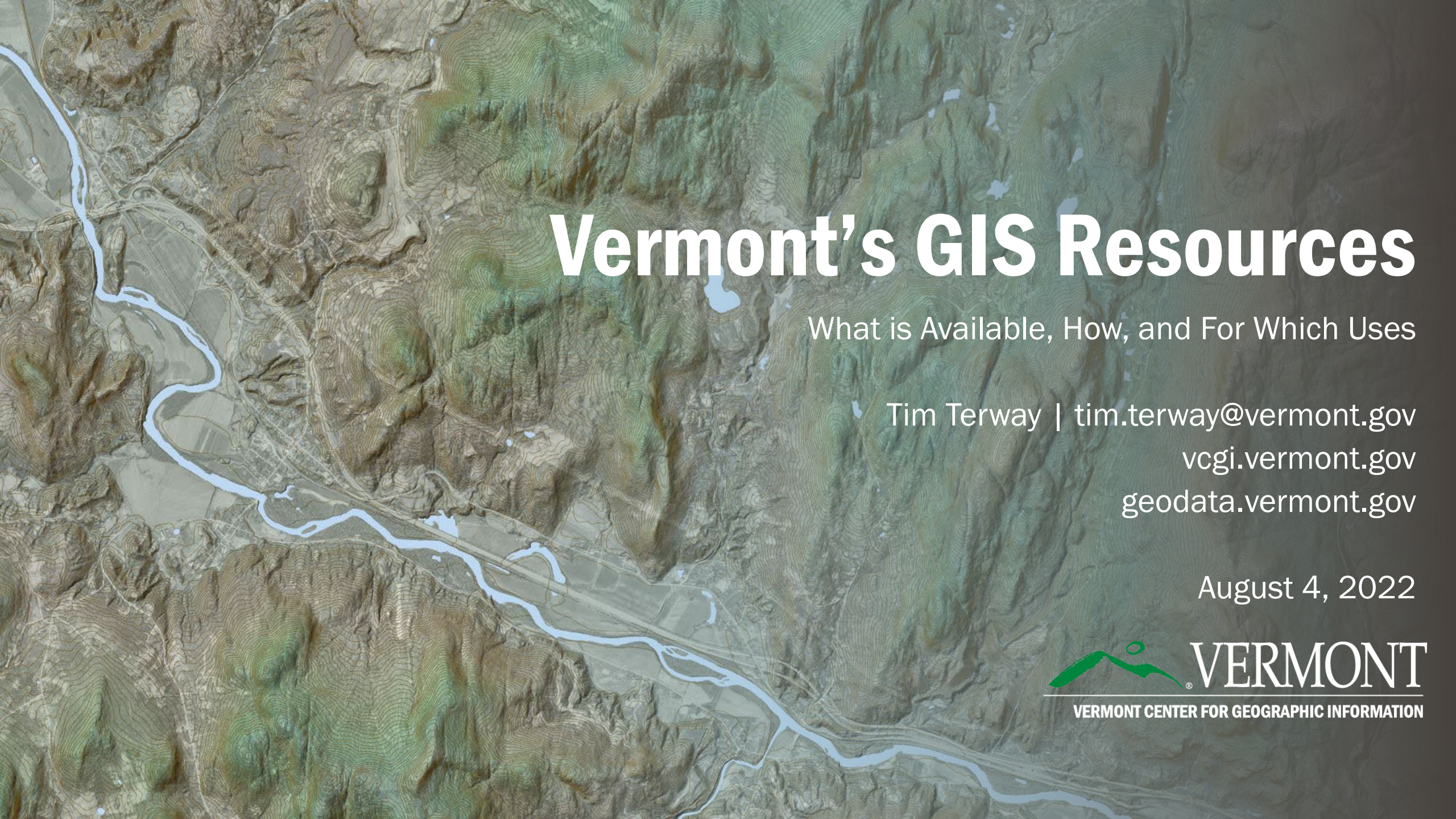


Vermont's GIS Resources

What is Available, How, and For Which Uses

Tim Terway | tim.terway@vermont.gov

vcgi.vermont.gov

geodata.vermont.gov

August 4, 2022

VERMONT

VERMONT CENTER FOR GEOGRAPHIC INFORMATION

WHAT VCGI DOES

BUILD/MAINTAIN

Foundational Datasets.

Lidar. Parcels. Orthoimagery. Many More.

LEAD

Development and use of Statewide Geographic Information System (GIS) and the Coordination it requires

EMPOWER

Data access, visualization and use

VCGI

Overview

What is VT's GIS?

What is available?
Where?
From Whom?

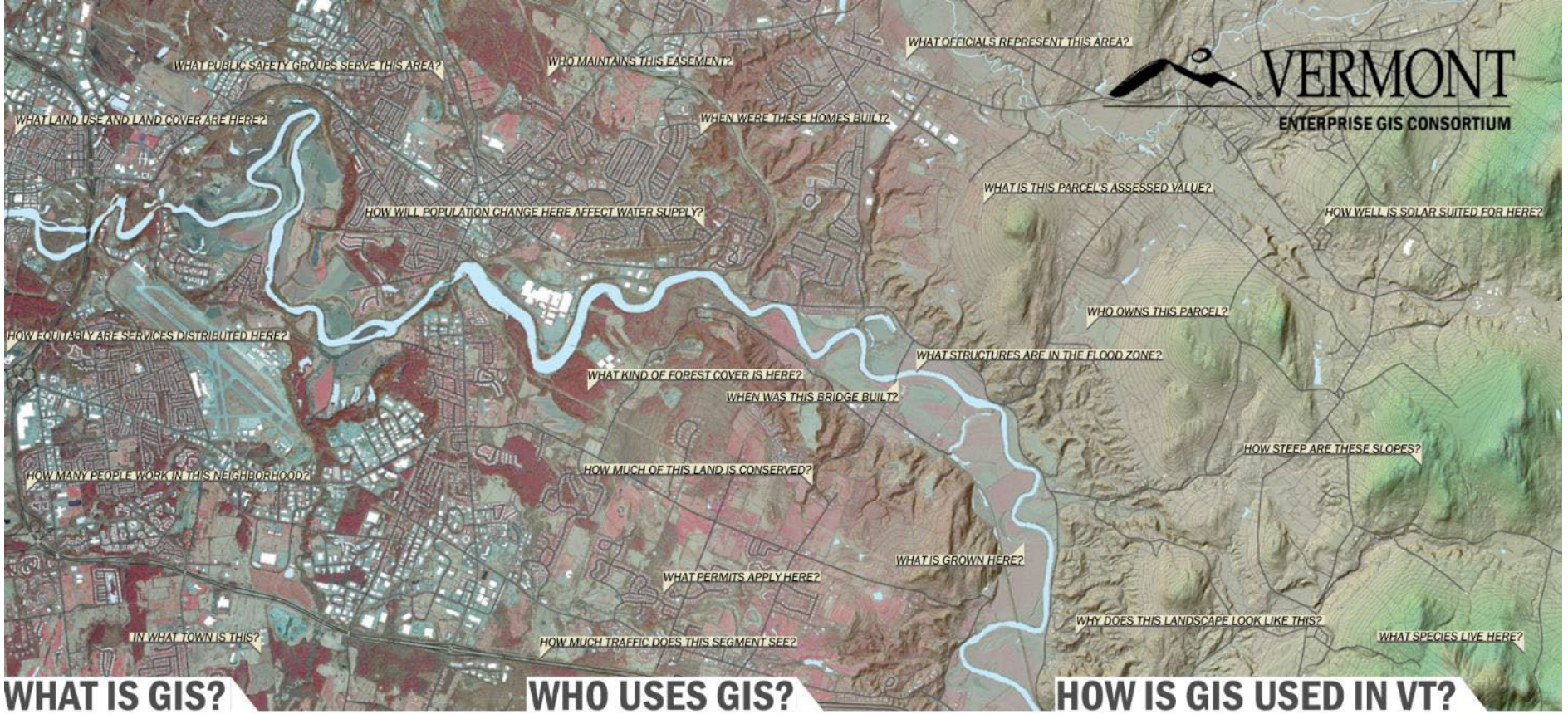
How to Access

Applications
Raw Data
Resources

What kinds & uses?

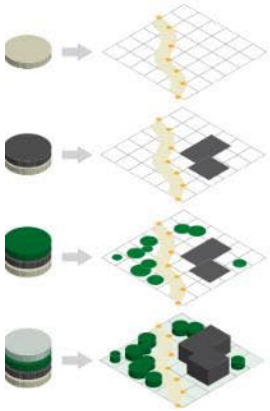
Products & Qualities
Examples
Addressing Common Questions

VCGI



WHAT IS GIS?

A geographic information system (GIS) combines data with its location, allowing people to visualize, study, analyze, question and interpret this spatial information to understand patterns, relationships, and trends.



LAYERS UPON LAYERS

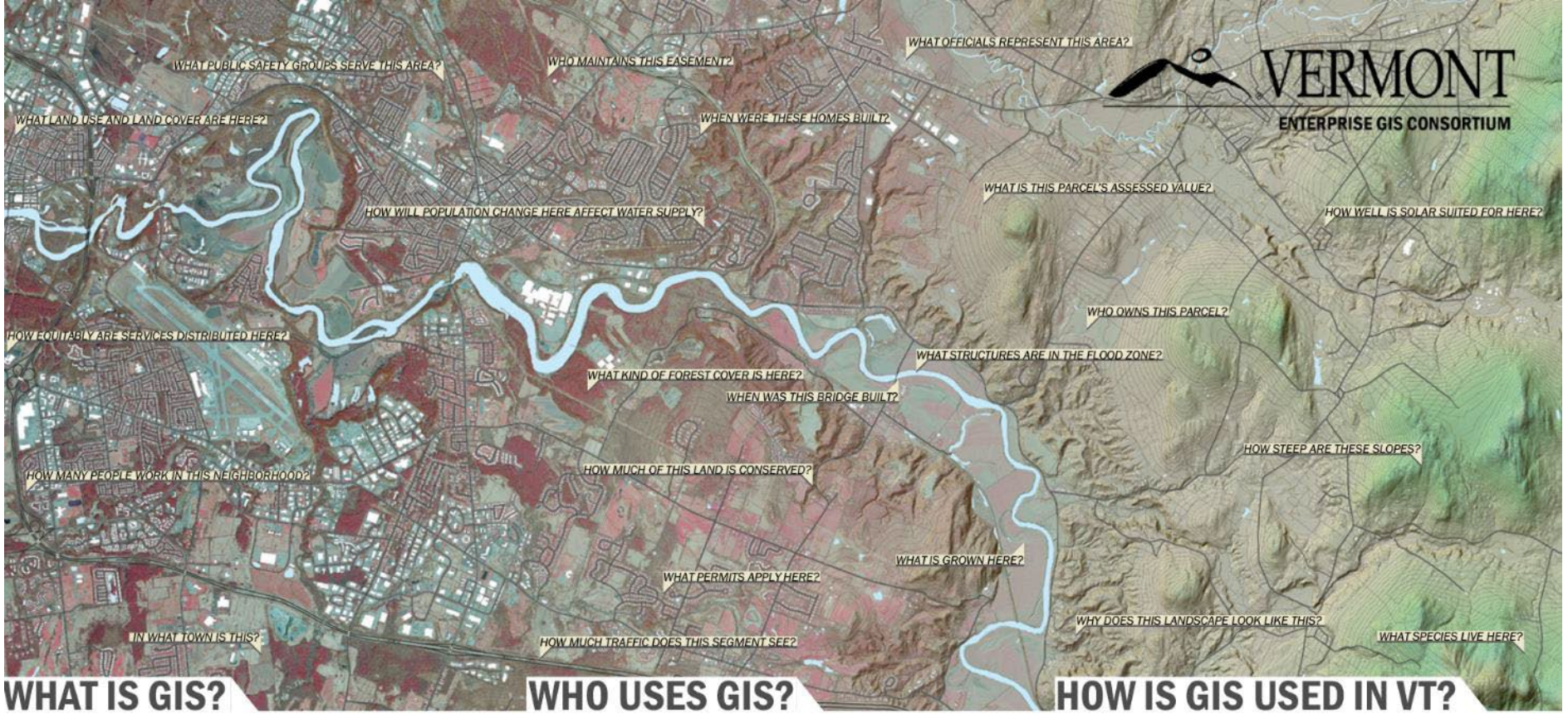
GIS allows people to combine layers of spatial information to examine how they relate with one another.

Layers may refer to a variety of human and non-human subjects, all mapped in space and time with their associated attributes.

WHO USES GIS?

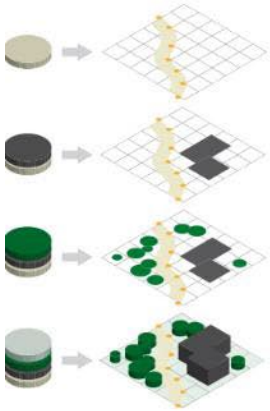
HOW IS GIS USED IN VT?

VCGI



WHAT IS GIS?

A geographic information system (GIS) combines data with its location, allowing people to visualize, study, analyze, question and interpret this spatial information to understand patterns, relationships, and trends.



LAYERS UPON LAYERS

GIS allows people to combine layers of spatial information to examine how they relate with one another.

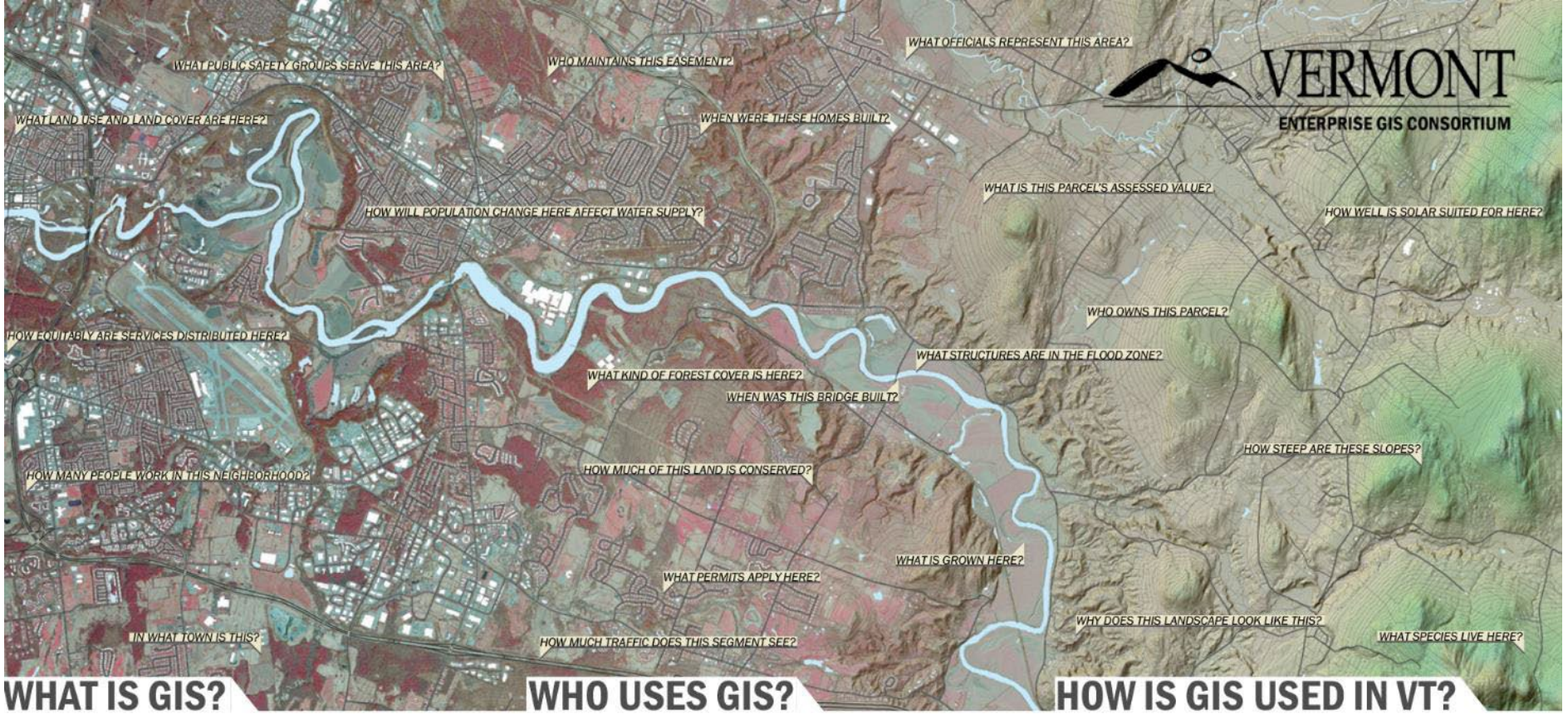
Layers may refer to a variety of human and non-human subjects, all mapped in space and time with their associated attributes.

WHO USES GIS?

Coordination among user groups is a key aspect of GIS. As a system, how well it functions reflects how its constiutent parts are resourced, work, relate, and serve which goals.

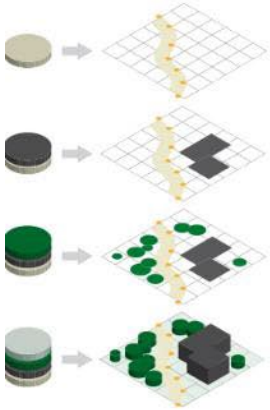
HOW IS GIS USED IN VT?

VCGI



WHAT IS GIS?

A geographic information system (GIS) combines data with its location, allowing people to visualize, study, analyze, question and interpret this spatial information to understand patterns, relationships, and trends.



LAYERS UPON LAYERS

GIS allows people to combine layers of spatial information to examine how they relate with one another.

Layers may refer to a variety of human and non-human subjects, all mapped in space and time with their associated attributes.

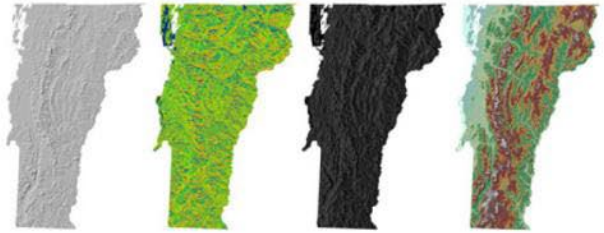
WHO USES GIS?

Coordination among user groups is a key aspect of GIS. As a system, how well it functions reflects how its constiutent parts are resourced, work, relate, and serve which goals.

HOW IS GIS USED IN VT?

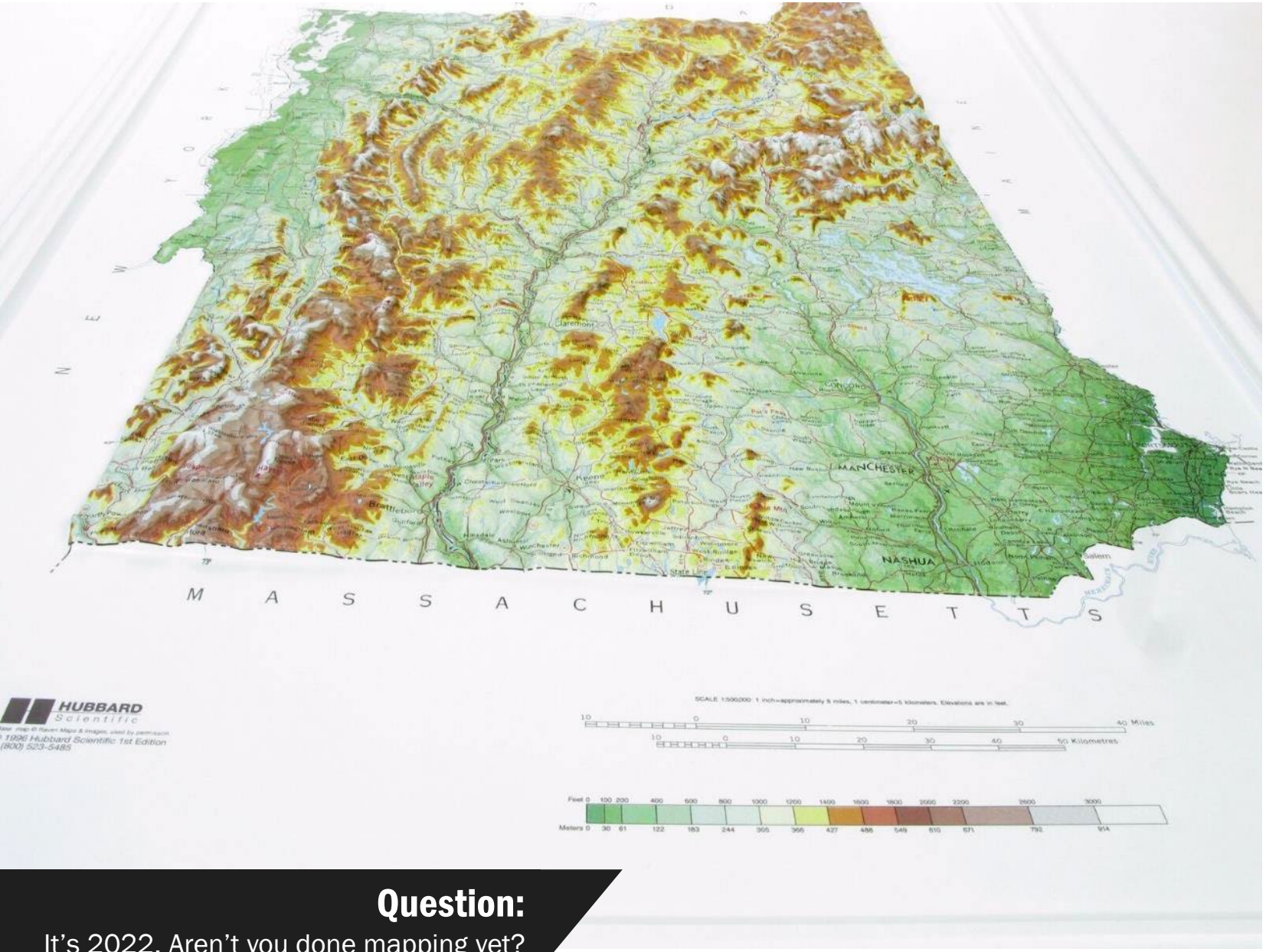
GIS in Vermont serves myriad uses, from stewarding foundational datasets such as parcels, aerial imagery, and lidar, to supporting advanced analyses of impacts and policy on natural resources and human health, to the management of transportation infrastructure and emergency services, and many more. Much of these data are freely available at the VT Open Geodata Portal. Data stewardship is 'federated' among different agencies, each with responsibility for maintaining their resepctive content. The Enterprise GIS Consortium (EGC) serves to coordinate these activities.

Statewide QL2 lidar data is now freely available for all to use as of 2019.



VCGI

Analog Relief



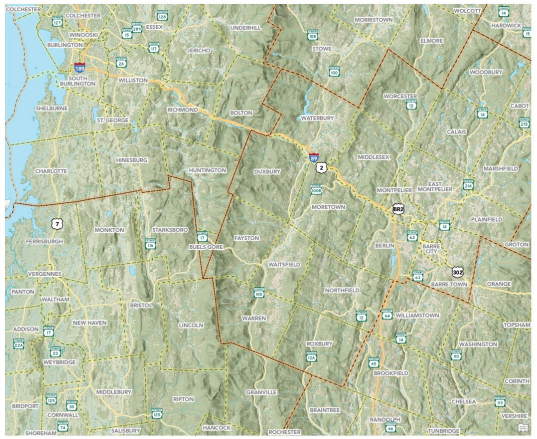
Question:
It's 2022. Aren't you done mapping yet?

Digital Relief

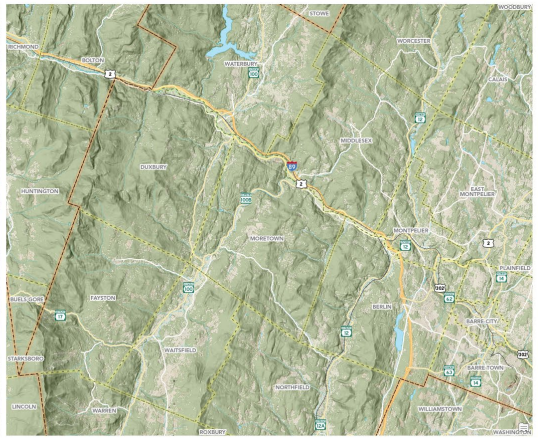
VCGI

Level 9
1:1.155.581

Level 10
1:577.790



Level 11 (8pt Towns)
1:288,895



Level 12
1:144.447

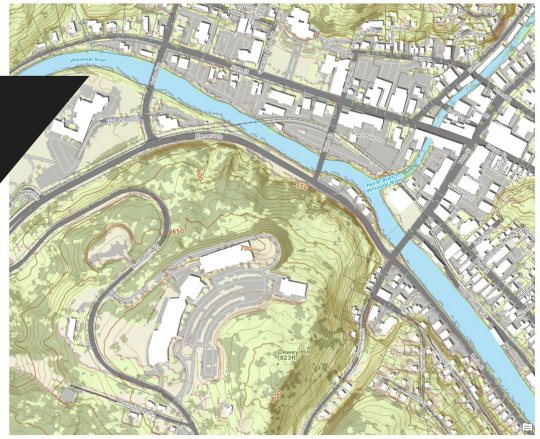
Level 13
1:72,223

Level 14
1:36,112

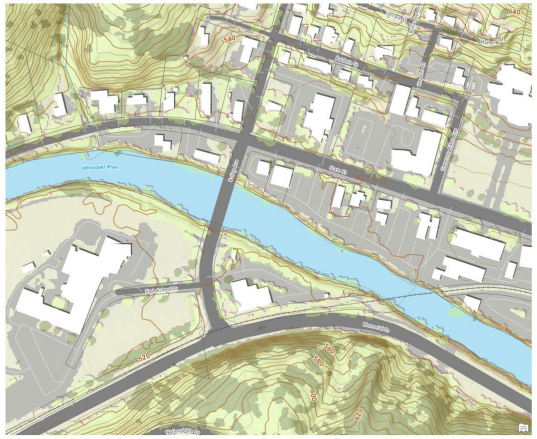
1:24,000

Level 15
1:18,055

Level 16
1:9.027



Level 17
1:4,513



Level 18
1:2,256

Level 19
1:1,128

A: Changing In Space

Example: Info Across Scales/Human Activity

VCGI

2014 Inset Area

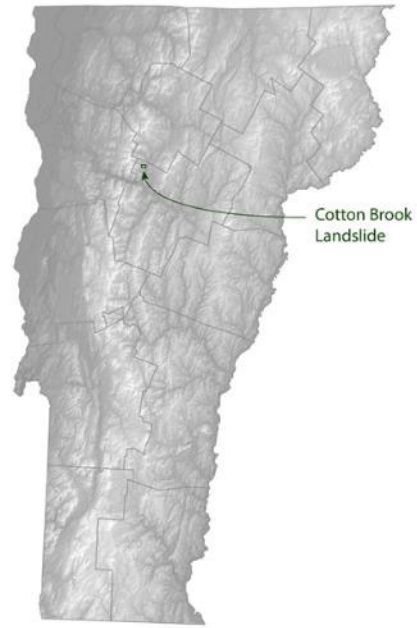
A: Changing With Time

Example: Environmental Change

2021

- Apparent Paleo Landslide
- Active Landslide
- Toe Deposit

0 500 1,000 Feet



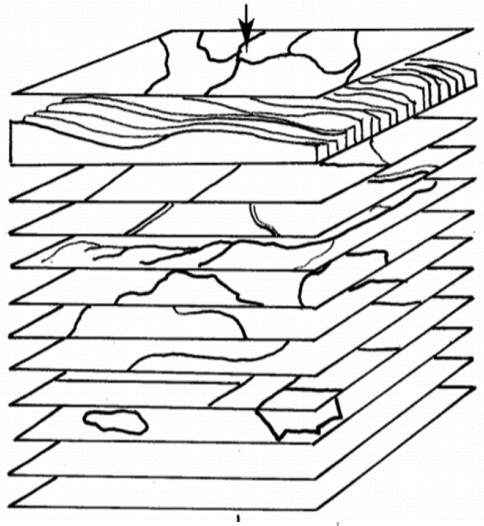
VCGI

The Creation of the
Vermont State Data Base

A Program of Work
April 1983

School of Natural Resources
University of Vermont

A GEOGRAPHIC INFORMATION SYSTEM for VERMONT

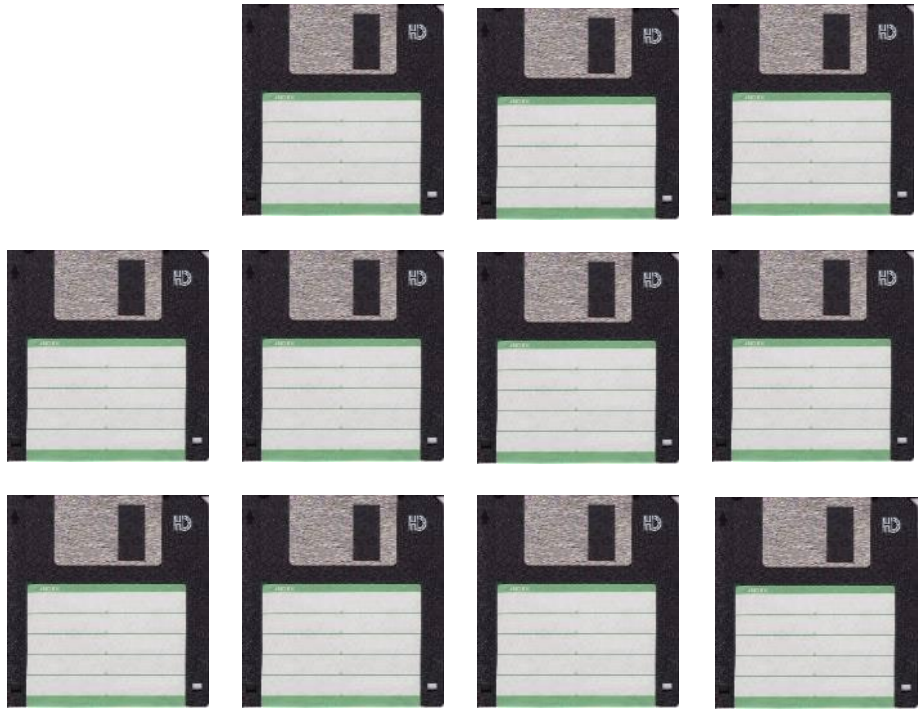


SOILS
TOPOGRAPHY
slope, aspect, elevation
POLITICAL BOUNDARIES
TRANSPORTATION
STREAM COURSES, WATERSHEDS
LAND COVER/USE
GROUND WATER
GEOLOGY
SOCIO-ECONOMIC FACTORS
HISTORICAL/ARCHAEOLOGY
FUTURE EXPANSION
FUTURE EXPANSION

A: Changing With Technology

Example: Origins of VT GIS

1983



1992

VCGI

TODAY

A: Changing With Technology

Example: Current Web-Focused State of VT GIS

DATA DOWNLOAD

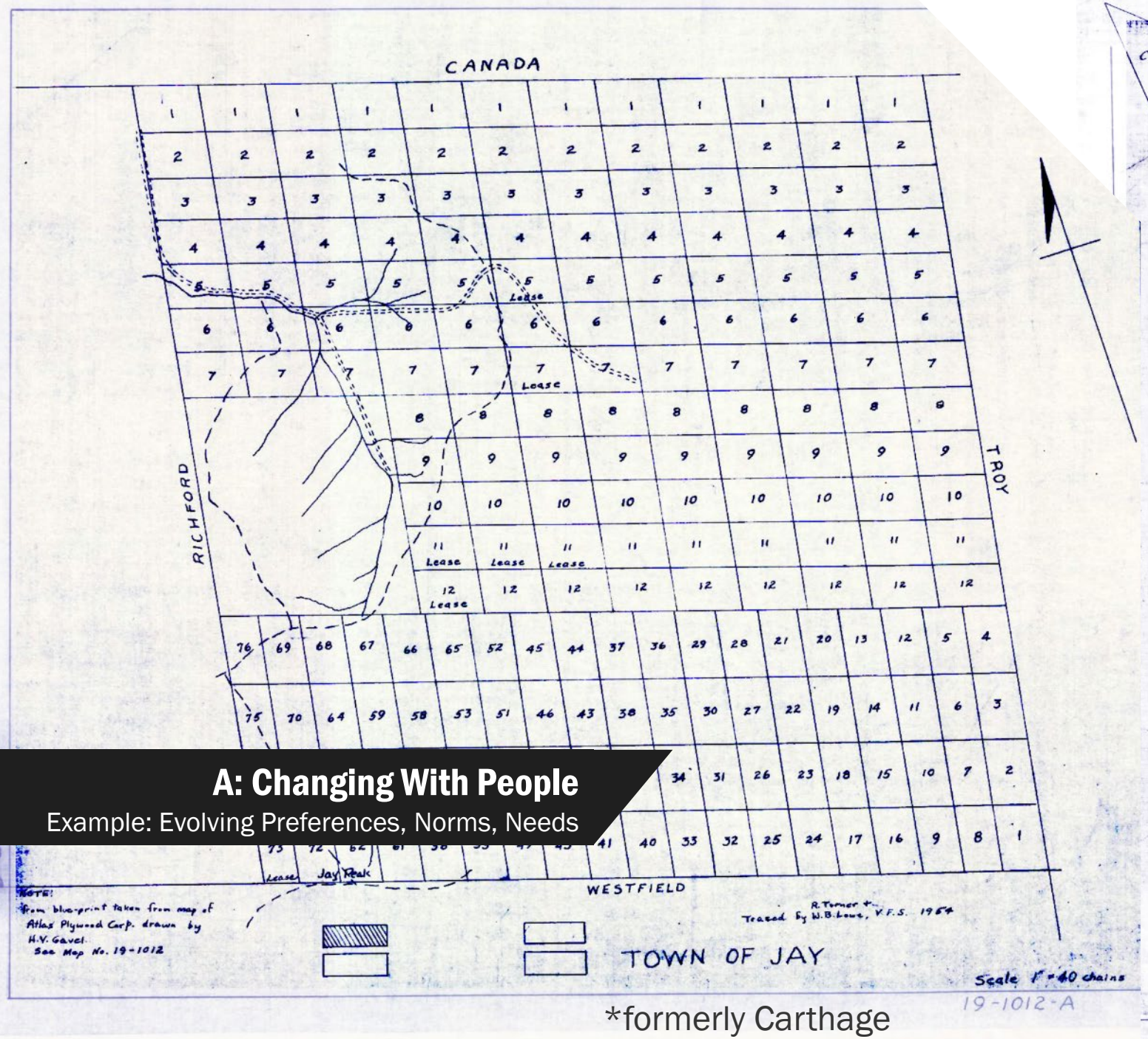
APPS

LIKE NETFLIX FOR MAPS

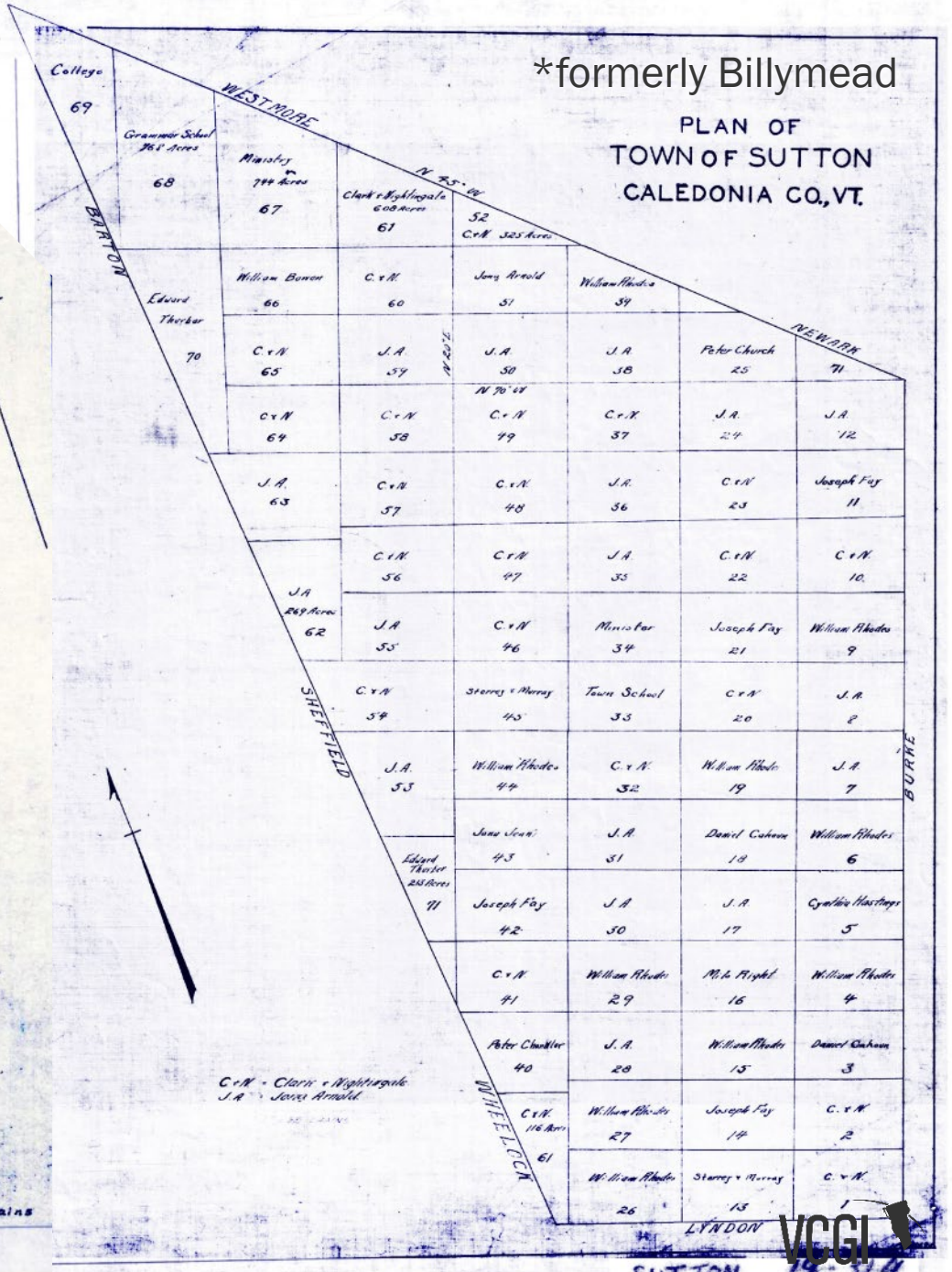
SERVICES

>17 ~~TB~~ TB

Photo Credit: Taylor Vick



*formerly Carthage



*formerly Billymead

A: Changing With People

Example: Evolving Preferences, Norms, Needs

VCGI

From
2020 -

It is now possible to construct a Virtual Vermont for reference. No floppies needed.

Examples of Lidar-Derived Data Products

BARE EARTH HILLSHADE
LIT FROM NORTHWEST

A Dynamic Result

Evolving Digital Representations of VT

1' CONTOURS
PARCELS

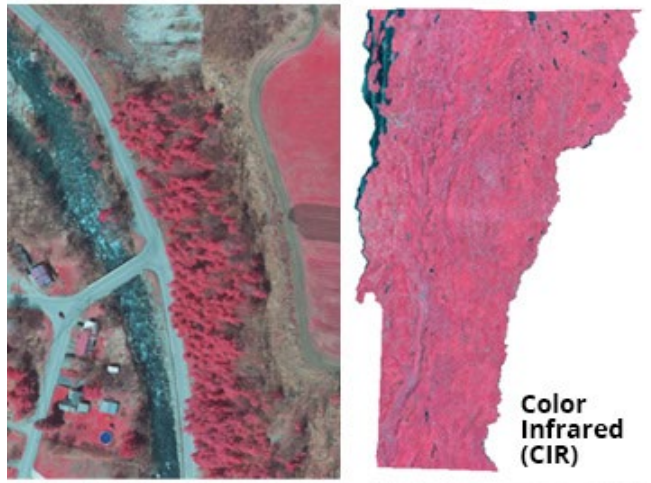
3D Buildings, Topography
Hydrography
Orthoimagery
Land Cover

VCGI

What kinds & uses?

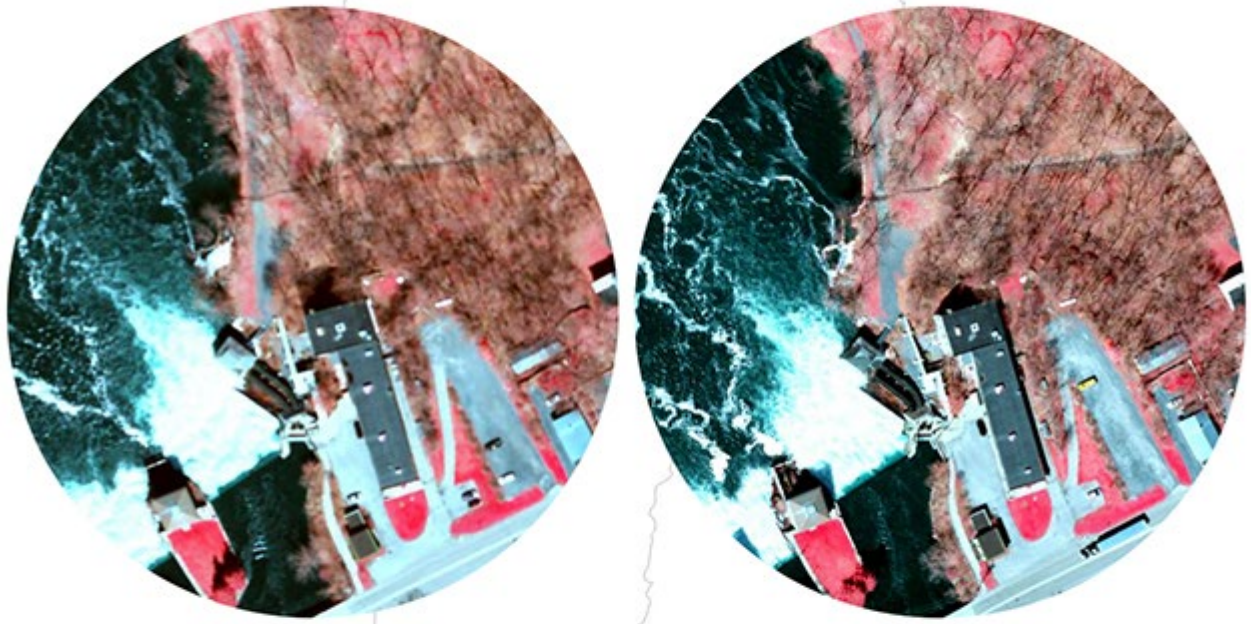
Products & Qualities
Examples
Addressing Common Questions

Color
(CLR)



Color
Infrared
(CIR)

Black &
White
(BW)



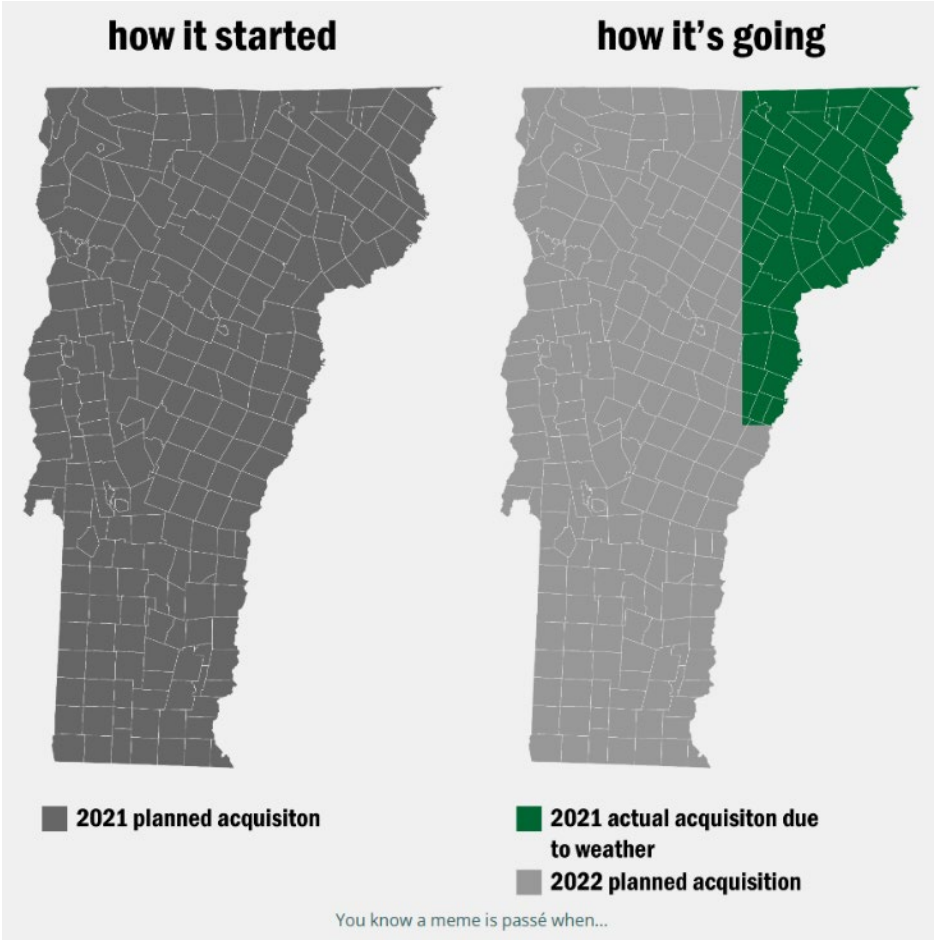
30cm

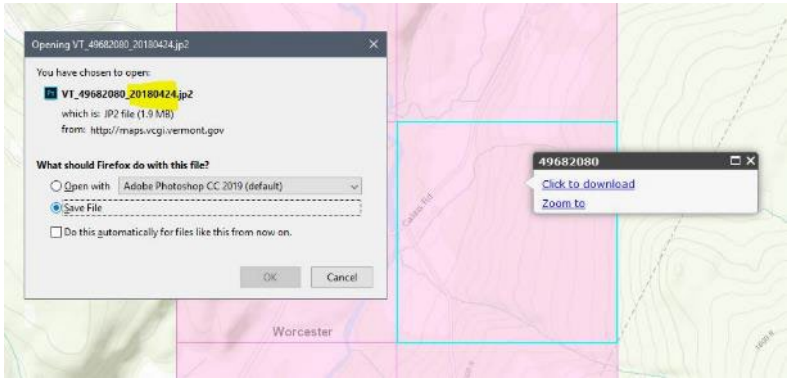
15cm

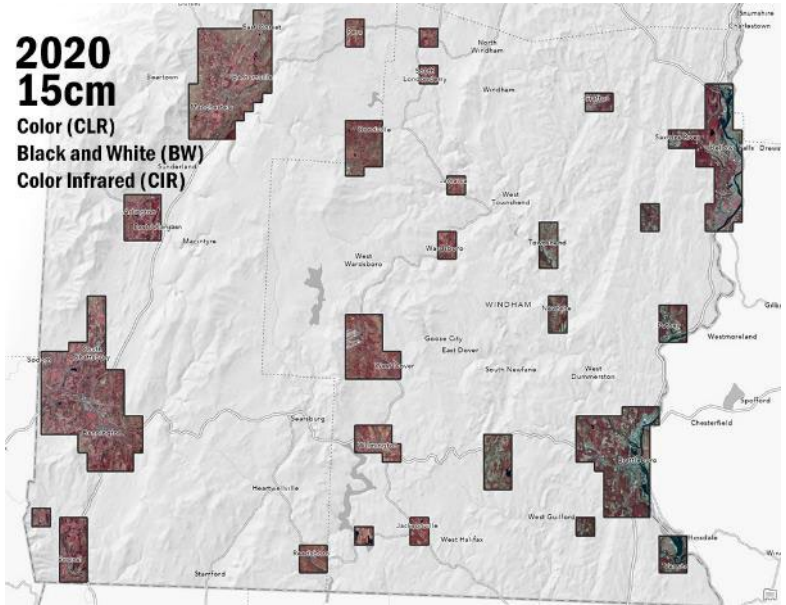
Orthoimagery Program

Digital, Leaf-off Since 1994

VCGI





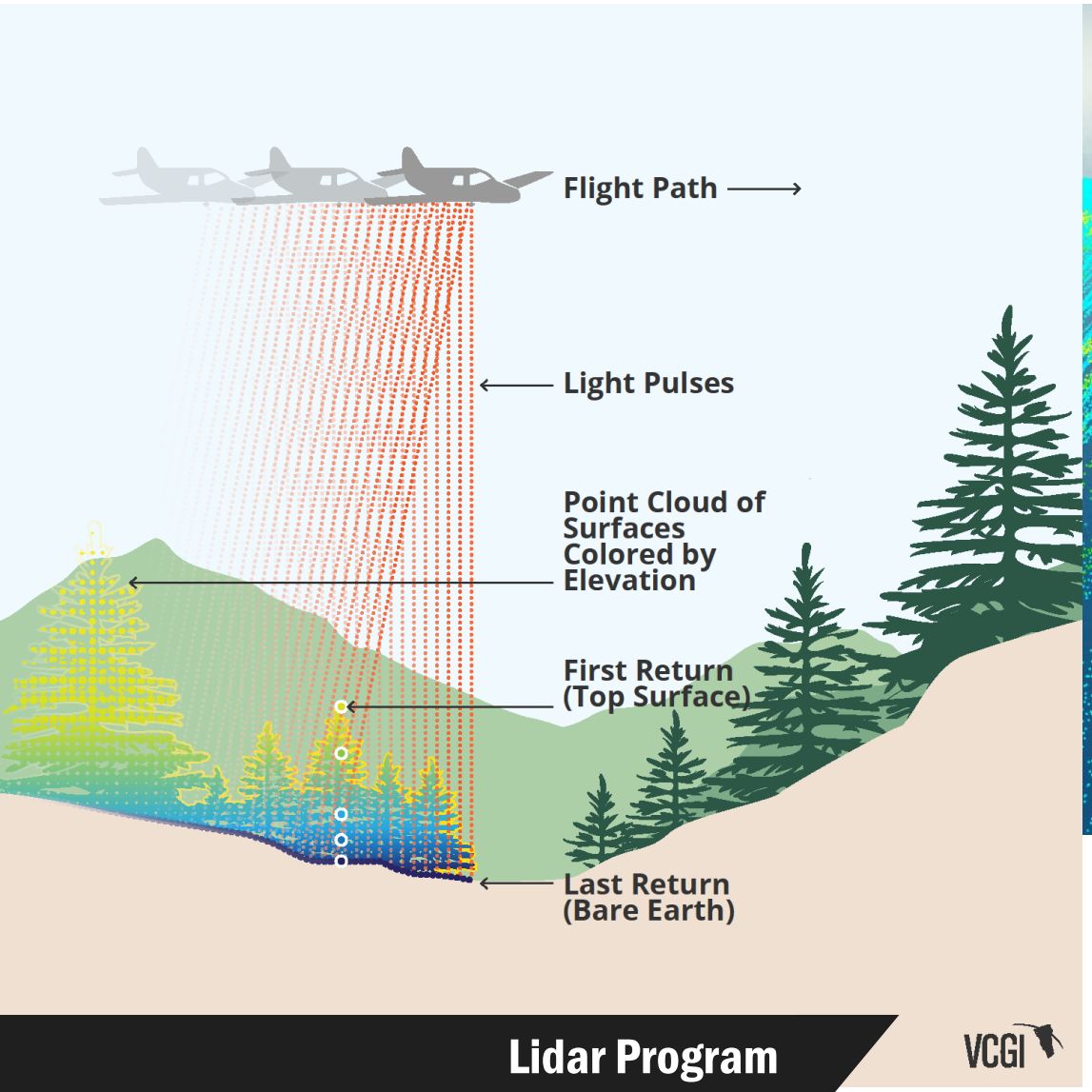


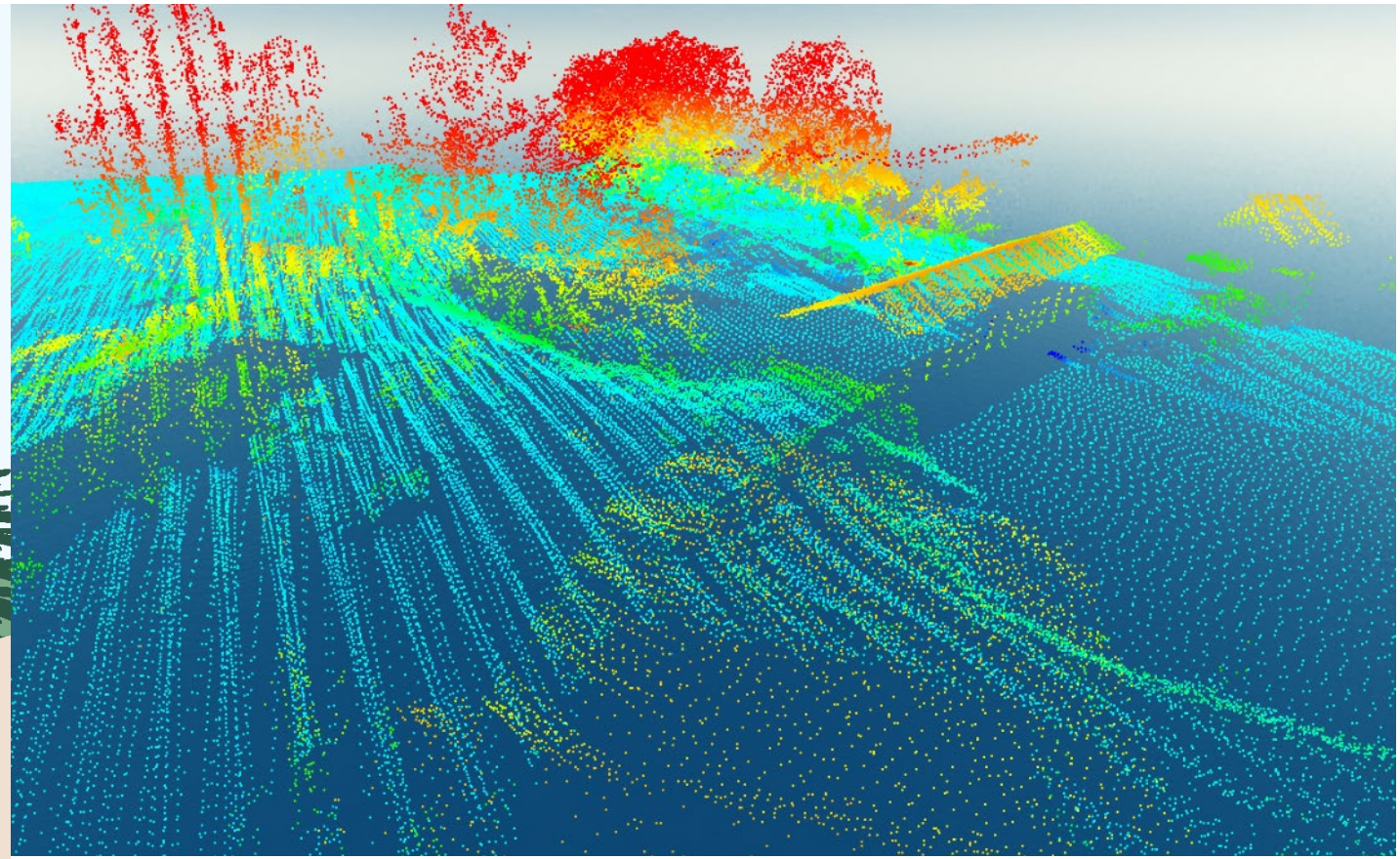
Orthoimagery Program

Digital, Leaf-off Since 1994

VCGI

Shooting lasers at the Earth. Getting points in return. Making useful data products from them.



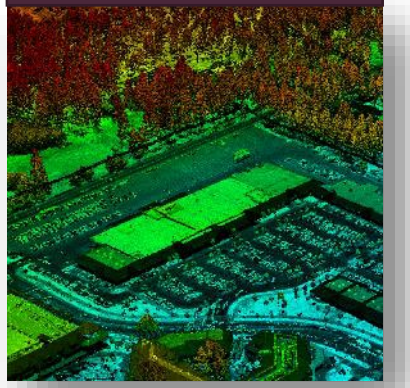


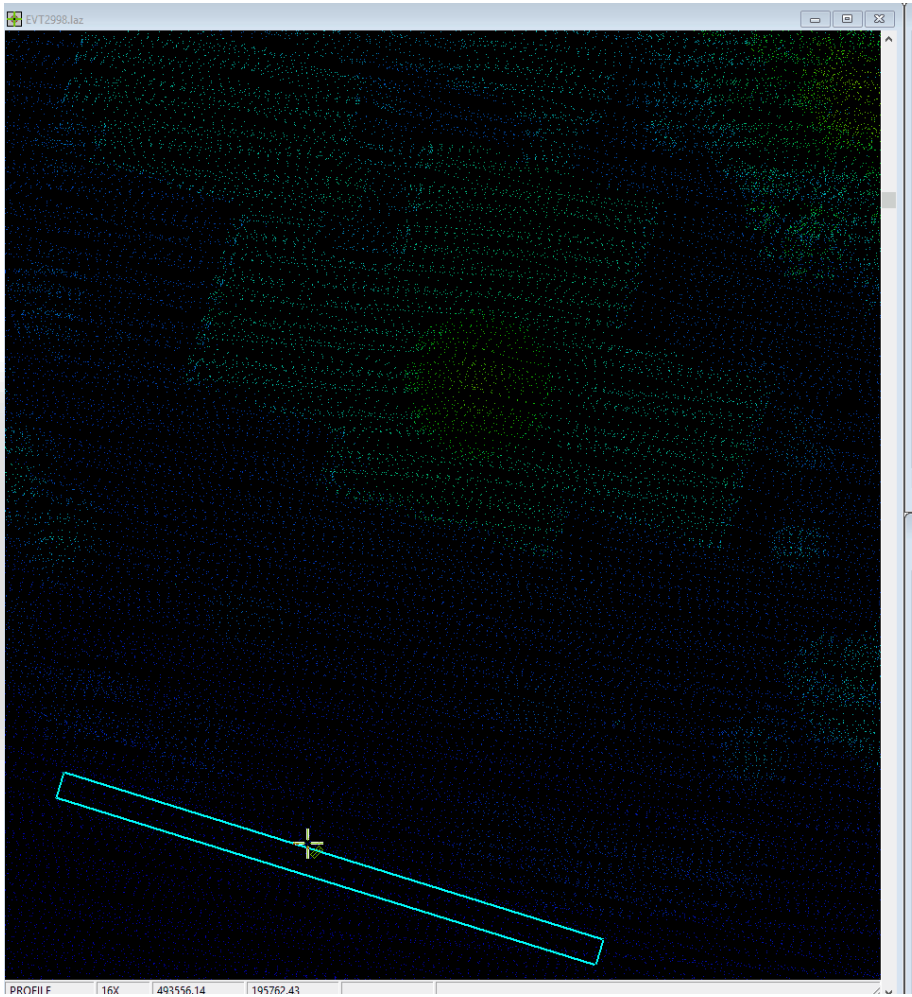
Lidar Program

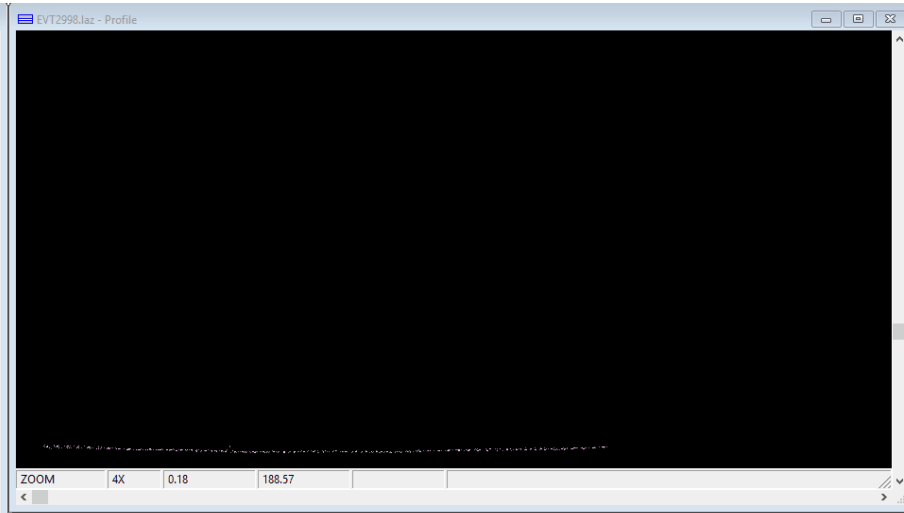
High-Resolution Surface-of-the-Earth Data

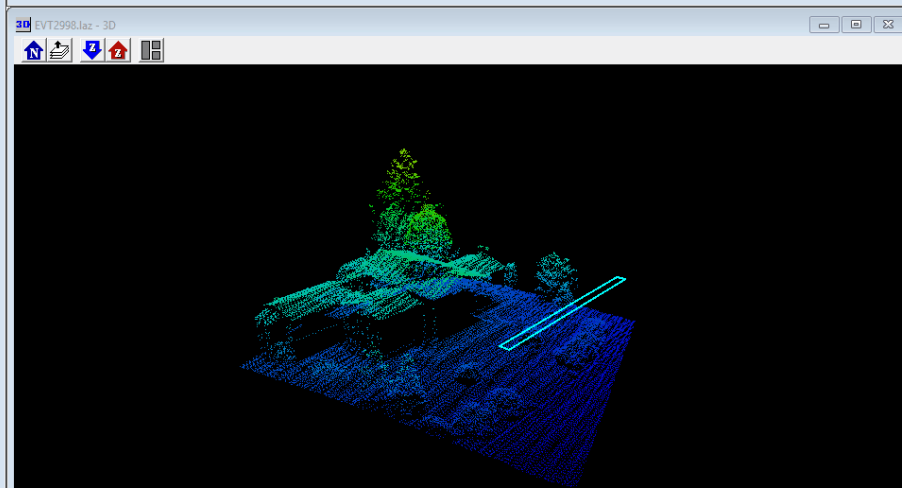
Quality Levels	Data Source	Horizontal Resolution	Vertical Accuracy	
		Point Density	RMSEz in Open Terrain	Equivalent Contour Accuracy
QL 1	LiDAR	8 points/m²	9.25 cm	1 foot
QL 2	LiDAR	2 points/m²	9.25 cm	1 foot

Point Cloud







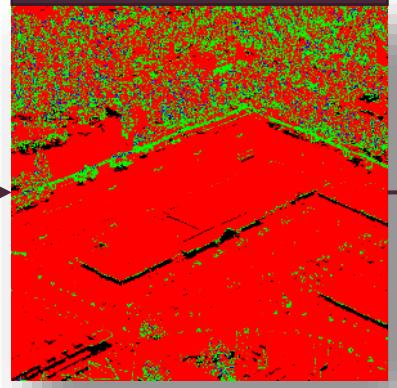


Lidar Program

High-Resolution Surface-of-the-Earth Data

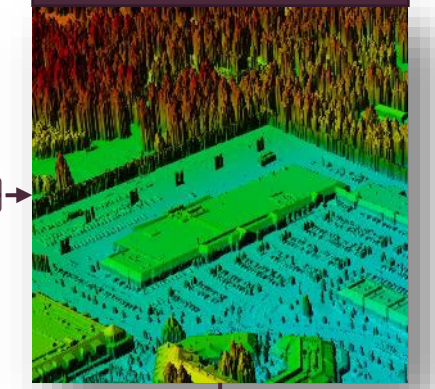
VCGI

First Returns

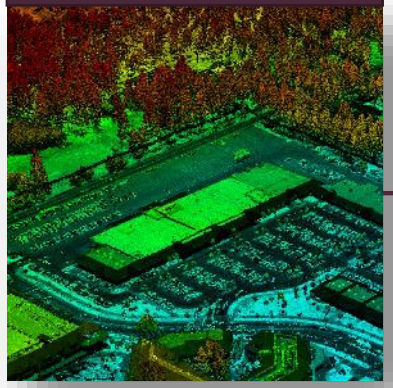


Interpolation

DSM



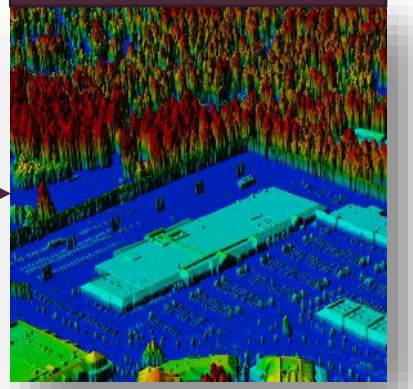
Point Cloud



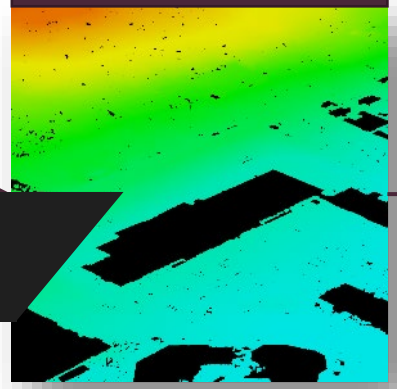
Query

Subtraction

nDSM

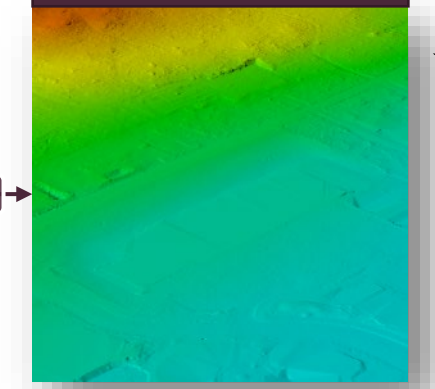


Ground Class



Interpolation

DEM



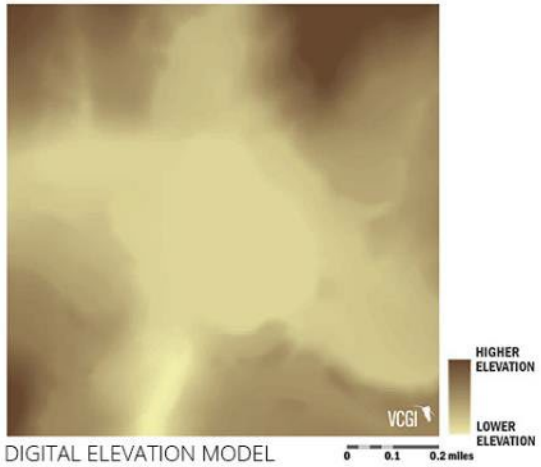
...plus

- ASPECT
- CONTOURS
- HILLSHADE
- SLOPE

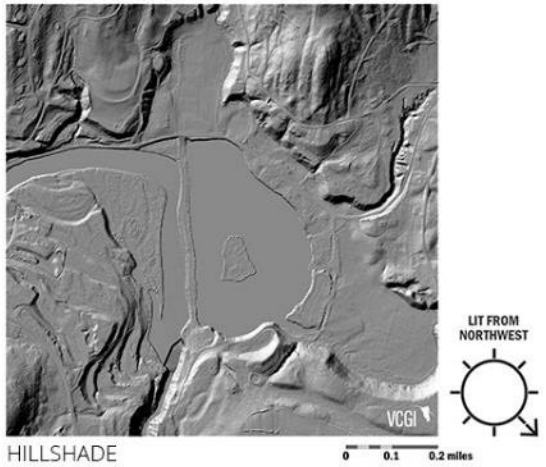
Lidar Program

High-Resolution Surface-of-the-Earth Data

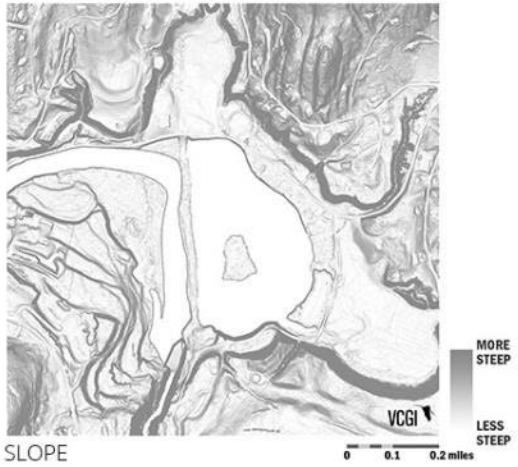
VCGI



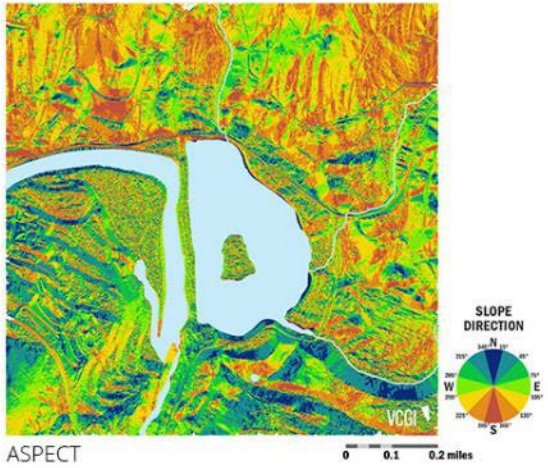
DIGITAL ELEVATION MODEL



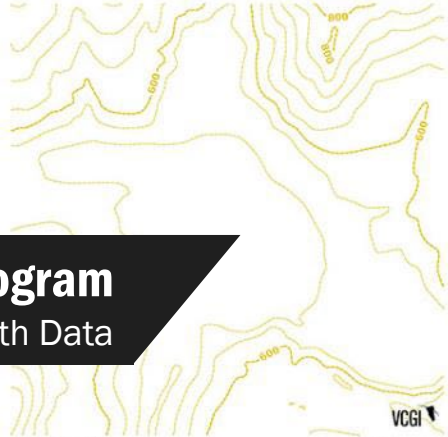
HILLSHADE



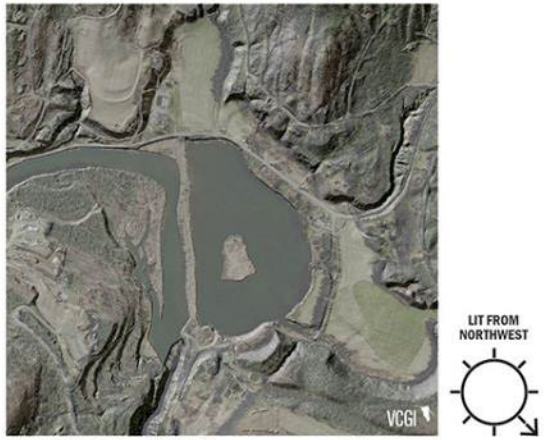
SLOPE



ASPECT



CONTOURS



HILLSHADE + ORTHO

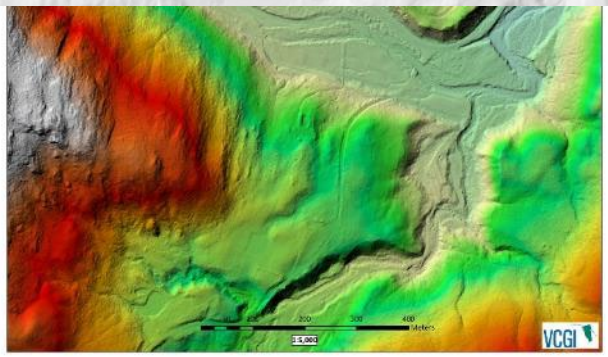
Lidar Program

High-Resolution Surface-of-the-Earth Data

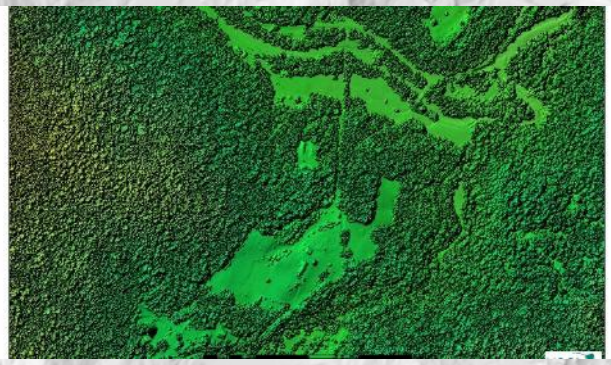
VCGI

ONE LOCATION, MANY PRODUCTS

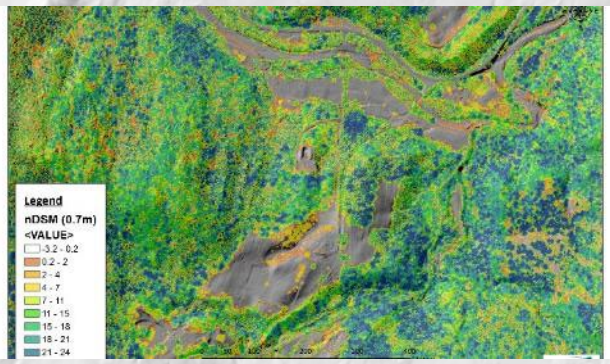
MARLBORO, VT



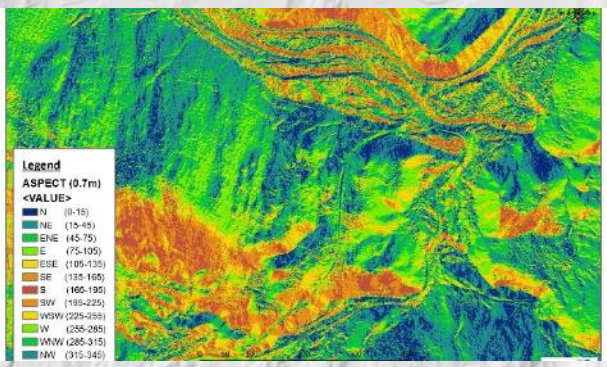
DIGITAL ELEVATION MODEL (DEM)



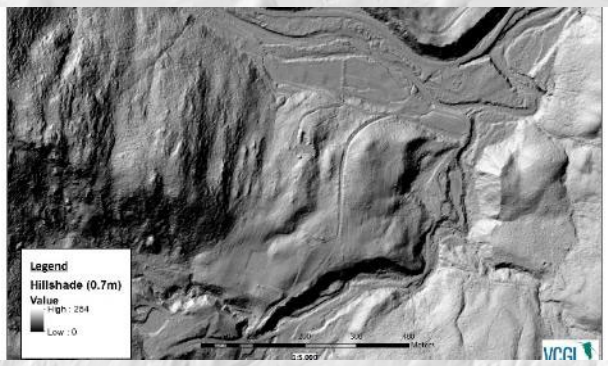
DIGITAL SURFACE MODEL (DSM)



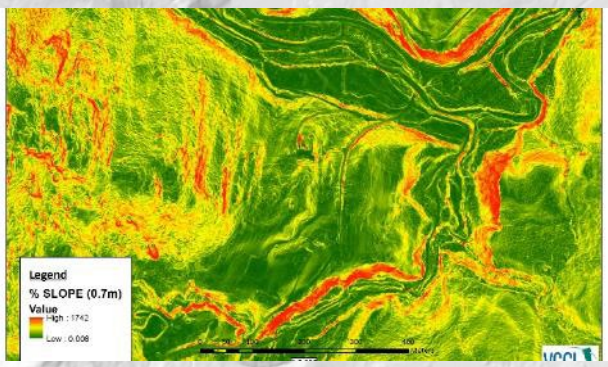
NORMALIZED DSM (nDSM)



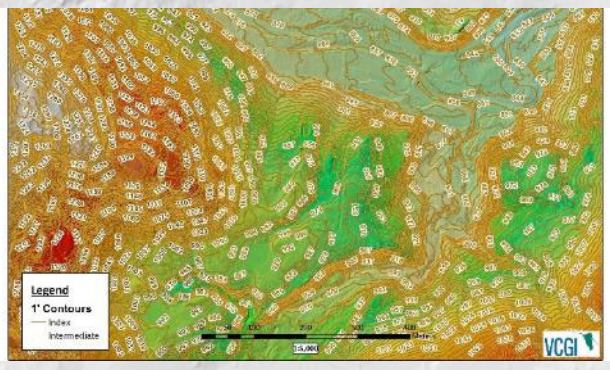
ASPECT (AZIMUTH)



“BARE EARTH” HILLSHADE

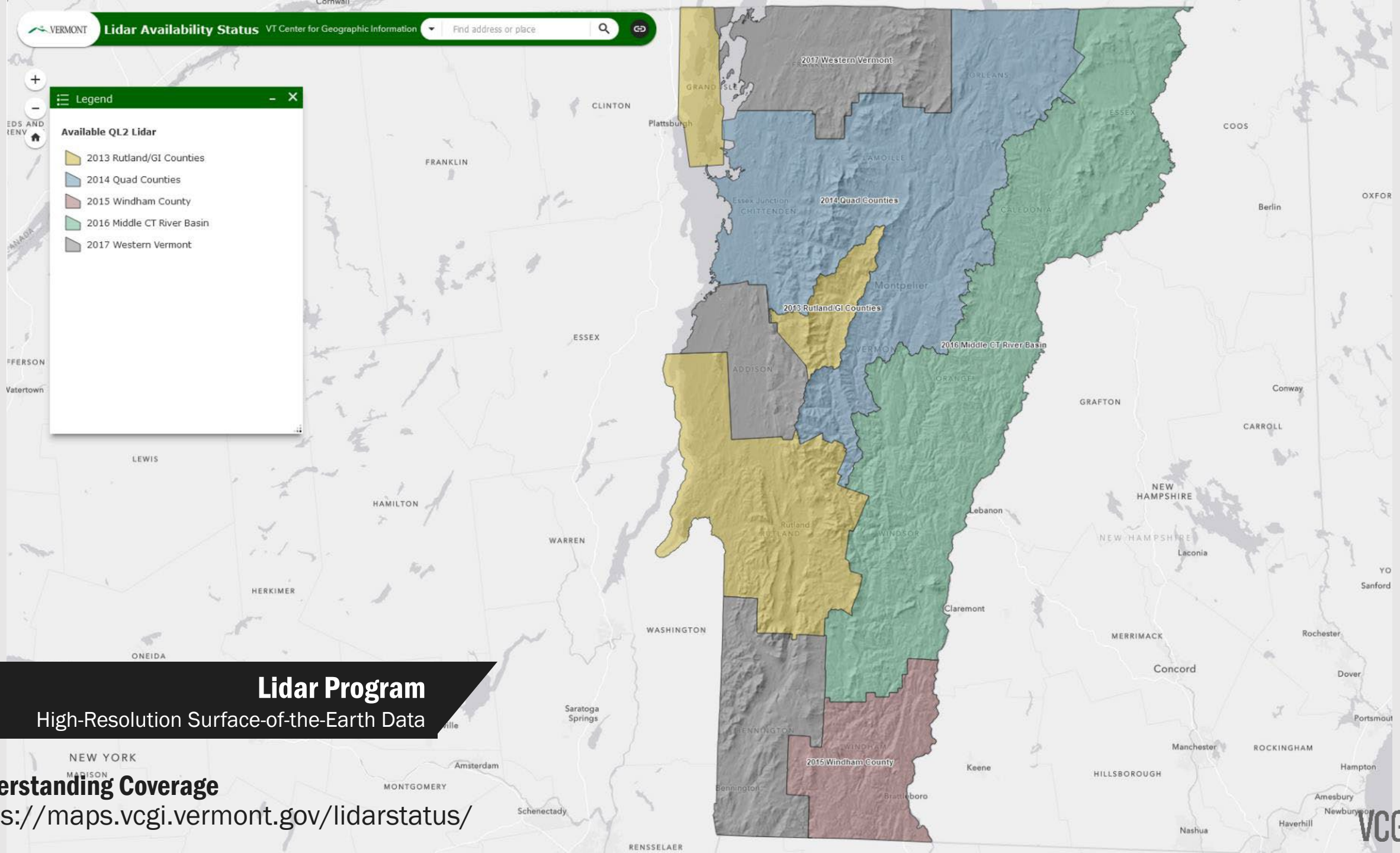


SLOPE



1 FOOT CONTOURS

VCGI



Lidar Program

High-Resolution Surface-of-the-Earth Data

Understanding Coverage

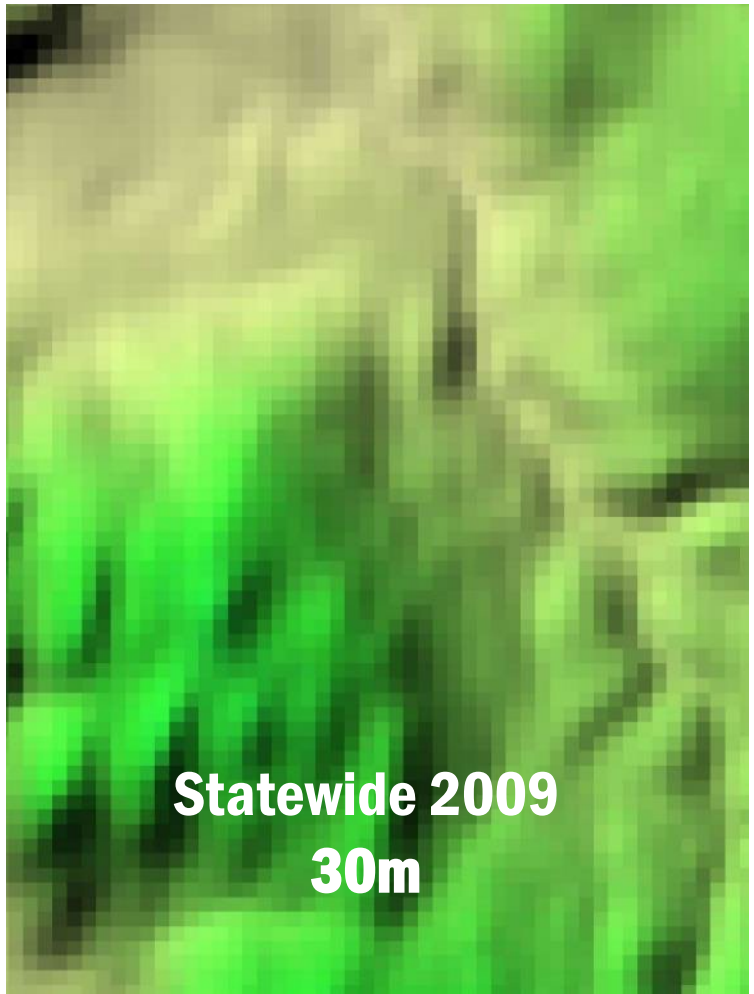
https://maps.vcgi.vermont.gov/lidarstatus/

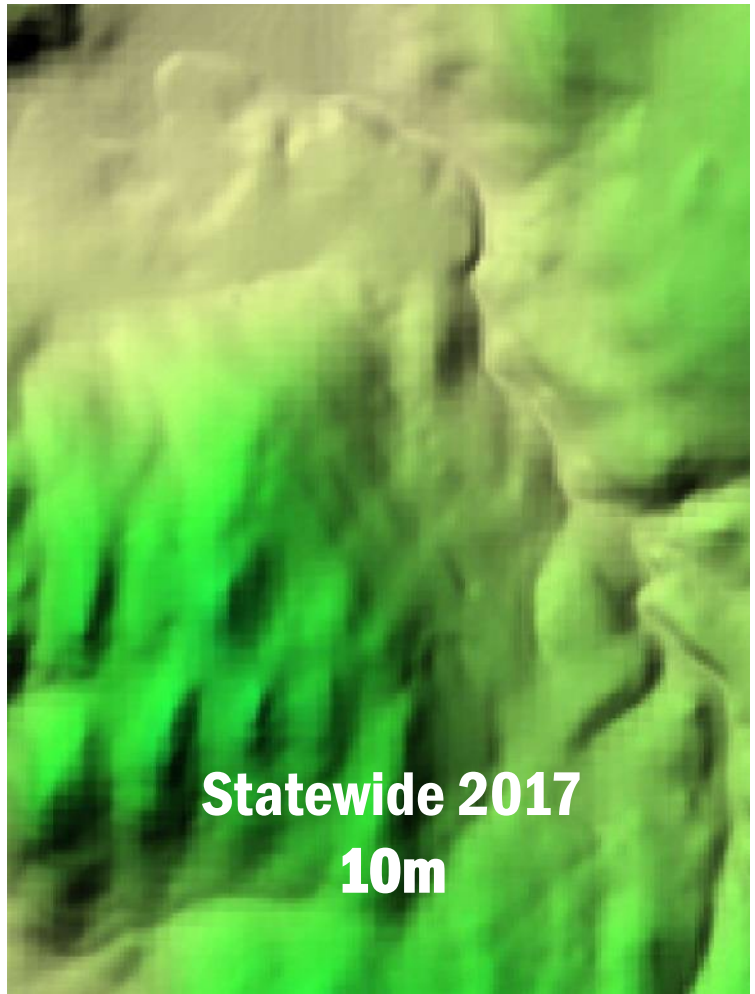
Understanding Lidar Resolution

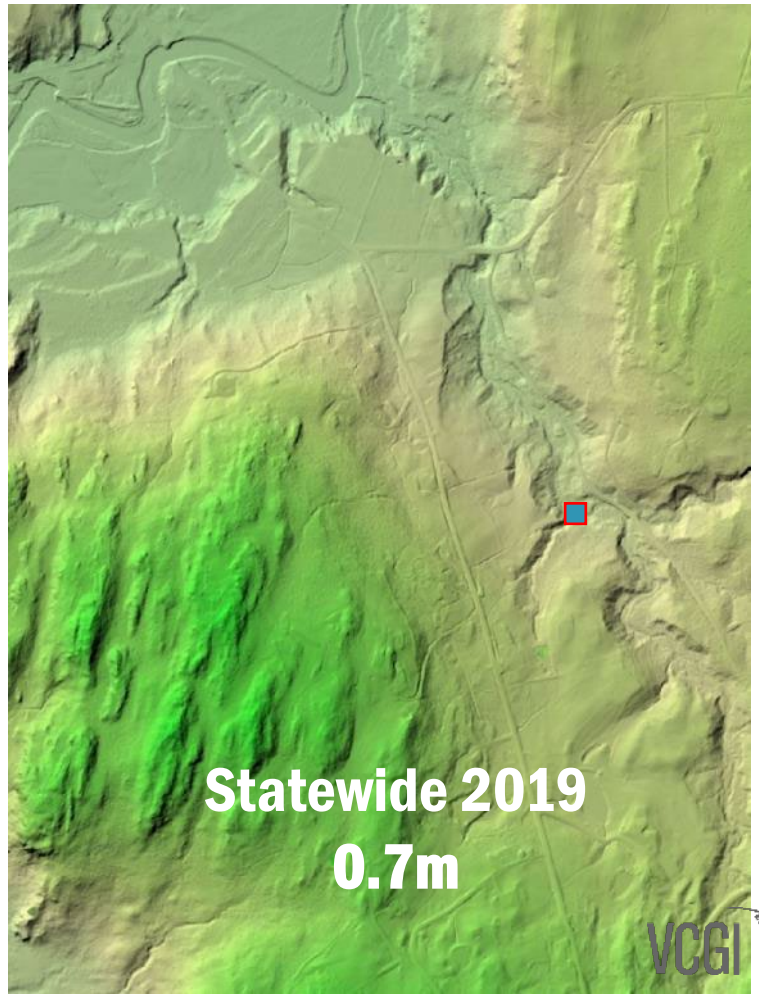
Lidar Program
High-Resolution Surface-of-the-Earth Data

National Elevation Dataset: Reported vertical accuracy= 8 ft.

LIDAR QL2: Vertical accuracy= 3.6 in.



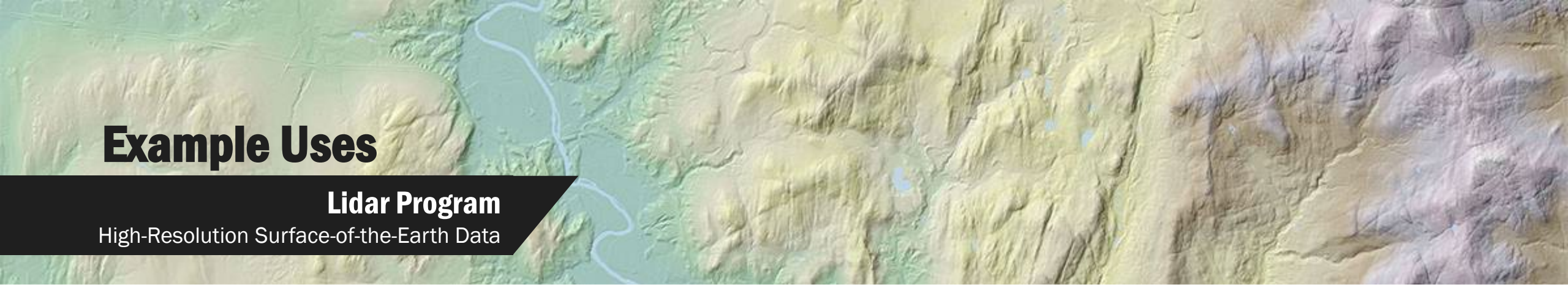




Lidar Program

High-Resolution Surface-of-the-Earth Data

VCGI



Example Uses

Lidar Program

High-Resolution Surface-of-the-Earth Data

- Agriculture
- Archeology & Historic Preservation
- Construction
- Dam Management
- Design
- Emergency Planning
- Energy/Communications Planning
- Erosion Assessment and Mitigation
- Evacuation Planning
- Farm-to-Plate Initiative
- Fire Fuel Models
- Flood plain Mapping
- Flow Analysis
- Forestry, Biomass, & Vegetation Management
- Gully Detection
- Habitat Analysis
- Hazardous Spill Analysis
- Ice Jam Potential
- Land Cover Mapping
- Landslide Potential
- Line of Sight and Viewshed Analysis
- Riparian Buffer Mapping and Protection
- Shoreline Erosion
- Soils Mapping
- Solar and Wind Energy Suitability
- Stormwater analysis and design
- Timber Volume
- Town Planning
- Transportation Infrastructure
- Updating FIRM to DFIRM
- …and more

VCGI

Archaeology

Solar Assessment

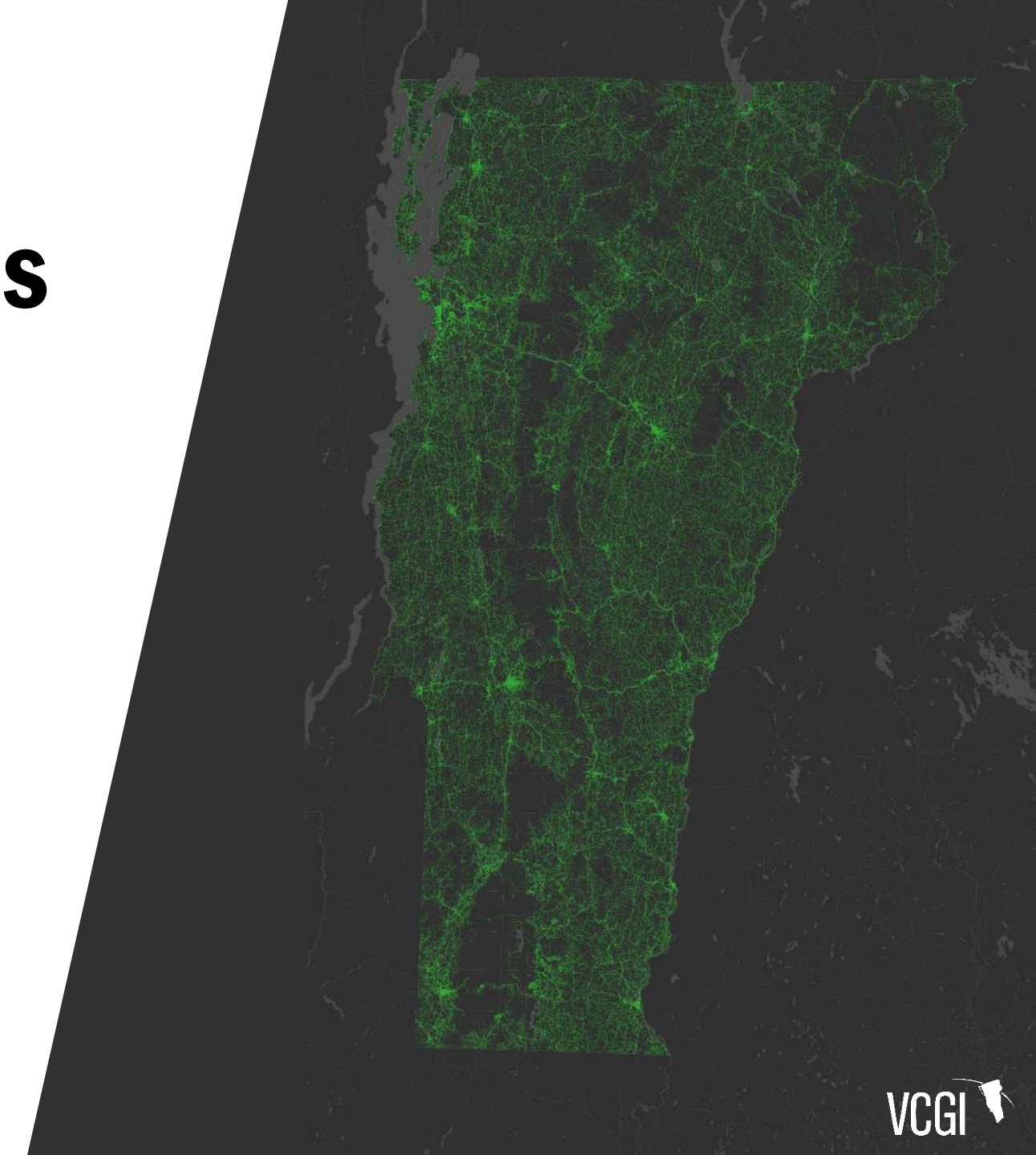
Wetlands Assessment

Site Suitability

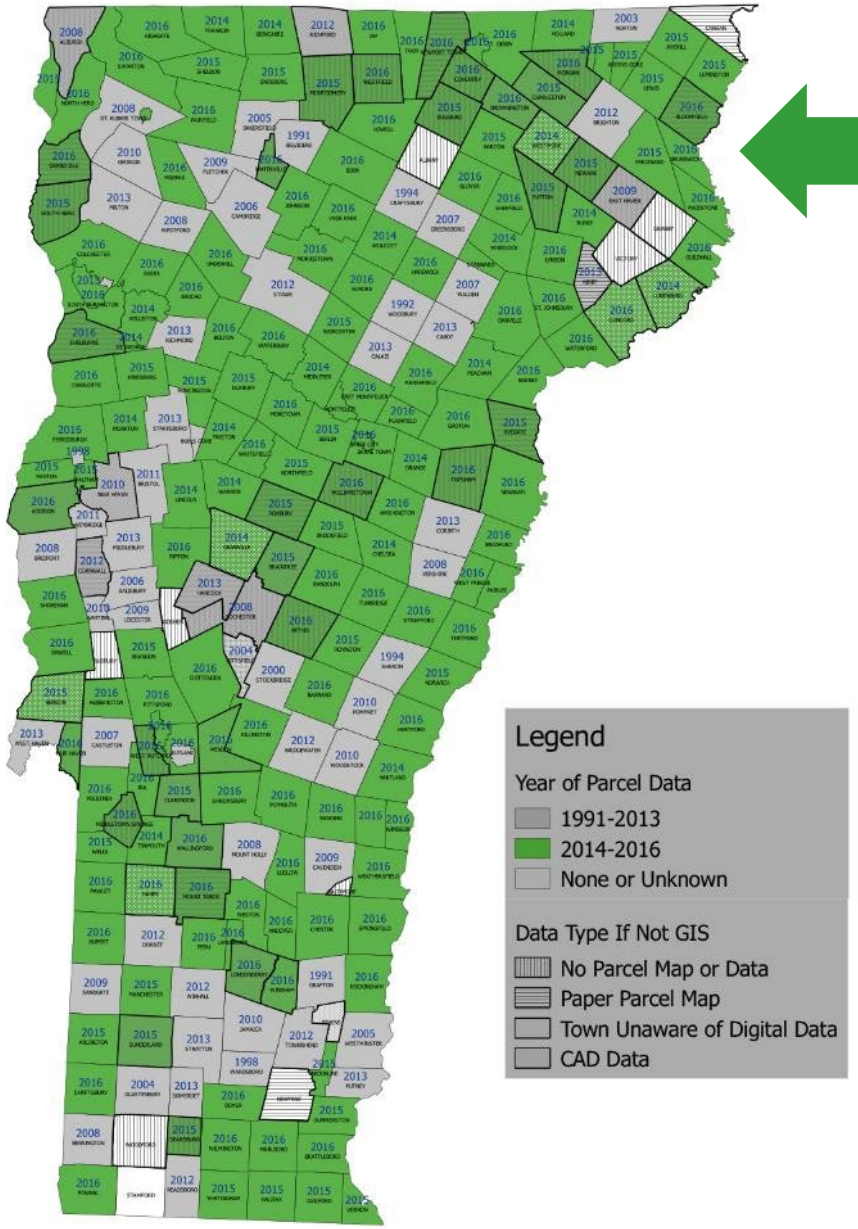
300,000+ Parcels
256 Towns
1 Dataset*

*well…2. Those pesky “inactives”…

Parcel Program
Grand List-joined Property Parcels Statewide



Vermont Parcel Mapping Data Status
February 2017



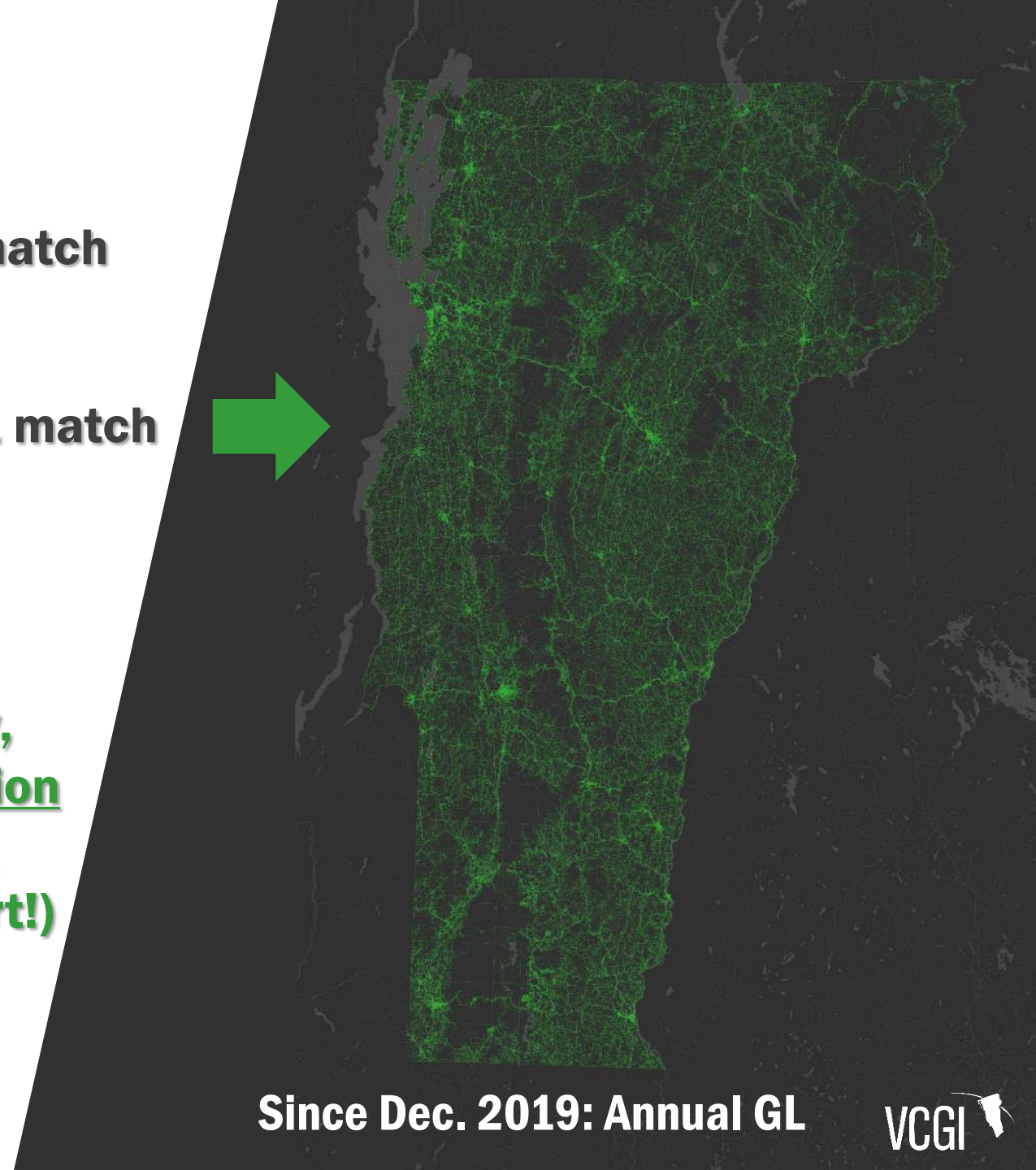
58% GL match

99% GL match

The Key?

SPAN

(but really, coordination and funds do not hurt!)



Since Dec. 2019: Annual GL

VCGI

VTPARCELS Town Data Status | VTPARCELS nonstandardized | VTPARCELS standardized inactive | VTPARCELS standardized parcels

Options | Filter by map extent | Zoom to | Clear selection | Refresh

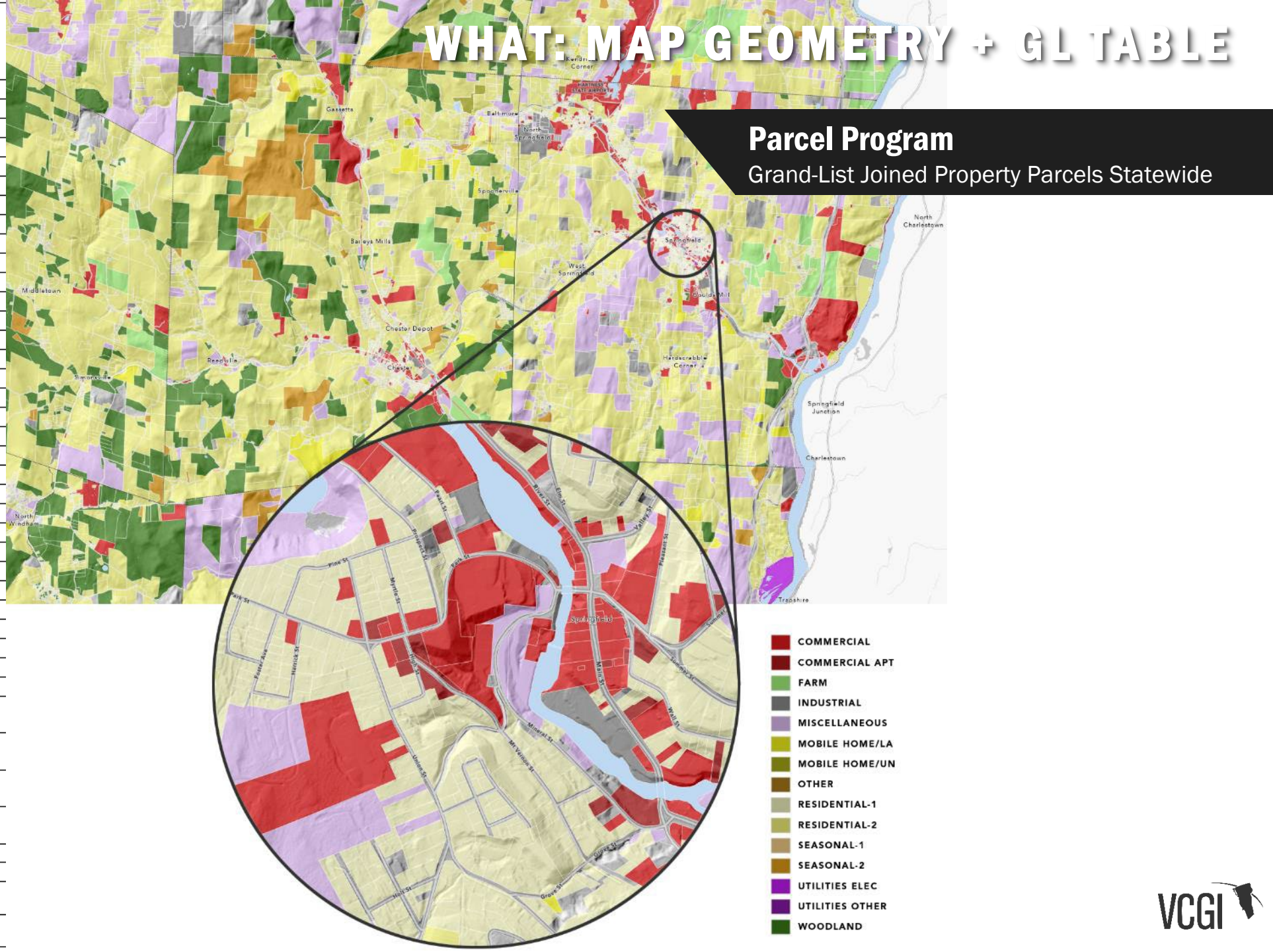
GRAND LIST FIELDS OF SELECTION

MAPID	PROPTYPE	GIS Year	TOWN	Property Description	Category (Real Estate only)	Resident Ownership Code	Total Acres	Listed Real Value (Full)	Listed Value of Land	Listed Value of Improvements	Homestead Declared (Y/N)	Owership
039-2-053-000	PARCEL	2018	BURLINGTON	FORMER CITY DUMP MONITORING STATION CR	Commercial	C	37.70	521,200	508,600	12,600	N	CITY DPW, 645 PINE ST BURLINGTON, VT, 05401

1 features 0 selected

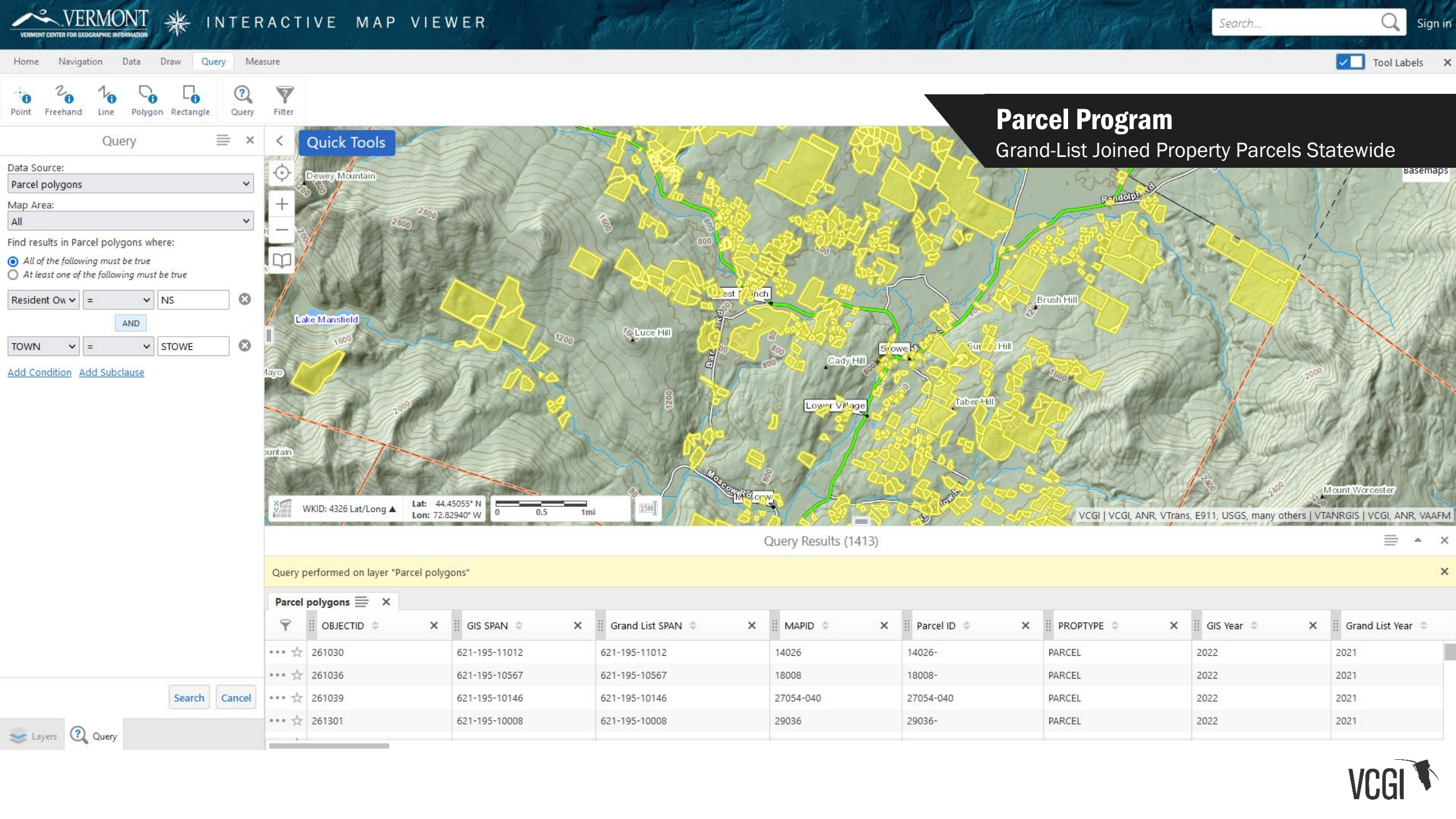
WHAT: MAP GEOMETRY + GL TABLE

Field	(Row #1 contains headers.) Descriptive Field Name
1	Tax Year
2	Town Name
3	SPAN
4	Parcel ID
5	Owner Name 1
6	Owner Name 2
7	Mailing Address 1
8	Mailing Address 2
9	Mailing Address City
10	Mailing Address State
11	Mailing Address Zip
12	Property Description
13	Location
14	Category (Real Estate only)
*15	Resident Ownership Code
16	Total Acres
17	Listed Real Value (Full)
18	Homestead Listed Value (Full)
19	Non-Residential Value (Full)
20	Listed Value of Land
21	Listed Value of Improvements
22	Equipment Value (Personal Property)
23	Equipment Code (Cable only)
24	Inventory Value
25	Homestead Declared (Y/N)
26	Housesite Value
27	Veterans Exemption Amount
28	Other Exemption Type
29	Exemption End Date
30	Exemption Statute
31	Exemption Homestead Amount
32	Exemption Non-Residential Amount
33	Current Use Homestead Reduction Amount
34	Current Use Non-Residential Reduction Amount
35	Education Grand List Value Homestead (1%)
36	Education Grand List Value Non-Residential (1%)
37	Covenant Restricted Housing Percent
38	Municipal Grand List Value (1%)
39	AOE Grand List Value **Homestead** (1%)
40	AOE GL Value **Non-Residential** (1%)



Parcel Program

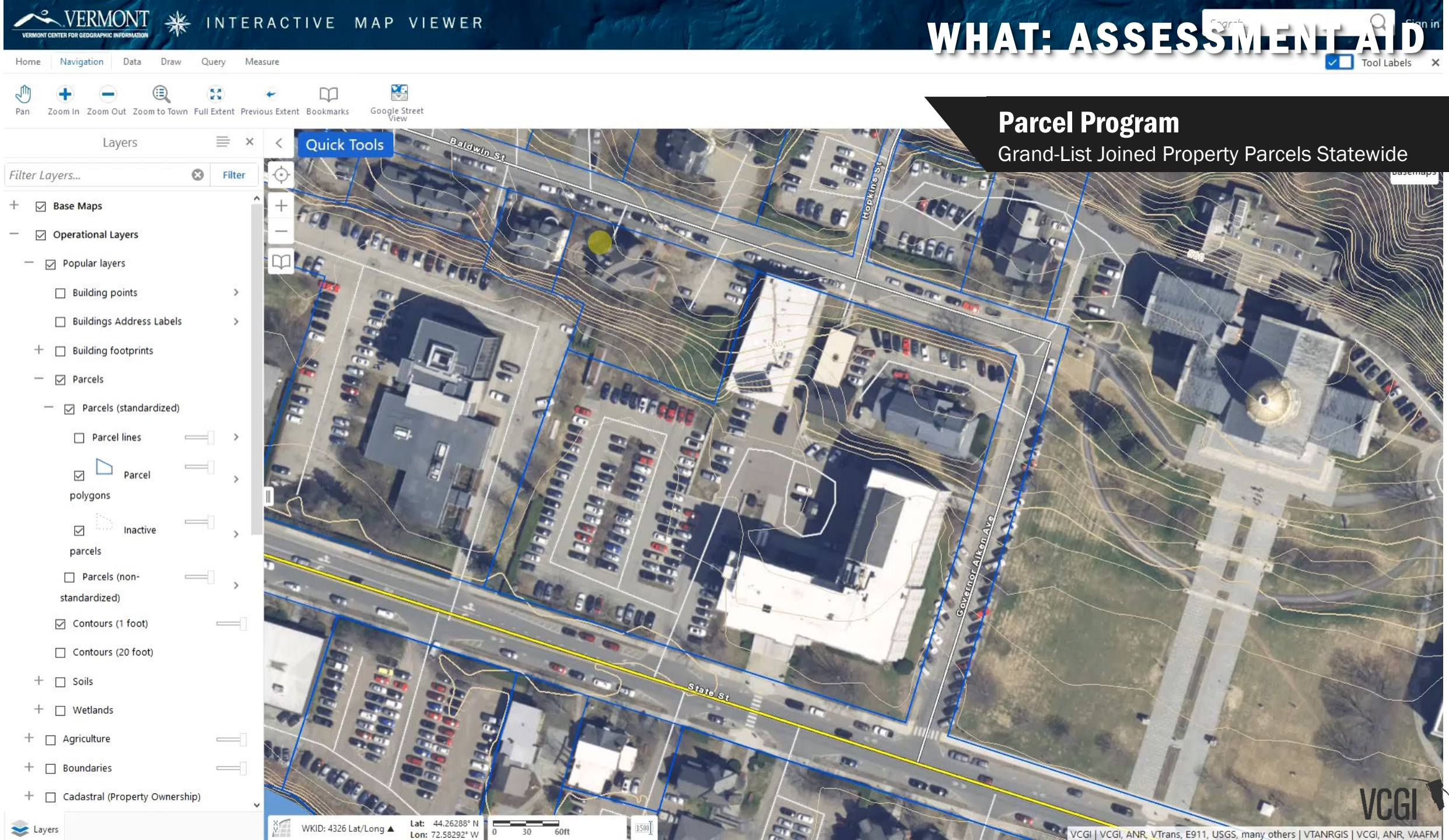
Grand-List Joined Property Parcels Statewide



WHAT: ASSESSMENT AID

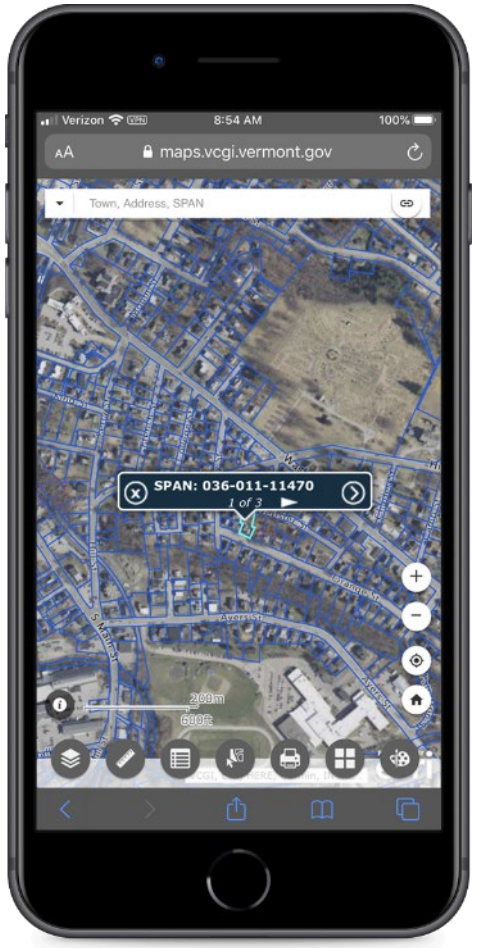
Parcel Program

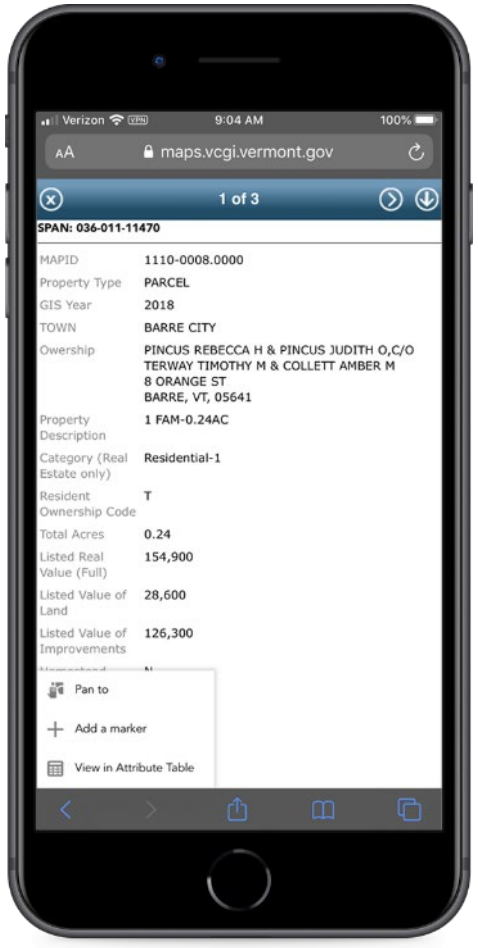
Grand-List Joined Property Parcels Statewide

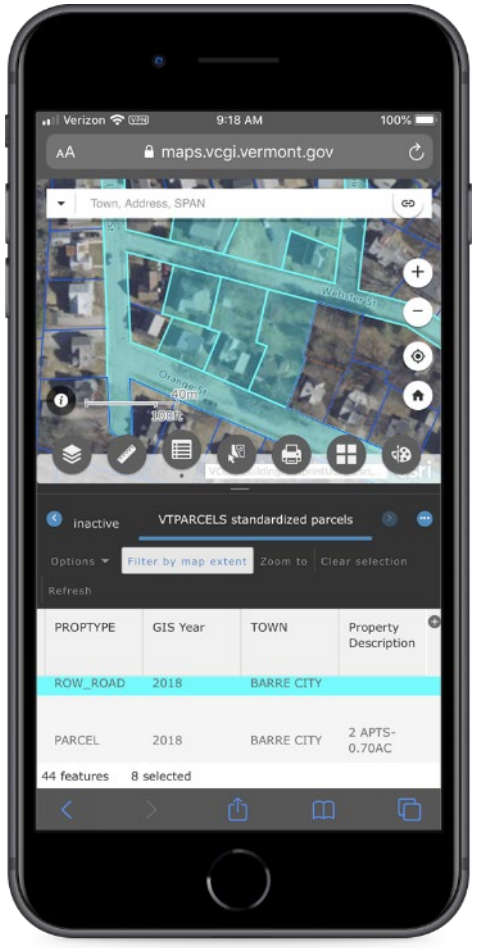


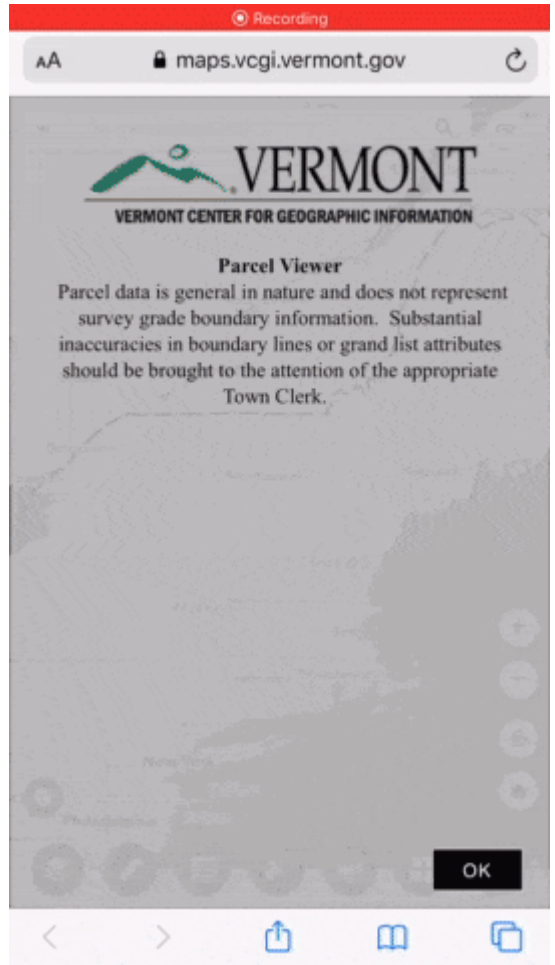
Parcel Program

Grand-List Joined Property Parcels Statewide









VCGI

An Official **Vermont** Government Website

VERMONT

Agency of Administration
Department of Taxes

Select Language

Contact | Careers | File | Pay | Refunds | Forms | myVTax

Parcel Program
Grand-List Joined Property Parcels Statewide

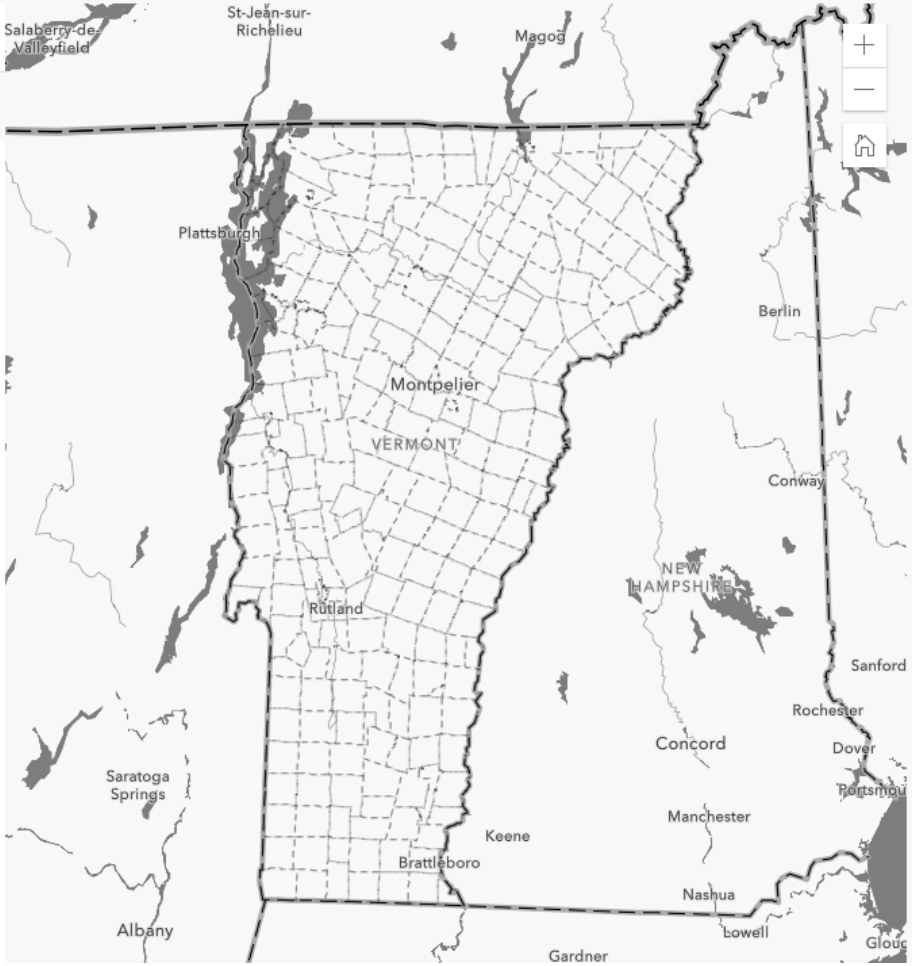
- Home
- **Individuals**
  - Forms & Instructions
  - Check My Refund Status
  - Who Needs to File?
  - Types of Filers
  - Filing Season Updates
  - How to File
  - Free File
  - Free Tax Preparation Assistance
  - File an Extension
  - Paying Tax Owed
  - Amend A Return
  - Personal Income Tax
  - **Renter Credit**
    - **SPAN Finder**
    - Calculator and Credit Amounts
    - Income Eligibility Limits
  - Information for Landlords

School Property Account Number (SPAN) Finder

Enter Address Here

Enter an address in the search bar to find the School Property Account Number (SPAN) number of a property.

If you are having trouble finding the correct SPAN, please contact your landlord and ask for the SPAN number of the property you are renting. This number can be found on their property tax bill.



VCGI

https://landsurvey.vermont.gov

VERMONT OFFICIAL STATE WEBSITE

VERMONT

About | How It Works | FAQ | Professional Board | VT GIS Data | Contact

Parcel Program
Grand-List Joined Property Parcels Statewide

Vermont Land Survey Library

Search, View and Add Vermont Land Surveys

A Public Library for Vermont's Land Survey Records

The library hosts copies of land surveys of boundary line adjustments and subdivisions as prepared by Vermont licensed land surveyors.

Enter the Land Survey Library

Digital Survey Plats

Effective January 1, 2020 and as stated in 27 V.S.A. § 341, surveys are required for property line changes in Vermont. Licensed land surveyors who produce the surveys are to submit a digital copy of them to the library in .pdf format (see 27 V.S.A. §1401 and 27 V.S.A. §1403).

The copies of surveys are for public reference only, with the signed and stamped mylars that live with the Town remaining the official documents. The purpose of the land survey library is to improve knowledge of who owns what lands where throughout Vermont.

What is it?

The library consists of a web map that displays the general locations of .pdf copies of surveys produced by Vermont licensed land surveyors. For new surveys produced from January 1, 2020 onward, surveyors upload the .pdf copies to the map when the surveys are to be filed with the Town Clerk. The library's content is open to the public for viewing and reference.

Learn More Here

Submit a Survey

Are you a Vermont licensed land surveyor completing a survey of a property line change on land in Vermont? Are you a town official with recorded surveys that you'd like to make available on a map? If yes to either, then use the survey library application linked from this page to submit a .pdf copy of these documents. Learn more about how and when to use the library in the How It Works section, and read answers to frequently asked questions under FAQ's.

Submit a PDF of a Survey

VCGI

Survey, Surveyor, Address,

About

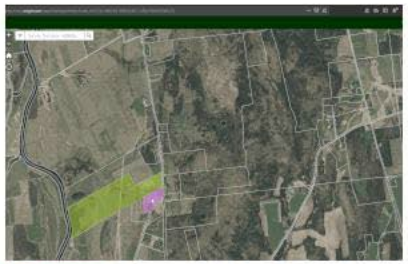
Searching for a Survey

By Search Bar: Type in the name of the surveyor or address of the survey's location

By Map: Navigate the map to the general location of the survey and make sure the survey library layer is turned on. You may also filter available surveys by map extent using the attribute table at the bottom of the page.

Viewing a Survey

Click on a polygon of a survey that you've located on the map. A pop-up window will display with its associated information. **In the pop-up window, click on the linked .pdf in the Attachments field**. This will open the .pdf in a new tab. For example:



Purple polygons represent the general location of subdivisions.
Blue polygons represent boundary line adjustments.
Green polygons represent the general property surveys.
Red polygons represent uploaded but not yet reviewed surveys.
Orange polygons represent all other survey types.

Adding a Survey to the Library

Use the Add a Survey tool by clicking on the icon at the top of the page. Follow the instructions on the left pane. **Only land surveys produced by Vermont licensed land surveyors are permitted.** An example of uploading a .pdf survey is shown below. Uploaded content is checked before being published to ensure the validity of content.

Parcel Program

Grand-List Joined Property Parcels Statewide

(1 of 2)

Subdivision For THE CONSERVATION FUND

Name of Surveyor	Richard F. Lunna, L.S.
Date of Survey	11/22/2019
Name of Uploader	up loaded by surveyor
Uploader Email	rflunna@gmail.com
Survey Type	Subdivision
Town	Killington
Notes	
Recording Information	unknown

Attachments:
801 Subdiv2_VCGI.pdf
801 Subdiv1_VCGI.pdf

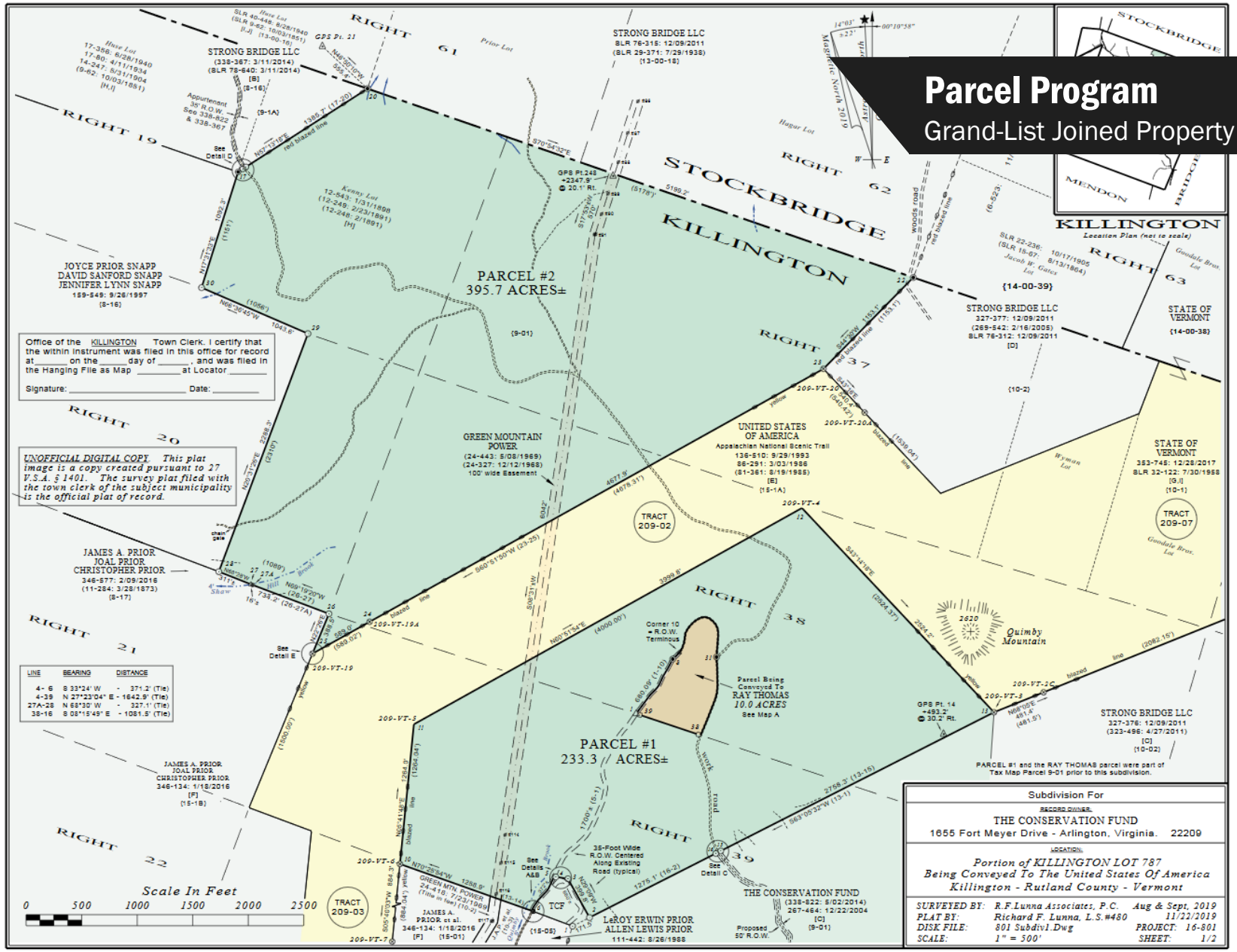
Zoom to

https://services1.arcgis.com/BkFxaEFNwHqX3tAw/arcgis/rest/services/FS_VCGI_Land_Survey_Library_reviewed_v2_1/FeatureServer/0/57/attachments/39

Automatic Zoom

Parcel Program

Grand-List Joined Property Parcels Statewide



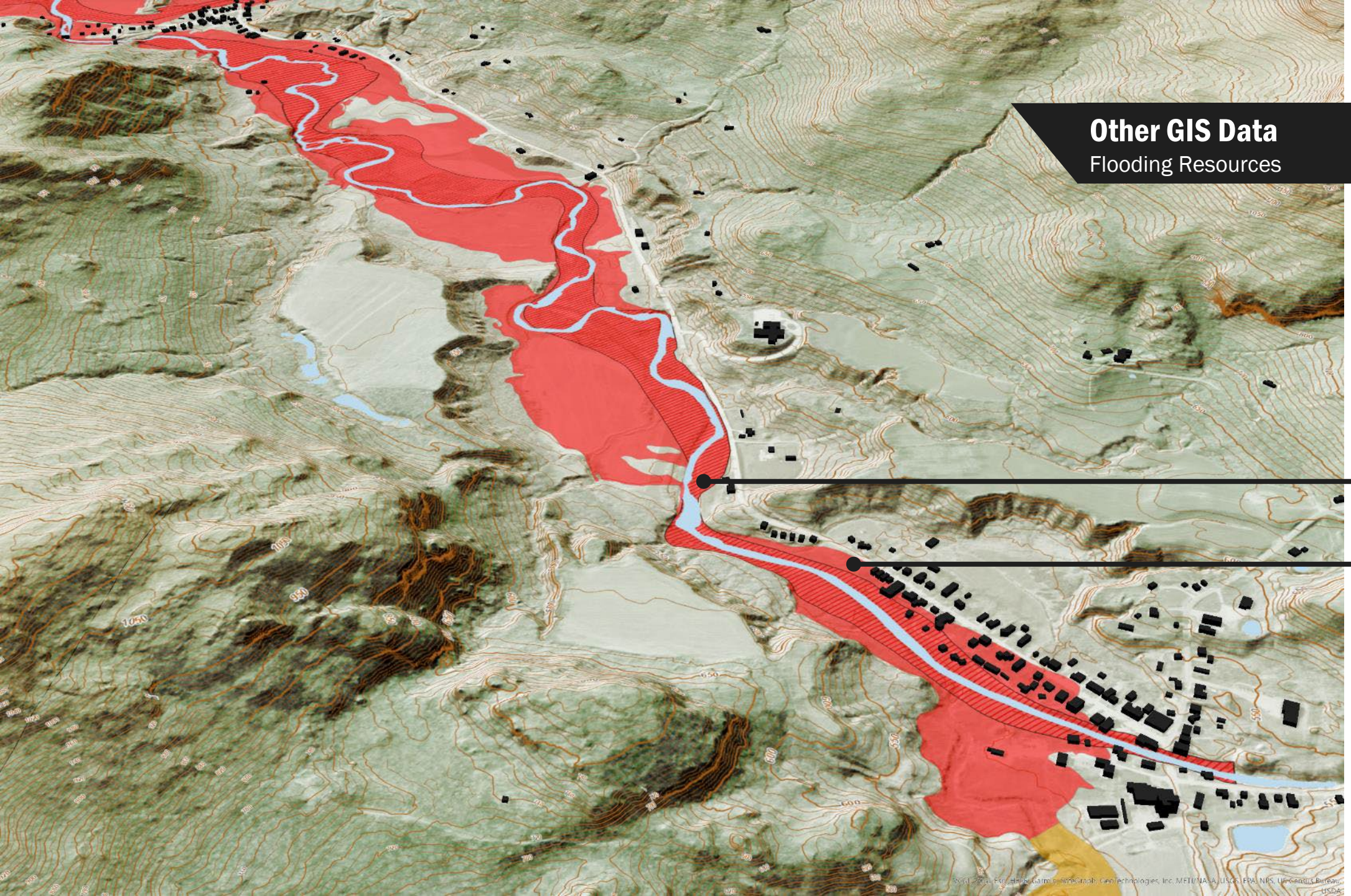
VCGI

Other GIS Data

Flooding Resources

Other GIS Data

Flooding Resources



Other GIS Data

Flooding Resources

FEMA's
NFHL (DFIRM's)

Regulatory
Floodway Zone AE

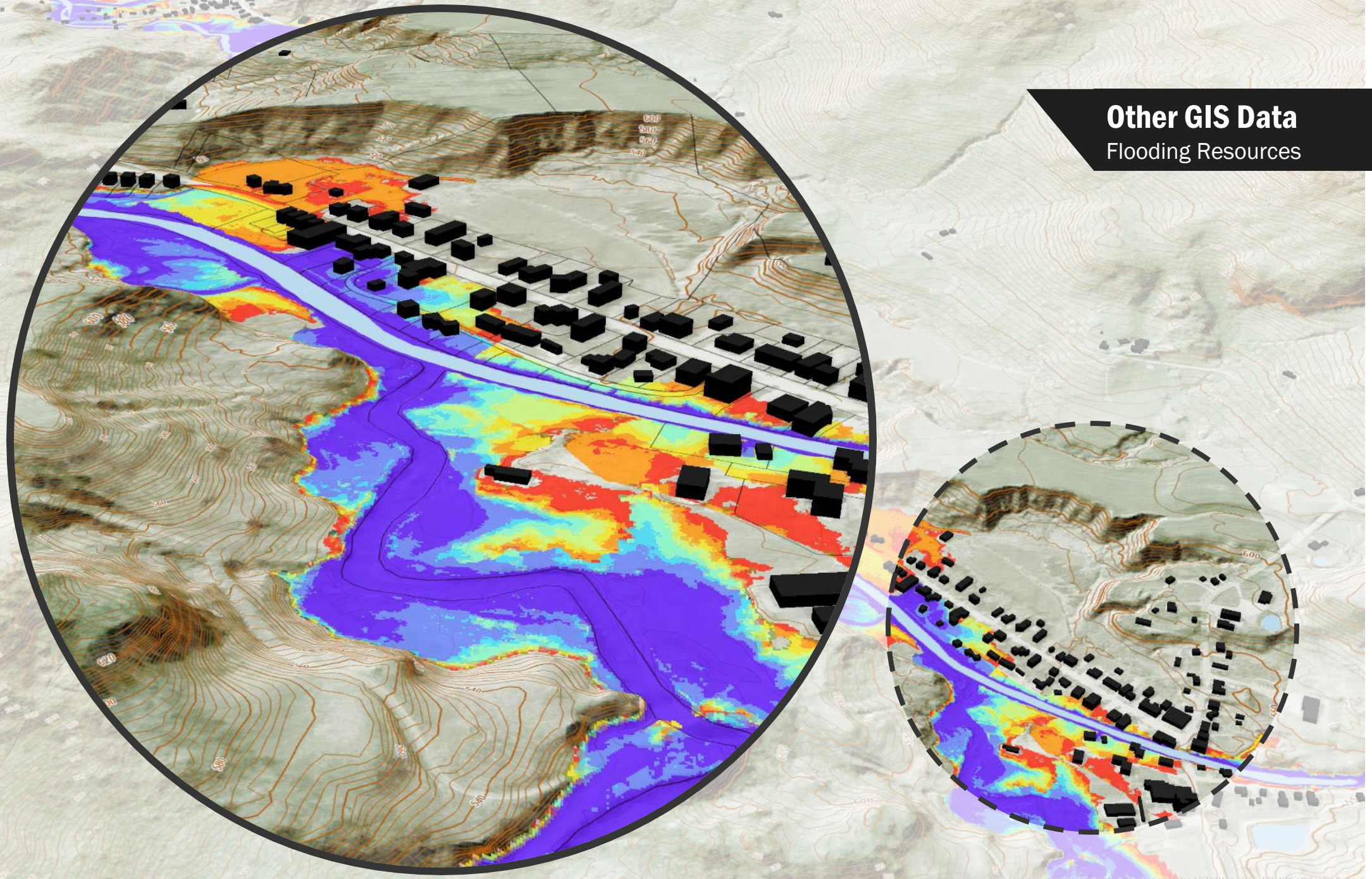
1% Annual Chance
Flood - Zone AE

0.2% Annual
Chance Flood -
Zone X
(not shown)

VCGI

Other GIS Data

Flooding Resources



UVM's Lidar-aided Flood Inundation Layer (2022)

- 2-year flood zone (50% annual exceedance)
- 5-year flood zone (20% annual exceedance)
- 10-year flood zone (10% annual exceedance)
- 25-year flood zone (4% annual exceedance)
- 50-year flood zone (2% annual exceedance)
- 100-year flood zone (1% annual exceedance)
- 200-year flood zone (.05% annual exceedance)
- 500-year flood zone (.02% annual exceedance)

VCGI

Other GIS Data

Flooding Resources

VERMONT OFFICIAL STATE WEBSITE

VERMONT

AGENCY OF DIGITAL SERVICES

Vermont Center for Geographic Information

SEARCH

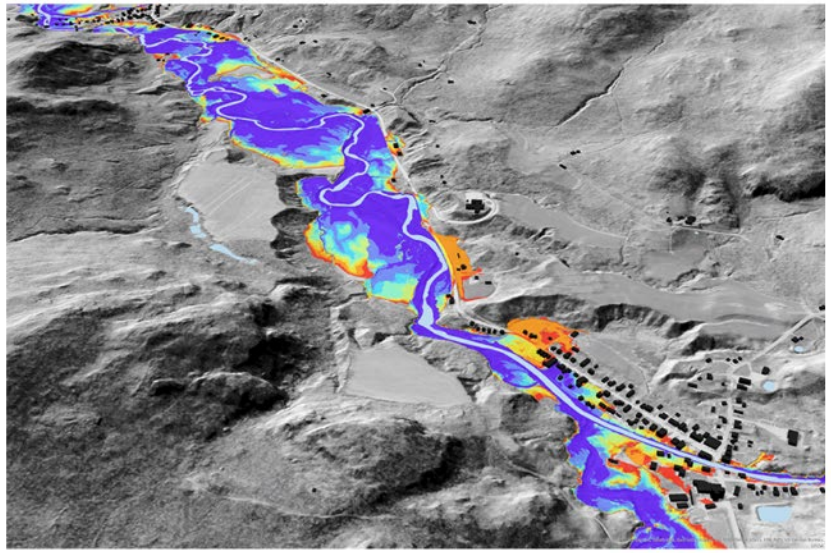
CONTACT

- Data and Programs
- Resources
- Maps
- Partners
- About VCGI

DATA RELEASE

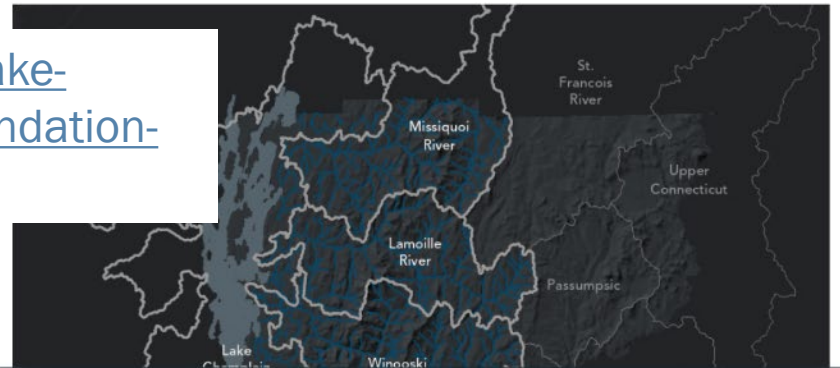
LAKE CHAMPLAIN BASIN LIDAR-INFORMED FLOOD INUNDATION LAYER NOW AVAILABLE

23 MAY 2022



The new flooding layer as seen above with other QL2 lidar data at the Trout River between Montgomery and Montgomery Center in Franklin County, VT. (View Image at Full Size)

VCGI is pleased to announce the availability of a detailed flood inundation layer for the Vermont portion of the Lake Champlain Basin. The product is informed by Vermont's statewide QL2, 0.7-meter resolution lidar collections performed between 2013 and 2017 and depicts the lateral extent of flooding at 8 modeled storm sizes of recurrence intervals ranging from 2 to 500 years for rivers that drain more than 2 square miles.



https://vcgi.vermont.gov/data-release/lake-champlain-basin-lidar-informed-flood-inundation-layer-now-available

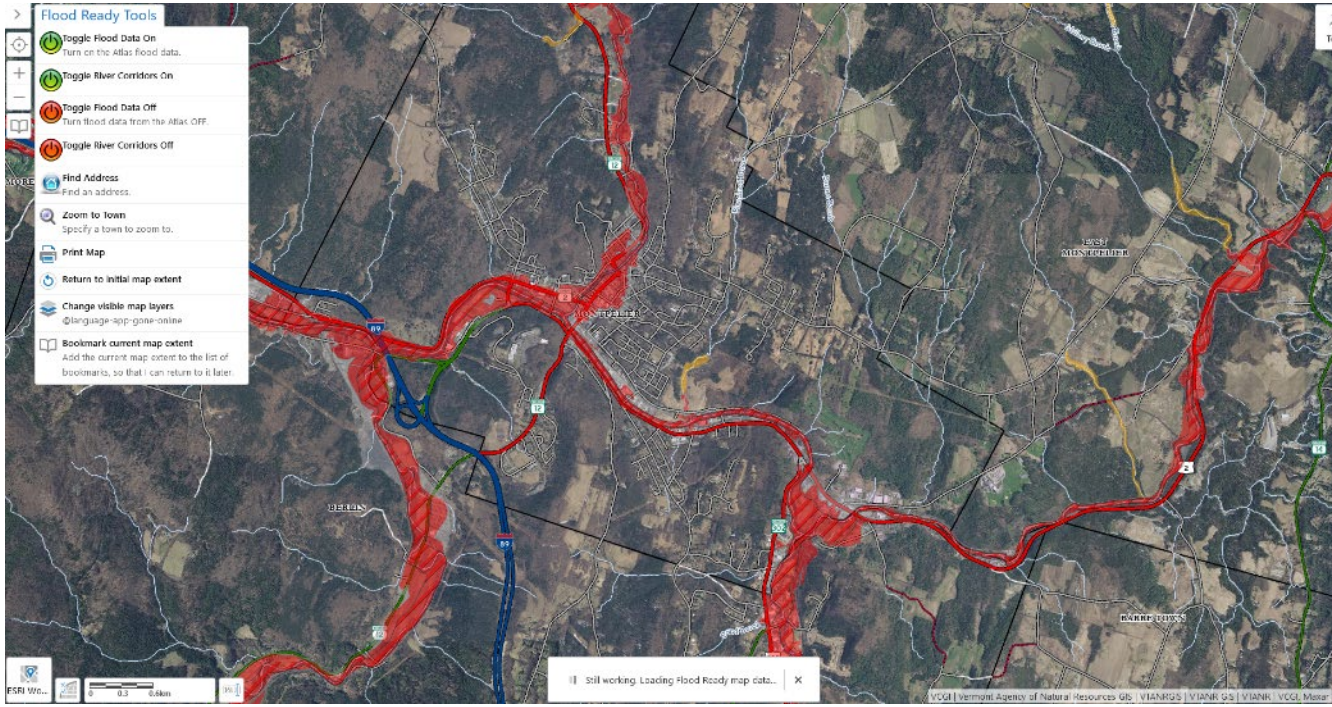
UVM's Lidar-aided Flood Inundation Layer (2022)

- 2-year flood zone (50% annual exceedance)
- 5-year flood zone (20% annual exceedance)
- 10-year flood zone (10% annual exceedance)
- 25-year flood zone (4% annual exceedance)
- 50-year flood zone (2% annual exceedance)
- 100-year flood zone (1% annual exceedance)
- 200-year flood zone (.05% annual exceedance)
- 500-year flood zone (.02% annual exceedance)

VCGI

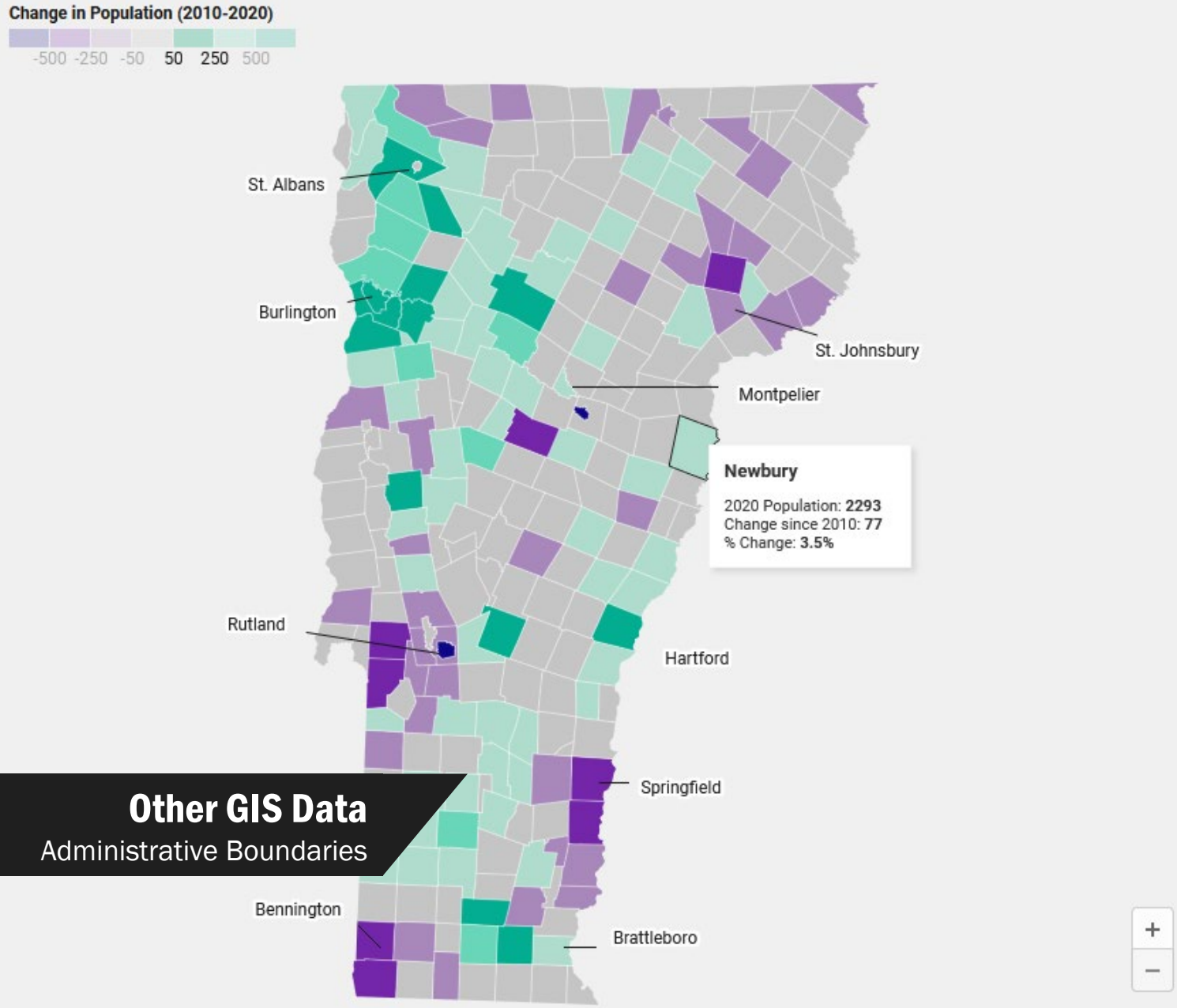
Other GIS Data

Flooding Resources



http://tinyurl.com/floodreadyatlas

https://floodready.vermont.gov/assessment/vt_floodready_atlas



Other GIS Data

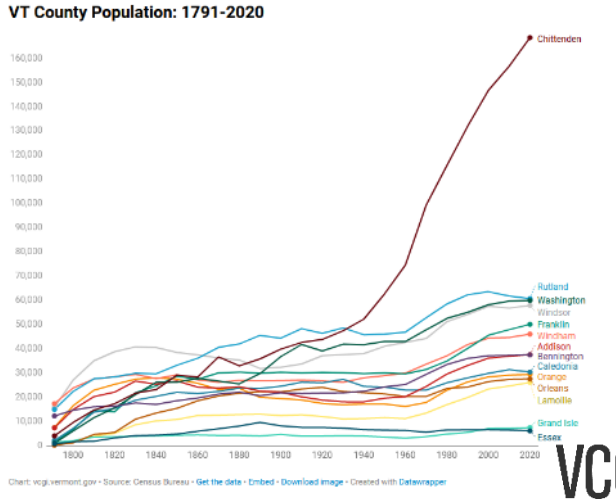
Administrative Boundaries

Search Town or County

Town	County	1791-2020	2020 Population	2010 to 2020 Change	% Change
Addison	Addison		1365	-6	-0.4%
Albany	Orleans		976	35	3.7%
Alburgh	Grand Isle		2106	108	5.4%
Andover	Windsor		568	101	21.6%
Arlington	Bennington		2457	140	6%
Athens	Windham		380	-62	-14%
Averill	Essex		21	-3	-12.5%
Avery's Gore	Essex		0	0	0%
Bakersfield	Franklin		1273	-49	-3.7%
Baltimore	Windsor		229	-15	-6.1%

‹ 1 / 26 ›

Chart: VCGI • Data: US Census



VT Data - Historical Census Municipal Population Counts 1791-2020

Opendata VCGI
VT Center for Geographic Information

Summary

Historical population counts for municipalities in the State of Vermont (1791-2020) compiled by the Vermont Historical Society (years 1791-2010) then appended with 2020 Census counts.

View Full Details

Download

Details

Dataset
Table

August 13, 2021
Info Updated

Not Planned
Data Updated: August 12, 2021

August 9, 2021
Published Date

255 Records
View data table

Public
Anyone can see this content

Custom License
View license details

I want to use this

Showing 50 of 255 rows

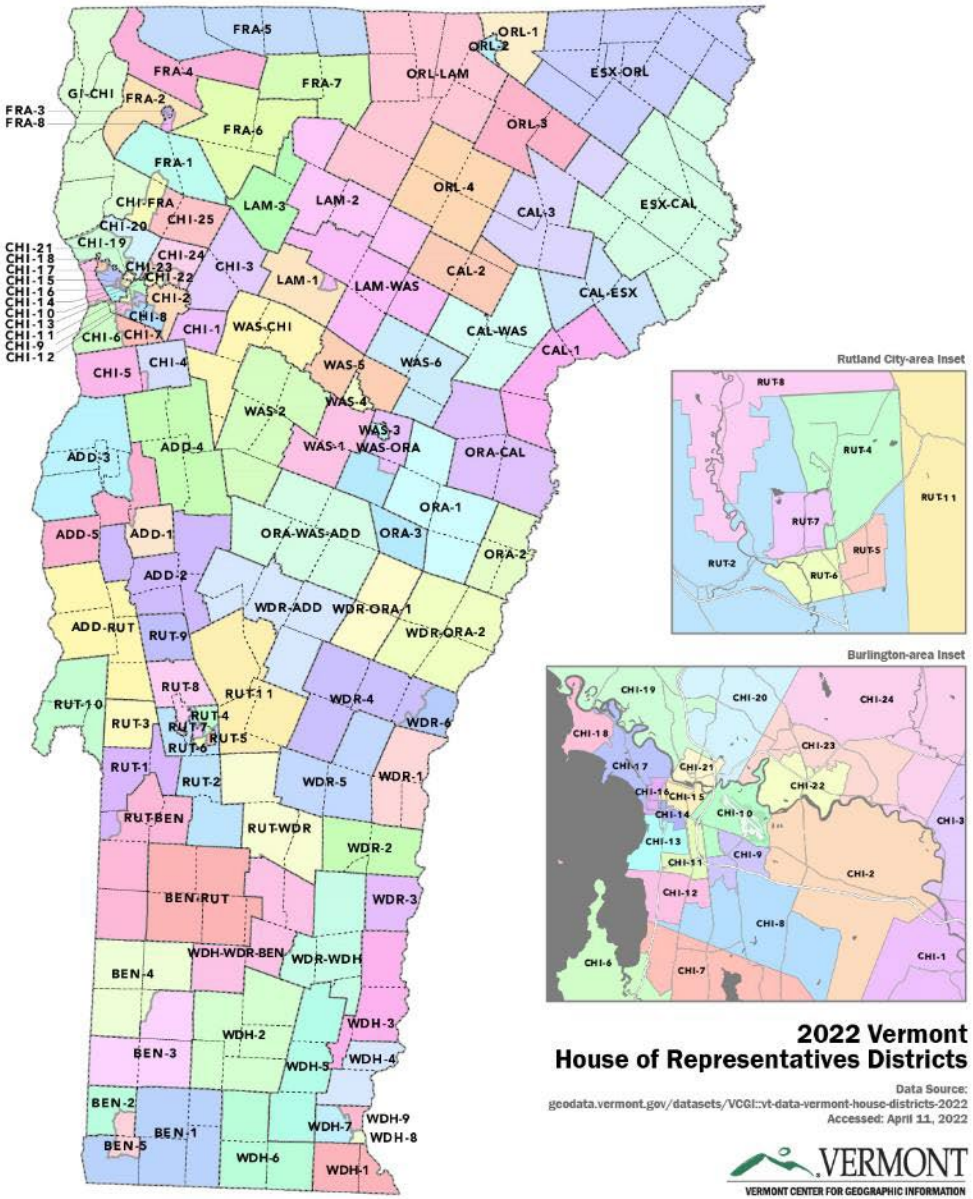
_geoid	Town	County	year1791	year1800	year1810	year1820	year1830	year1840	year1850	year1860	year1870	year1880	year1890	year1900
5,000,100,325	Addison	Addison	402	734	1,100	1,210	1,306	1,232	1,279	1,000	911	847	900	851
5,001,900,475	Albany	Orleans	0	0	101	253	683	920	1,052					
5,001,300,860	Alburgh	Grand Isle	446	750	1,106	1,172	1,239	1,344	1,568	1,79				
5,002,701,300	Andover	Windsor	275	1,016	957	1,000	975	877	725	670	588	564	418	372
5,000,301,450	Arlington	Bennington	992	1,597	1,468	1,354	1,207	1,038	1,084	1,146	1,636	1,532	1,352	1,193
5,002,501,900	Athens	Windham	450	459	478	507	415	358	359	382	295	284	205	180
5,000,902,125	Averill	Essex	0	0	0	0	1	11	7	12	14	48	43	18
5,000,902,162	Avery's Gore	Essex	0	0	0	0	0	0	0	0	0	0	0	0
5,001,102,500	Bakersfield	Franklin	13	222	812	945	1,087	1,258	1,523	1,451	1,043	1,248	1,162	1,158
5,002,702,575	Baltimore	Windsor	0	174	207	204	179	155	124	116	83	71	64	55
5,002,702,725	Barnard	Windsor	673	1,236	1,648	1,691	1,889	1,774	1,647	1,487	1,208	1,191	918	840
5,000,502,875	Barnet	Caledonia	477	858	1,301	1,488	1,764	2,030	2,521	1,994	1,945	1,907	1,897	1,763
5,002,303,175	Barre City	Washington	0	0	0	0	0	0	0	0	0	0	0	8,448
5,002,303,250	Barre Town	Washington	76	919	1,669	1,955	2,012	2,126	1,845	1,839	1,882	2,060	6,812	3,346
5,001,903,550	Barton	Orleans	0	128	447	372	729	892	987	1,590	1,911	2,364	2,217	2,790
5,001,504,375	Belvidere	Lamoille	0	0	217	198	185	207	256	366	369	400	571	428
5,000,304,825	Bennington	Bennington	2,350	2,243	2,524	2,485	3,419	3,429	3,923	4,369	5,760	6,335	6,391	8,033
5,002,105,200	Benson	Rutland	658	1,164	1,561	1,481	1,493	1,403	1,305	1,256	1,244	1,104	880	844
5,001,105,425	Berkshire	Franklin	0	172	918	831	1,308	1,818	1,955	1,890	1,609	1,596	1,421	

Other GIS Data
Administrative Boundaries

VCGI

Other GIS Data

Administrative Boundaries



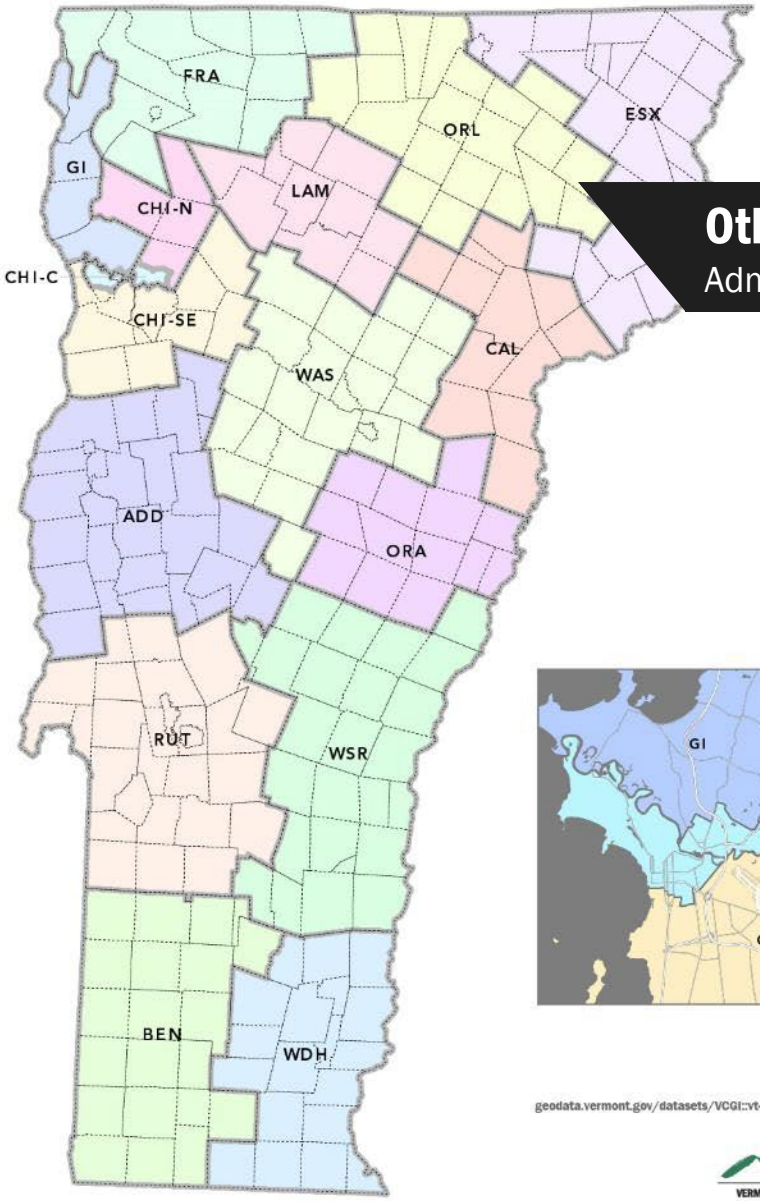
Rutland City-area Inset

Burlington-area Inset

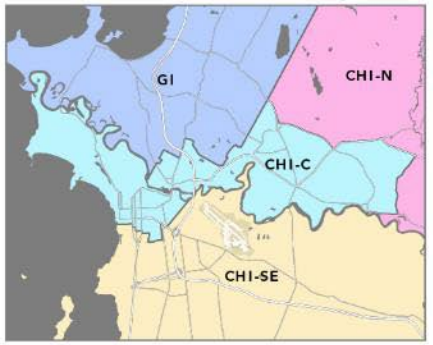
2022 Vermont
House of Representatives Districts

Data Source:
geodata.vermont.gov/datasets/VCGI::vt-data-vermont-house-districts-2022
Accessed: April 11, 2022

VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION



Burlington-area Inset



2022 Vermont
Senate Districts

Data Source:
geodata.vermont.gov/datasets/VCGI::vt-data-vermont-senate-districts-2022
Accessed: April 11, 2022

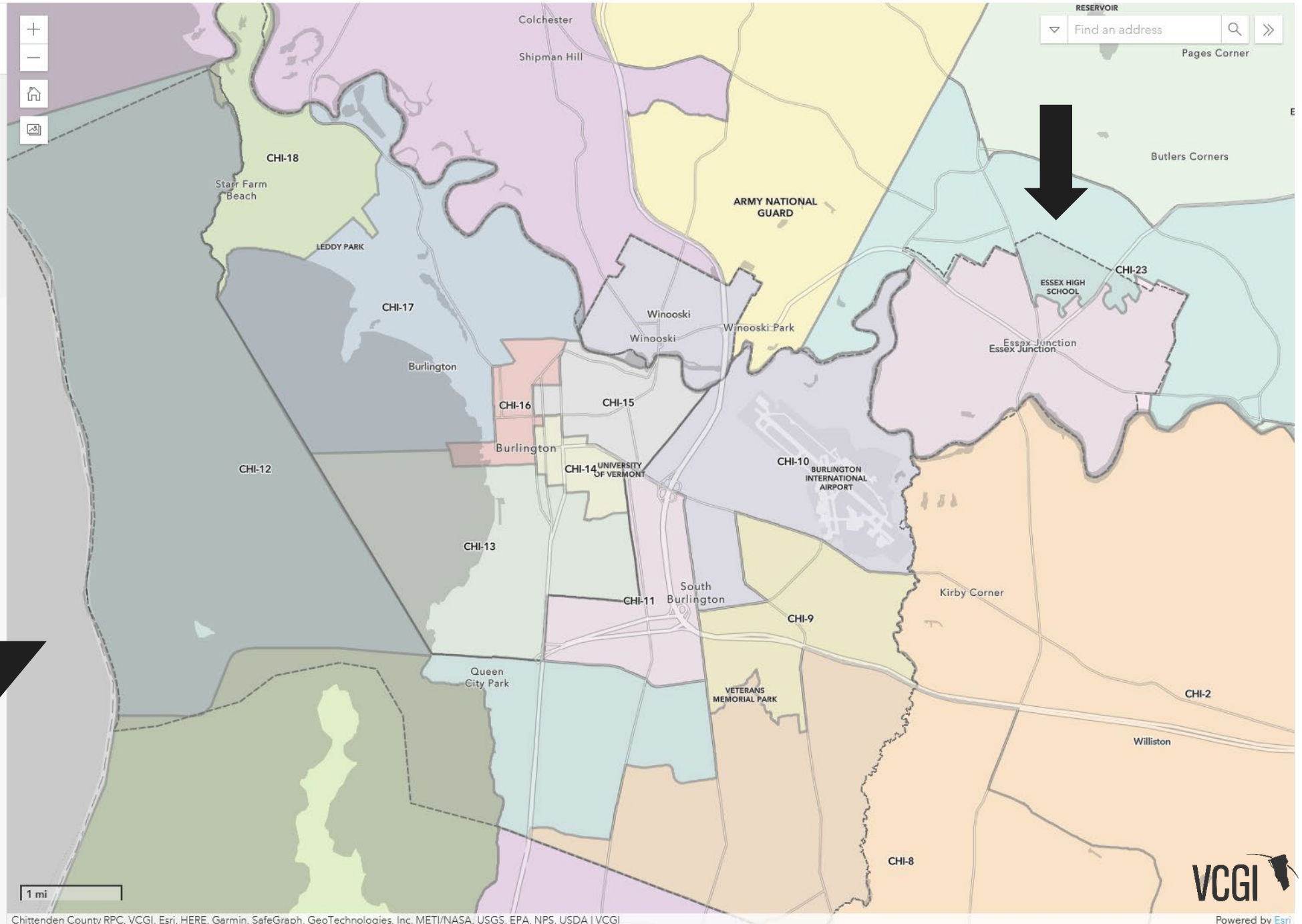
VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION

VCGI

Vermont Boundaries and Jurisdictions

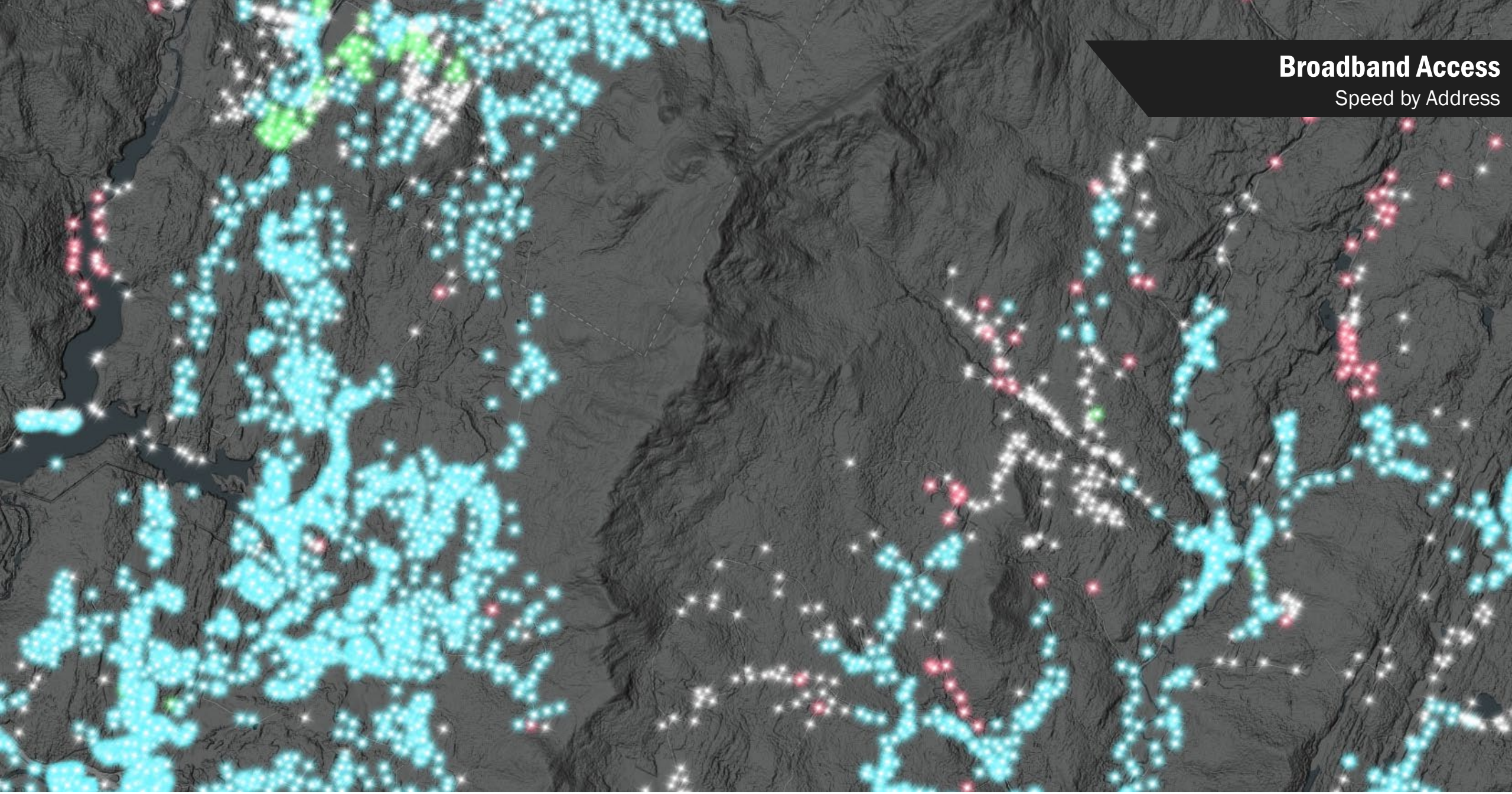
Open layer list

- Villages
- Cities
- Towns
- Senate Districts 2022
- House Districts 2022



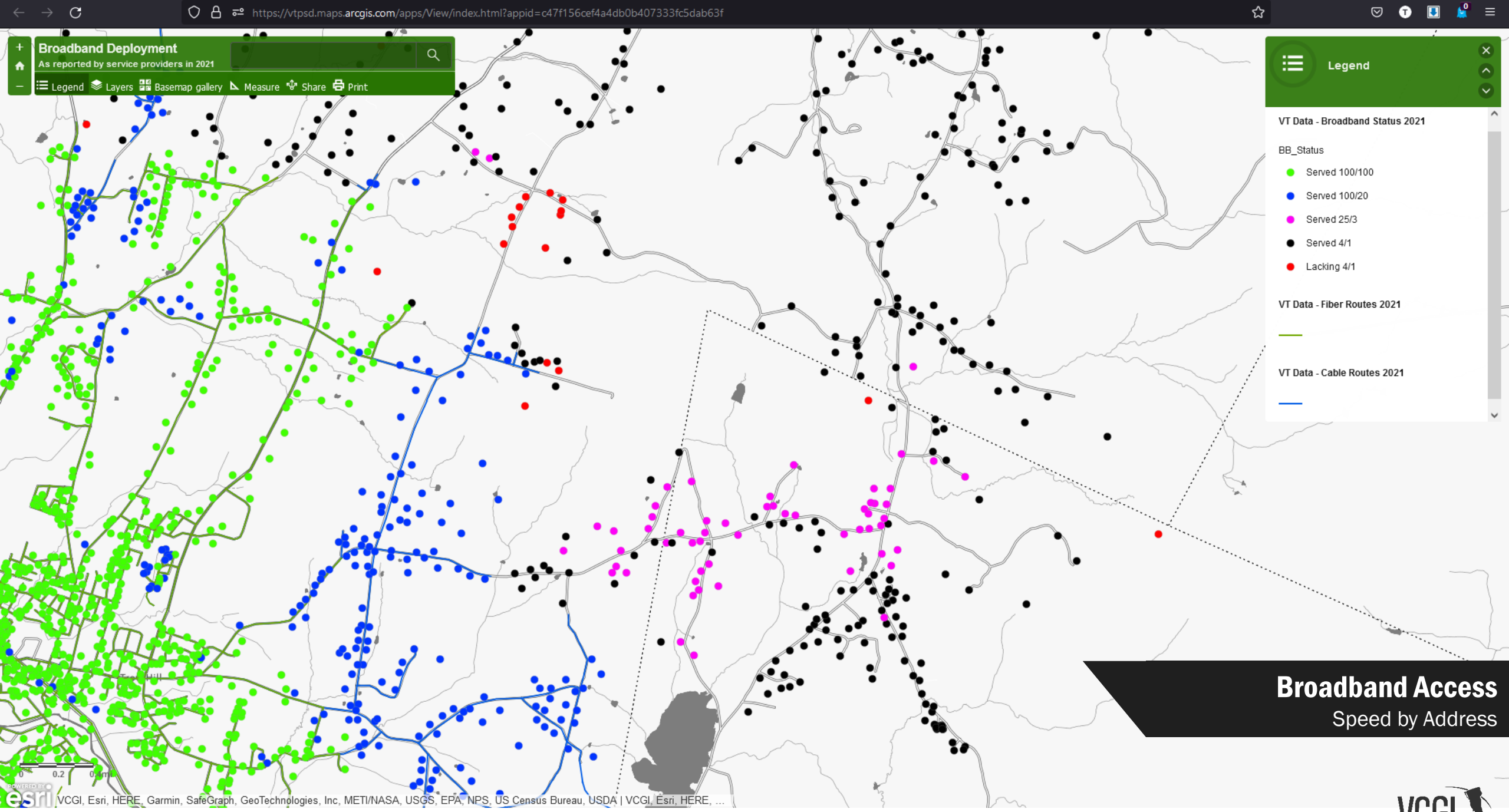
Other GIS Data

Administrative Boundaries

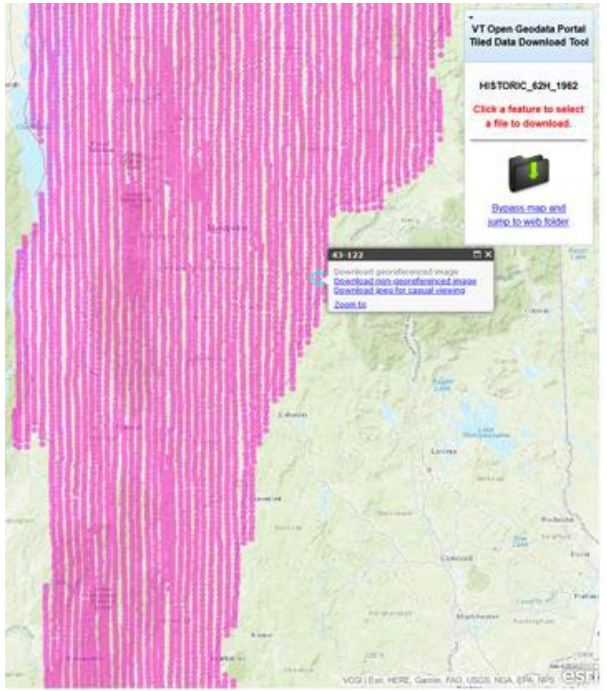


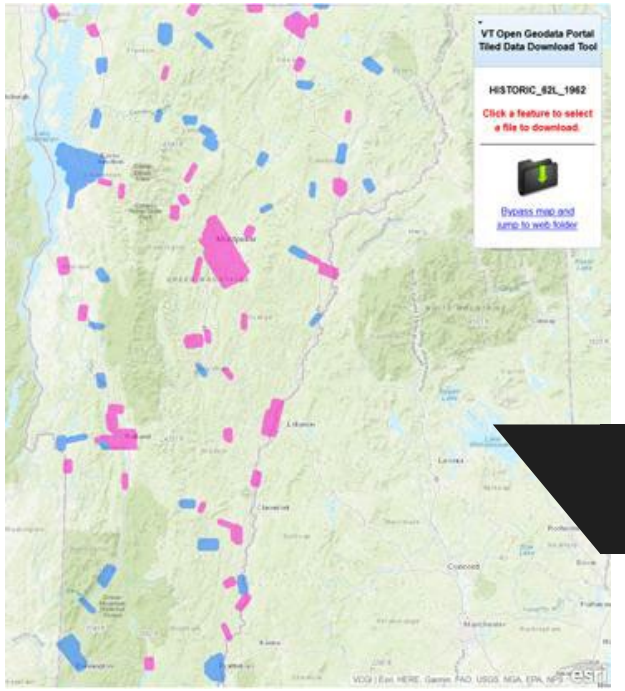
VCGI

green addresses reflecting 100/100 Mbps service, blue addresses 25/3 Mbps service, white addresses 4/1 Mbps service, and red addresses lacking 4/1 access, as of 2021.



https://publicservice.vermont.gov/content/interactive-broadband-map

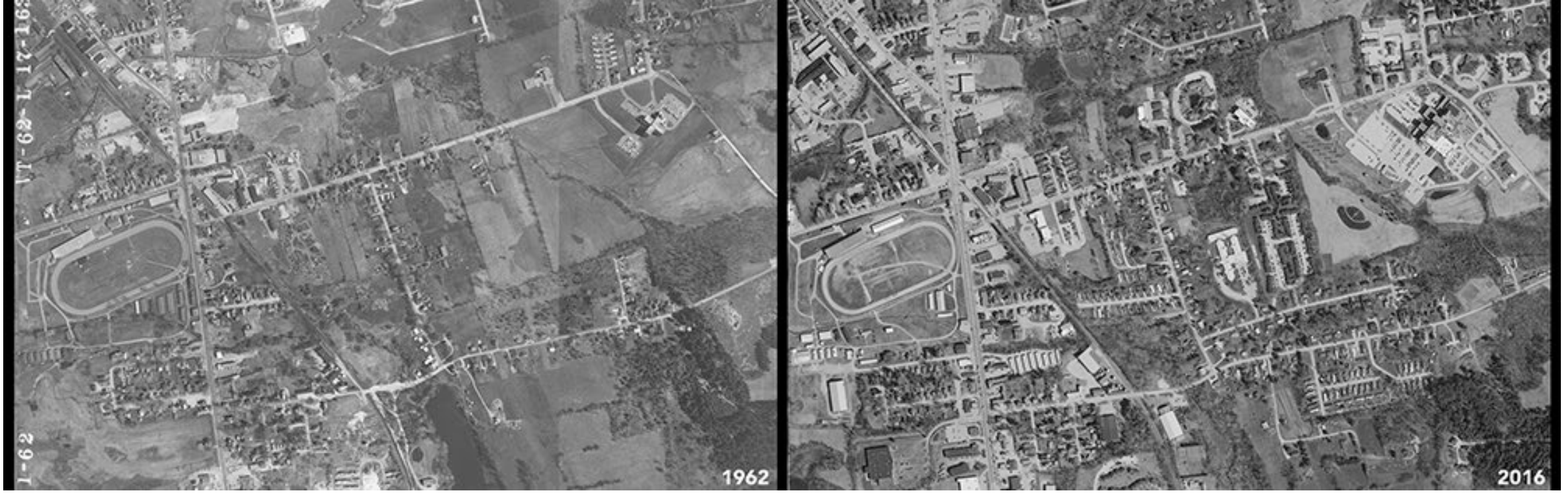




Historical Imagery

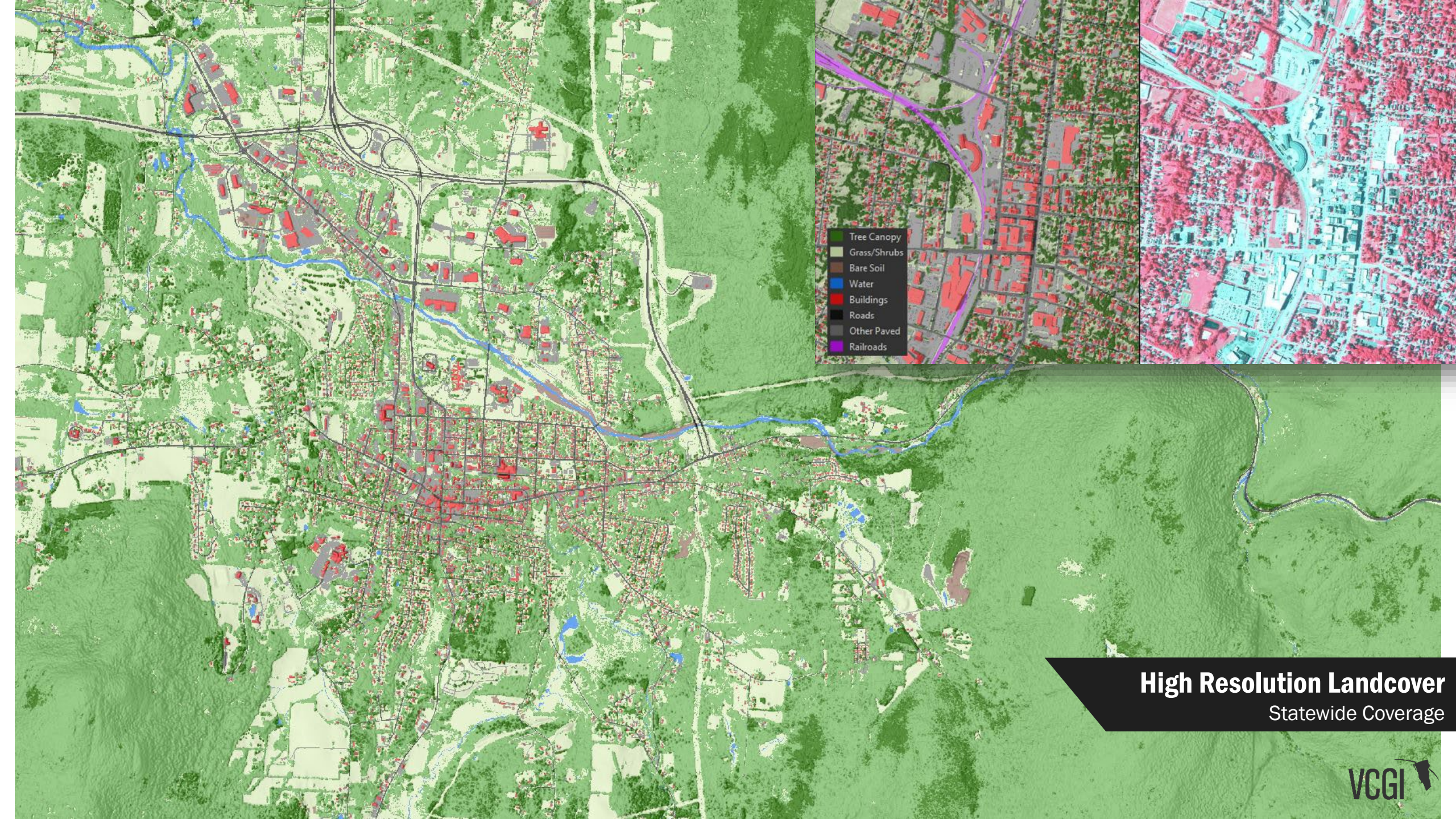
Varies by Location

VCGI



Historical Imagery

Varies by Location



High Resolution Landcover

Statewide Coverage

VCGI

VERMONT OFFICIAL STATE WEBSITE

VERMONT

STATE OF VERMONT

Vermont Open Geodata Portal

DATA WEB SERVICES APPLICATIONS DEVELOPERS CONTACT US HELP

Datasets | Services | Applications | Documentation

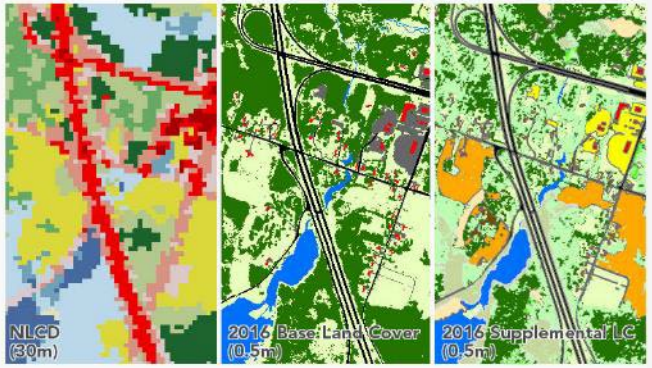
Datasets

Download Land Cover Products

Vermont land cover data is available from two different efforts: the National Land Cover Database (NLCD) managed by the Multi-Resolution Land Characteristics Consortium (MRLC), and Vermont-specific land cover products created over the years.

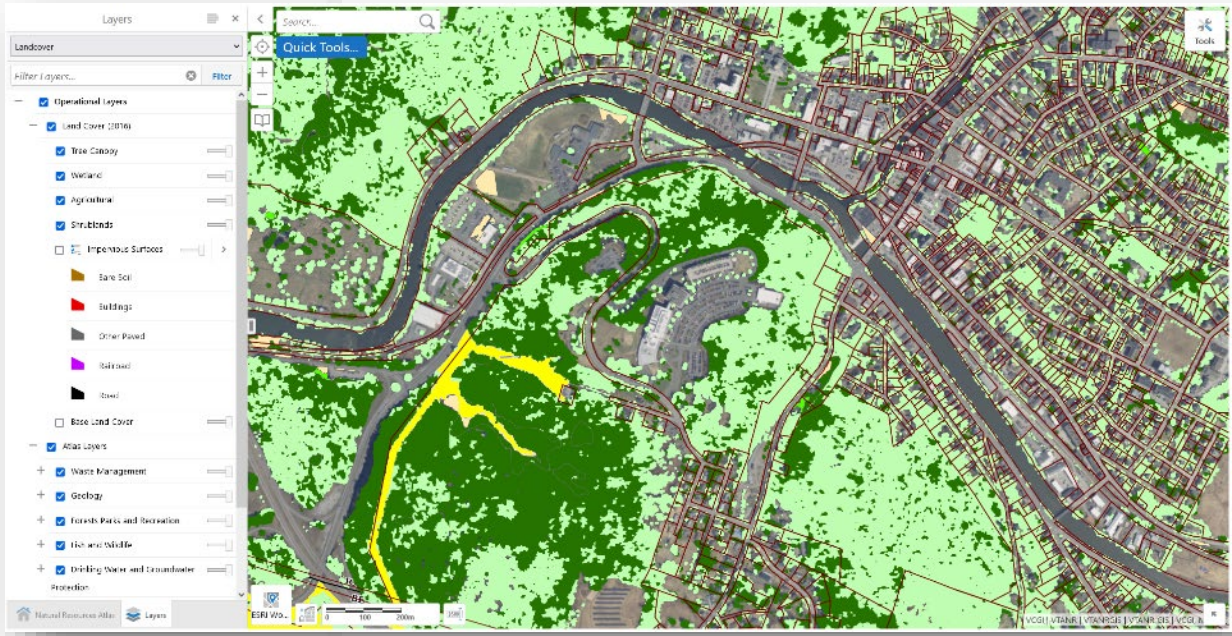
For Vermont-specific land cover products including the 2016 statewide 0.5 meter resolution set derived from a combination of 2013 - 2017 LiDAR and 2016 orthoimagery data (see Report for details), use the data download table below. Vermont-specific land cover products are updated on an as-available basis.

For NLCD data at 30 meter resolution with editions every 2-3 years beginning in 2001, see this page.



Search in table

Year	Product	Resolution (Meters)	Description	Type	Coverage	Download	Metadata
2016	Land Cover	0.5	Vermont Base Land Cover 2016	Raster	Vermont	Download	Metadata
2016	Agriculture	0.5	Vermont Agriculture Land Cover 2016	Vector	Vermont	Download	Metadata
2016	Wetlands	0.5	Vermont Wetlands Land Cover 2016	Vector	Vermont	Download	Metadata
2016	Shrublands	0.5	Vermont Shrublands Land Cover 2016	Vector	Vermont	Download	Metadata
2016	Tree Canopy	0.5	Vermont Tree Canopy Land Cover 2016	Vector	Vermont	Download	Metadata
2016	Impervious Surfaces	0.5	Vermont Impervious Surfaces Land Cover 2016	Vector	Vermont	Download	Metadata
2016	3D Buildings	0.5	Vermont 3D Building Roofprints 2016	Vector	Vermont	Download	Metadata



High Resolution Landcover

Statewide Coverage

VCGI

How to Access

Applications
Raw Data
Resources

Types of Apps

Theme/
Task

What's My Elevation?

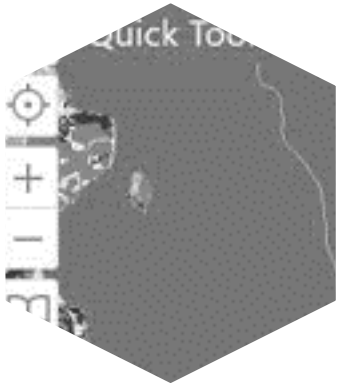
Beneath the Trees

Types of Apps

Theme/ Task

What's My Elevation?

Beneath the Trees



Viewers

VT Interactive Map Viewer

ANR Atlas

VCGI

Types of Apps

Theme/ Task

What's My Elevation?

Beneath the Trees

Lidar Finder

Finders

Viewers

VT Interactive Map Viewer

ANR Atlas

QGIS

ArcGIS

Desktop

VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION

[Beneath the Trees App Link]

VCGI

https://maps.vcgi.vermont.gov/parcelviewer/

https://anrmaps.vermont.gov/websites/ANRapps/getElevation.html

VCGI

VERMONT OFFICIAL STATE WEBSITE

STATE OF VERMONT

Agency of Natural Resources

Home

Permit Navigator

1. Getting Started
2. General Questions
3. Project Questions
4. Review / Download

General Questions

Disclaimer: The Permit Navigator Results Summary is based on the information provided, and is not intended as an official or binding permitting determination by the ANR. The Agency reserves the right to require additional permits and/or approvals depending on the specific details of the project.

Contact Information

First Name: Timothy

Last Name: Terway

Phone: (802) 585-0820

Email: tim.terway@vermont.gov

Address 1: 8 Orange Street

Address 2:

City: Barre

State: Vermont

Mailing Zip/Postal Code: 05641

***Which category describes you?**

Individual

***Please select the activity that best describes your project**

Select an Option

Complete this field.

Questions / Technical Difficulties? Email ANR.PermitNavigator@Vermont.gov or click here to contact your nearest Regional Permit Specialist.

Back Next

https://vermont.force.com/permitnavigator/s/

VCGI

VERMONT OFFICIAL STATE WEBSITE

VERMONT

AGENCY OF DIGITAL SERVICES

Vermont Center for Geographic Information

SEARCH

CONTACT

- Data and Programs
- Resources
- Maps
  - Partner Agency Maps
  - Historic Maps
- Partners
- About VCGI

MAPS

By and large, VCGI does not make maps. We instead coordinate, curate, and provide Vermont-specific digital information that others use to make maps, whether those are online or in print. VCGI and partner agencies do, however, provide a number of web mapping applications, some of which are linked below. These applications are generally one of three types: **viewers, dynamic** or **themed**.

Viewer applications host different kinds of spatial information that you can turn off or on depending on what you are trying to map. While they serve the same underlying map data, agencies provide different viewers with pre-loaded layers to make related uses easier.

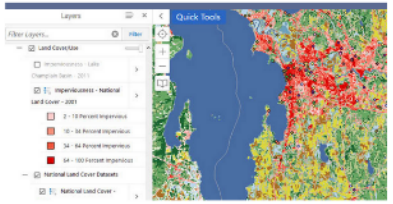
Dynamic mapping applications contain layers that are regularly updated while focusing on specific kinds of map information.

Themed mapping applications typically show one or a few kinds of content, *usually at a snapshot in time. The data these applications show are static and are not guaranteed to be current or updated in the future.*

Static Maps

Vermont Municipalities Reference Map - 8.5"x11"

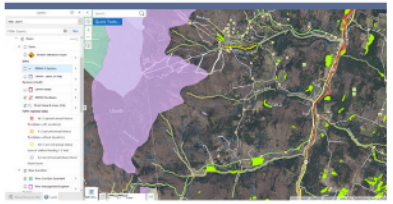
Vermont Municipalities Reference Map with Hillshade - 8.5"x11"



Vermont Interactive Map Viewer

Use the Vermont Interactive Map Viewer to create maps in your browser.

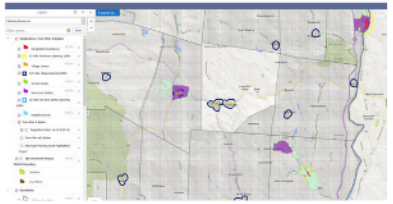
LAUNCH MAP VIEWER



ANR Atlas

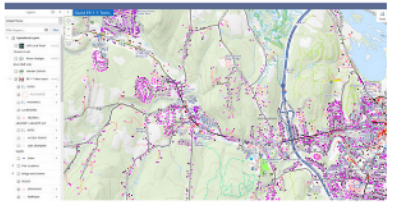
Use the Agency of Natural Resources' Atlas to create maps in your browser, with emphasis on pre-loaded layers overseen by ANR.

LAUNCH MAP VIEWER



Planning Atlas

Use the Department of Housing and Community



e-9-1-1 Viewer

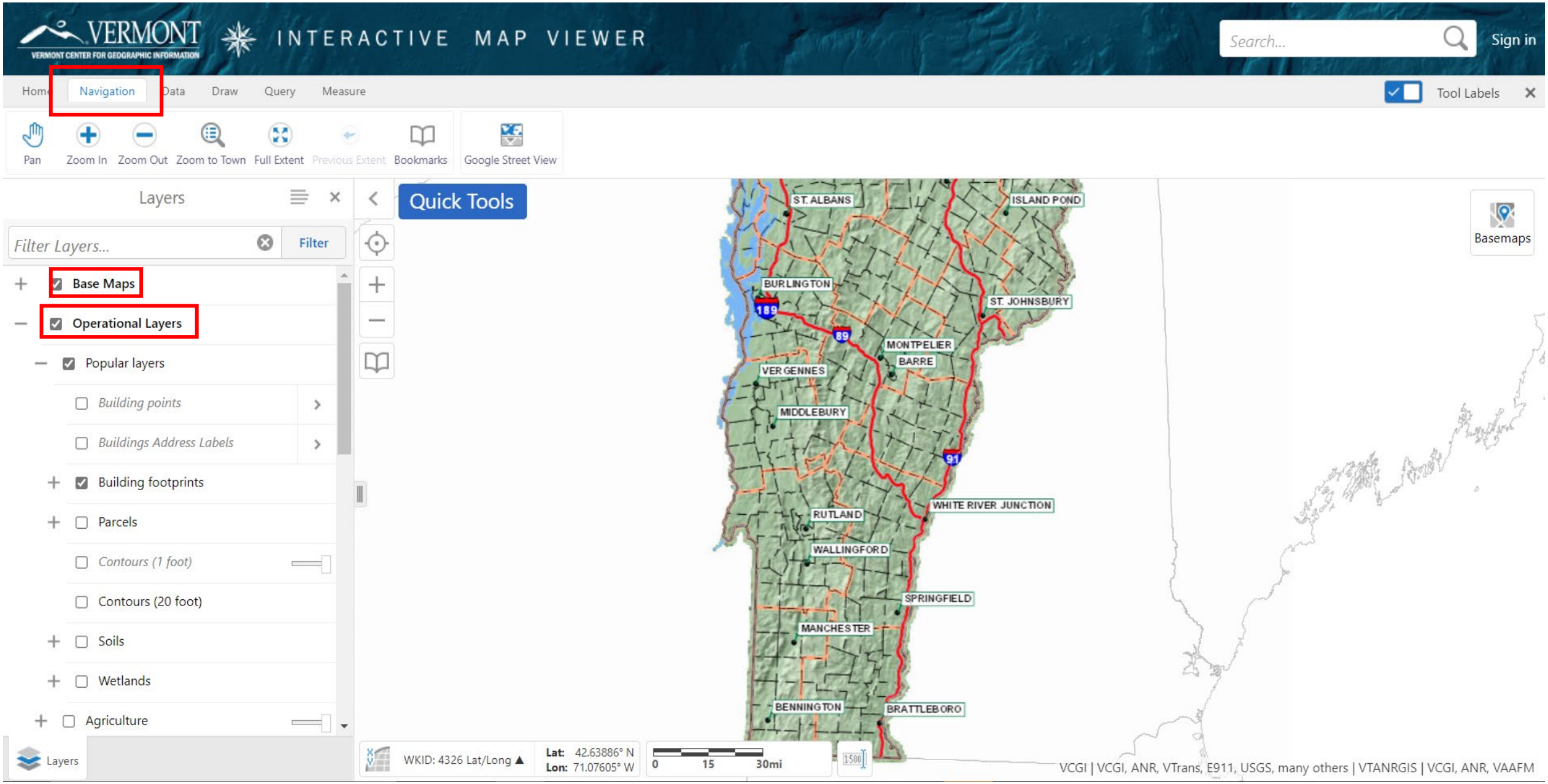
Use the Enhanced 9-1-1 Board's Viewer to create

Other Resources

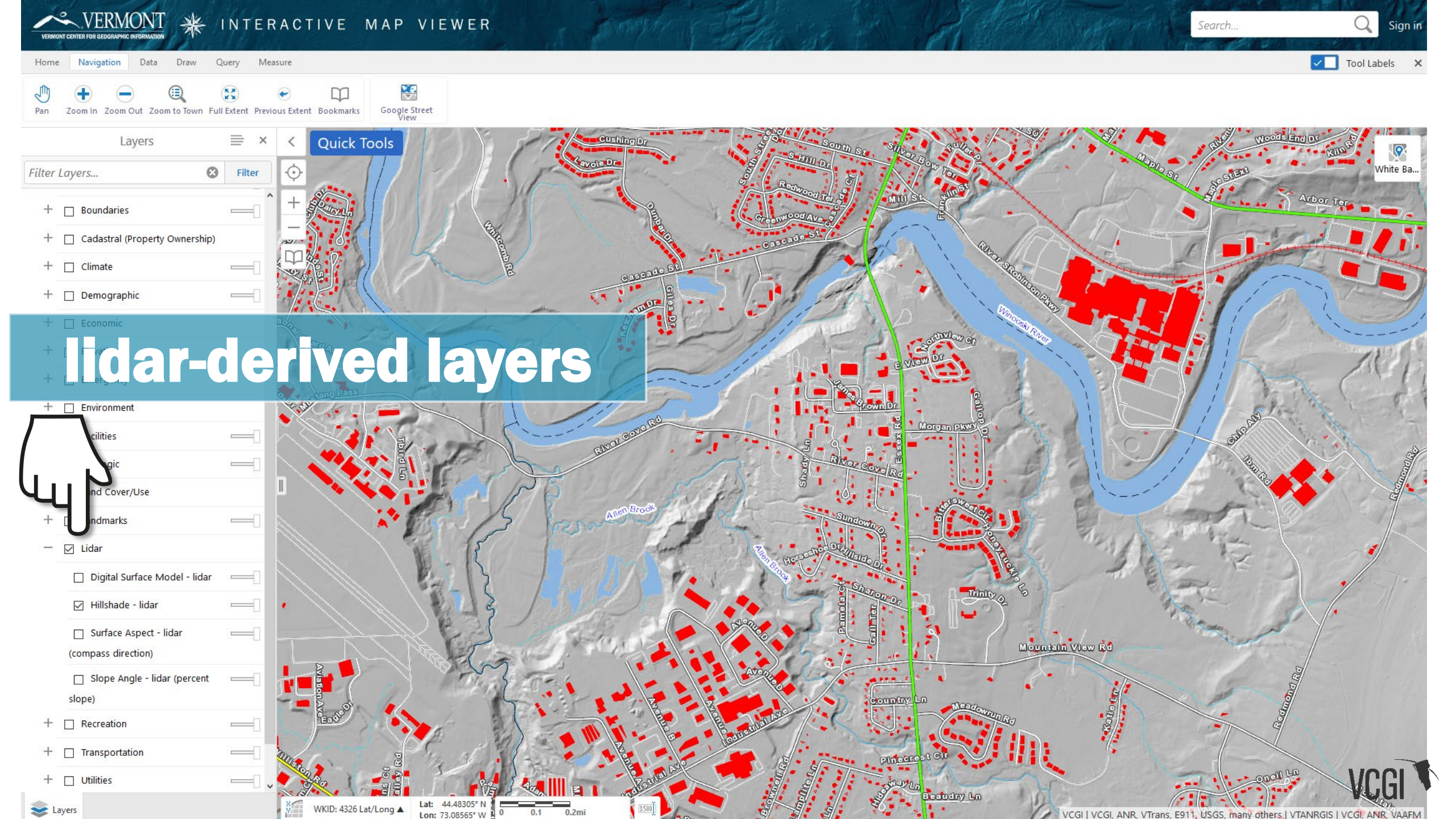
Viewer App Links

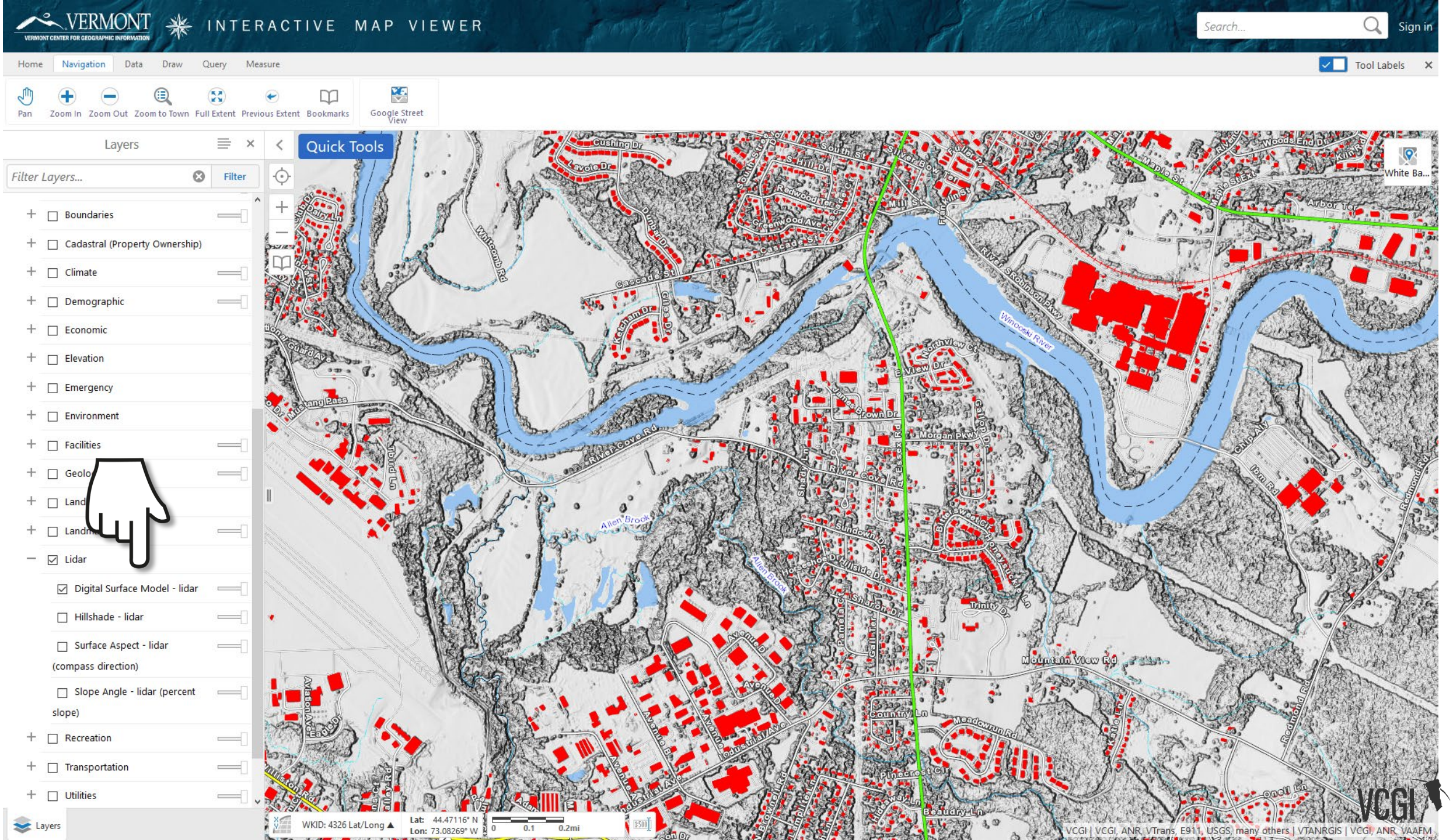
https://vcgi.vermont.gov/maps

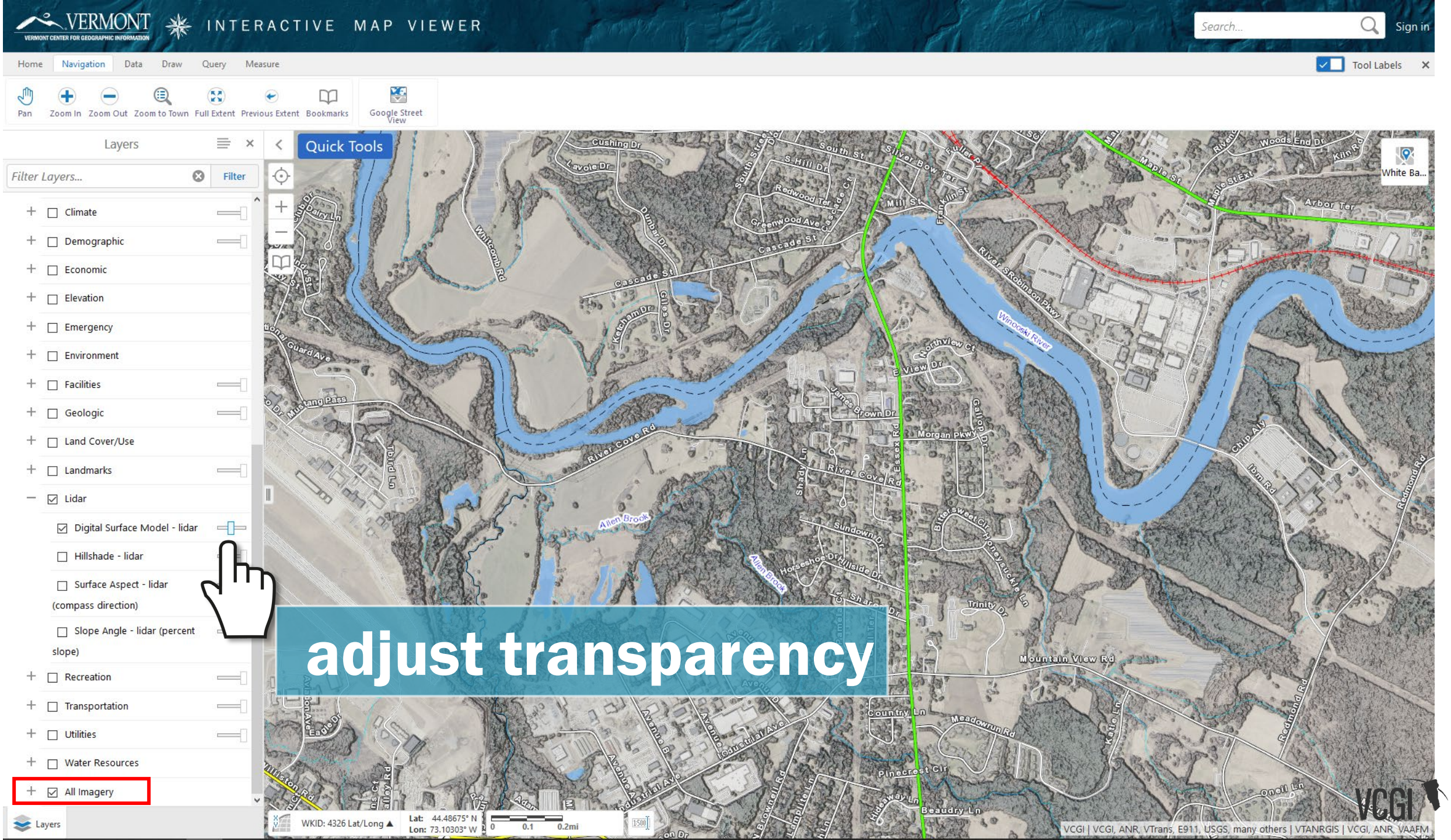
VCGI

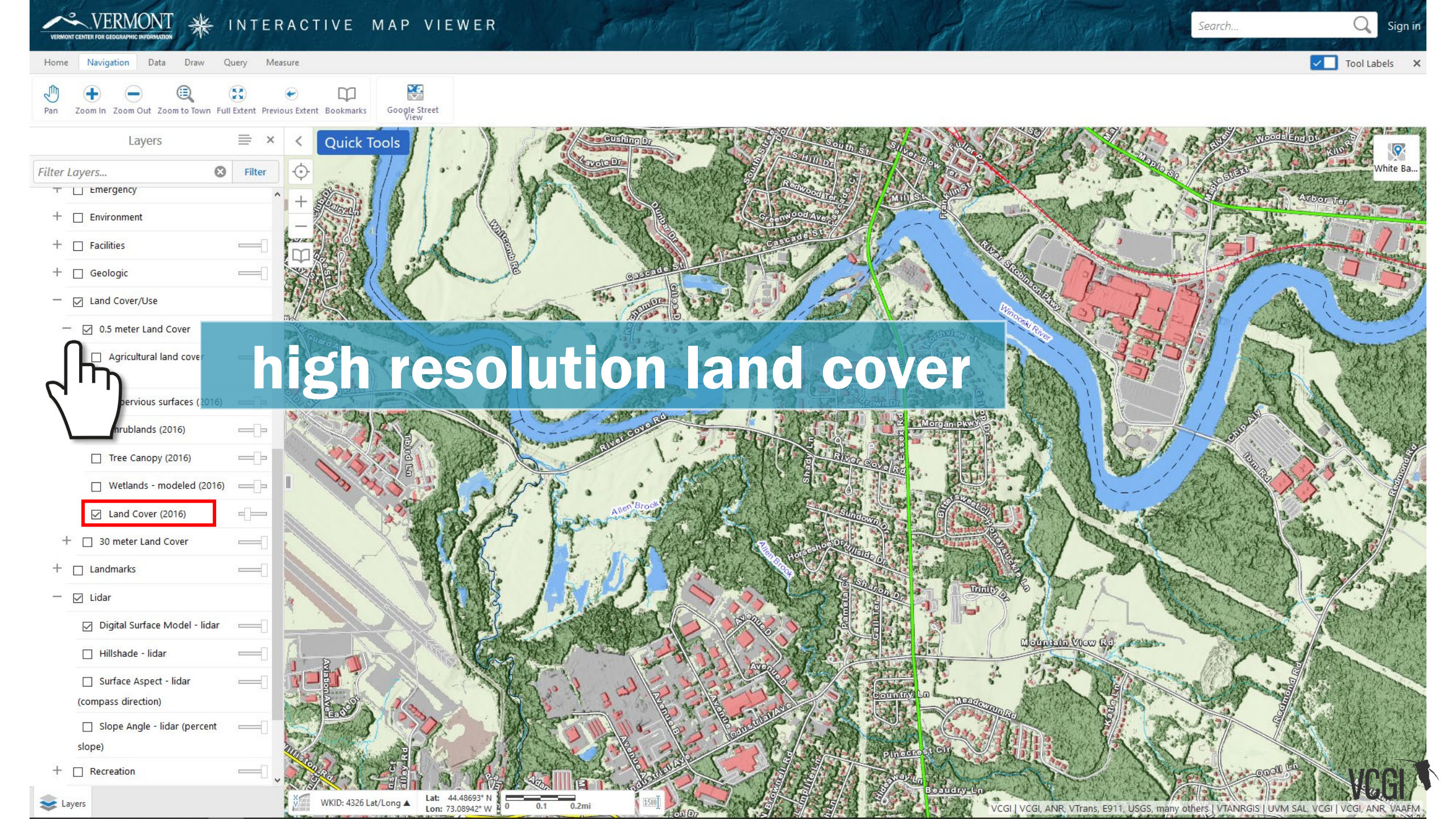


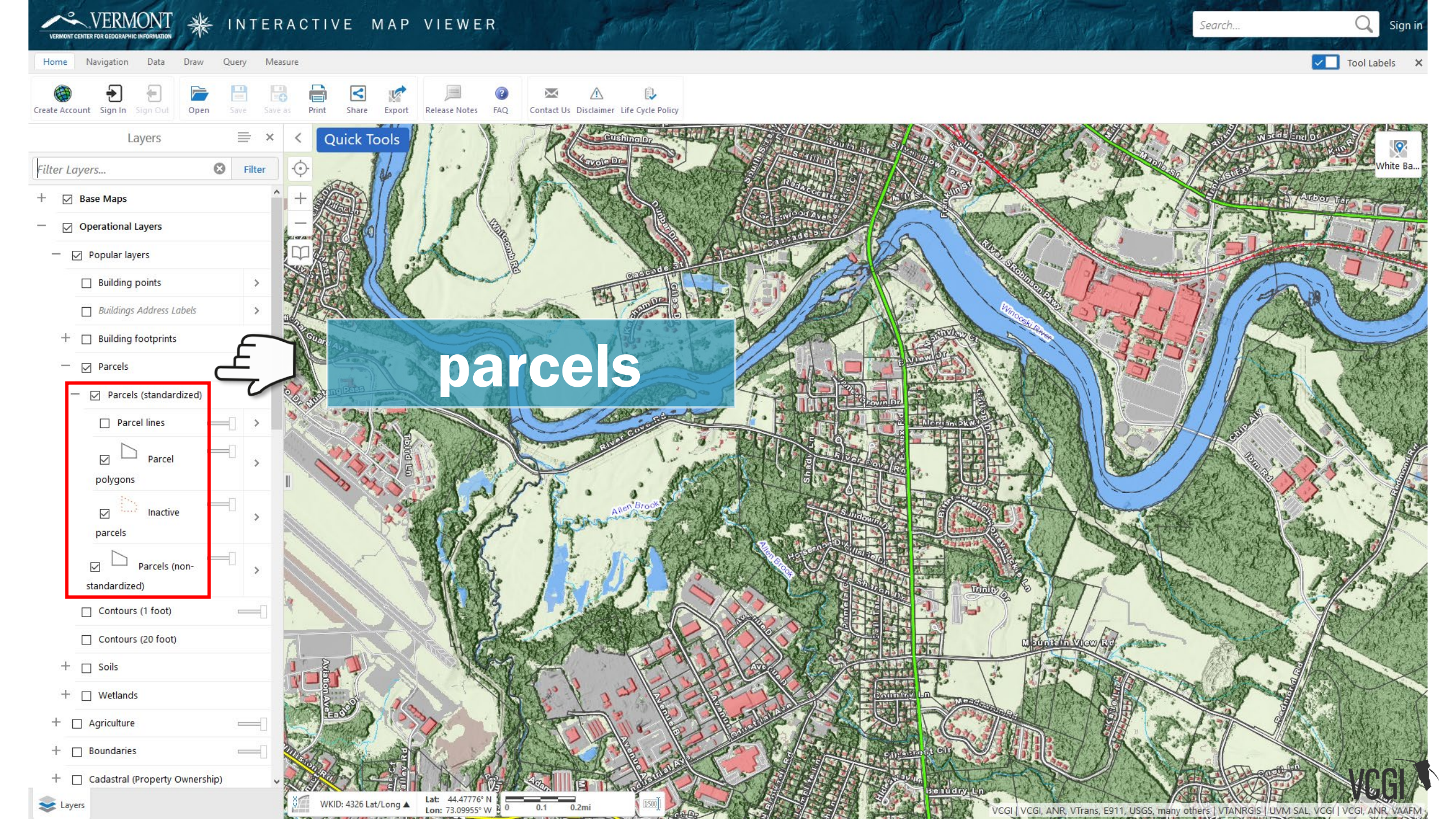
[VT Interactive Map Viewer]


VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION
INTERACTIVE MAP VIEWER
Search...
Sign in
Home
Navigation
Data
Draw
Query
Measure
Tool Labels
Pan
Zoom In
Zoom Out
Zoom to Town
Full Extent
Previous Extent
Bookmarks
Google Street View
Layers
Filter Layers...
Filter
Quick Tools
Boundaries
Cadastral (Property Ownership)
Climate
Demographic
Economic
Environment
Lidar
Digital Surface Model - lidar
Hillshade - lidar
Surface Aspect - lidar (compass direction)
Slope Angle - lidar (percent slope)
Recreation
Transportation
Utilities
lidar-derived layers
White Ba...
Winooski River
River Cove Rd
Allen Brook
Mountain View Rd
Maple St
Cascade St
Redmond Rd
WKID: 4326 Lat/Long
Lat: 44.48305° N
Lon: 73.08565° W
VCGI
VCGI | VCGI, ANR, VTrans, E911, USGS, many others | VTANRGIS | VCGI, ANR, VAAFM


VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION
INTERACTIVE MAP VIEWER
Search...
Sign in
Home
Navigation
Data
Draw
Query
Measure
Tool Labels
Pan
Zoom In
Zoom Out
Zoom to Town
Full Extent
Previous Extent
Bookmarks
Google Street View
Layers
Filter Layers...
Filter
Boundaries
Cadastral (Property Ownership)
Climate
Demographic
Economic
Elevation
Emergency
Environment
Facilities
Geolo
Land
Landm
Lidar
Digital Surface Model - lidar
Hillshade - lidar
Surface Aspect - lidar (compass direction)
Slope Angle - lidar (percent slope)
Recreation
Transportation
Utilities
Layers
Quick Tools
White Ba...
Winooski River
River Cove Rd
Mountain View Rd
Allen Brook
Cascade St
Cushing Dr
Lavoie Dr
Whitcomb Rd
Mustang Pass
Morgan Pkwy
Sundown Dr
Trinity Dr
Meadowrun Rd
Country Ln
Pinecrest Cir
Beaudry Ln
Redmond Rd
Chip Aly
Ibm Rd
Arbor Ter
Woods End Dr
Maple St
Mill St
Franklin St
Silver Bow Ter
South St
Redwood Ter
Greenwood Ave
Dunbar Dr
Ketcham Dr
Gilles Dr
Northview Ct
E View Dr
Gallop Dr
Essex Rd
Shady Ln
Horseshoe Dr
Hillside Dr
Sharon Dr
Pamela Ct
Avenue D
Avenue B
Industrial Ave
Oneil Ln
Kettle Ln
Aviation Ave
Eagle Dr
Williston Rd
Tbird Ln
Dairy Ln
Club Dr
WKID: 4326 Lat/Long
Lat: 44.47116° N
Lon: 73.08269° W
0
0.1
0.2mi
VCGI
VCGI | VCGI, ANR, VTrans, E911, USGS, many others | VTANRGIS | VCGI, ANR, VAAFM

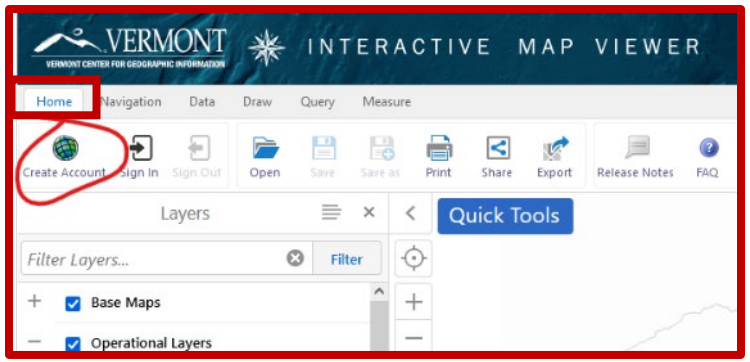

VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION
INTERACTIVE MAP VIEWER
Search...
Sign in
Home
Navigation
Data
Draw
Query
Measure
Tool Labels
Pan
Zoom In
Zoom Out
Zoom to Town
Full Extent
Previous Extent
Bookmarks
Google Street View
Layers
Filter Layers...
Filter
Climate
Demographic
Economic
Elevation
Emergency
Environment
Facilities
Geologic
Land Cover/Use
Landmarks
Lidar
Digital Surface Model - lidar
Hillshade - lidar
Surface Aspect - lidar (compass direction)
Slope Angle - lidar (percent slope)
Recreation
Transportation
Utilities
Water Resources
All Imagery
Quick Tools
adjust transparency
Cushing Dr
Lavoie Dr
South St
S Hill Dr
Redwood Ter
Greenwood Ave
Cascade St
Mill St
Silver Bow Ter
Maple St
Arbor Ter
Woods End Dr
Kiln Rd
White Ba...
Whitcomb Rd
Dunbar Dr
Dairy Ln
Ketcham Dr
Giles Dr
River S Robinson Pkwy
Winooski River
Northview Ct
E View Dr
James Brown Dr
Gallop Dr
Morgan Pkwy
Mustang Pass
River Cove Rd
Essex Rd
Shady Ln
Allen Brook
Sundown Dr
Bittersweet Cir
Honeysuckle Ln
Horseshoe Dr
Hillside Dr
Trinity Dr
Mountain View Rd
Chip Ally
Ibm Rd
Redmond Rd
Country Ln
Meadowrun Rd
Katie Ln
Pinecrest Cir
Hideaway Ln
Beaudry Ln
Oneil Ln
Industrial Ave
Avenue B
Eagle Dr
WKID: 4326 Lat/Long
Lat: 44.48675° N
Lon: 73.10303° W
0 0.1 0.2mi
VCGI | VCGI, ANR, VTrans, E911, USGS, many others | VTANRGIS | VCGI, ANR, VAAFM

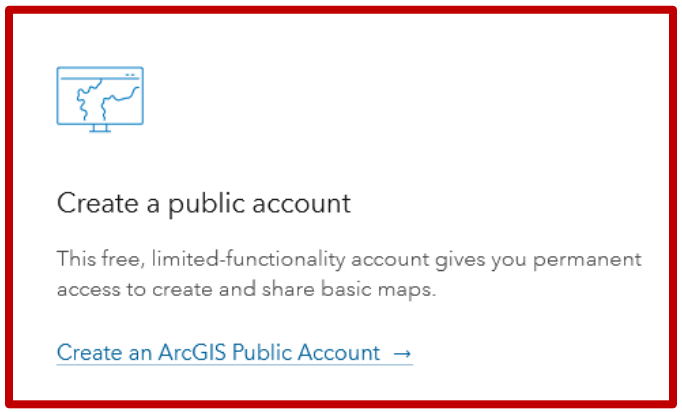

VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION
INTERACTIVE MAP VIEWER
Search...
Sign in
Home
Navigation
Data
Draw
Query
Measure
Tool Labels
Pan
Zoom In
Zoom Out
Zoom to Town
Full Extent
Previous Extent
Bookmarks
Google Street View
Layers
Filter Layers...
Filter
Emergency
Environment
Facilities
Geologic
Land Cover/Use
0.5 meter Land Cover
Agricultural land cover
Tree Canopy (2016)
Wetlands - modeled (2016)
Land Cover (2016)
30 meter Land Cover
Landmarks
Lidar
Digital Surface Model - lidar
Hillshade - lidar
Surface Aspect - lidar (compass direction)
Slope Angle - lidar (percent slope)
Recreation
Quick Tools
high resolution land cover
White Ba...
WKID: 4326 Lat/Long
Lat: 44.48693° N
Lon: 73.08942° W
VCGI | VCGI, ANR, VTrans, E911, USGS, many others | VTANRGIS | UVM SAL, VCGI | VCGI, ANR, VAAFM


VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION
INTERACTIVE MAP VIEWER
Search...
Sign in
Home
Navigation
Data
Draw
Query
Measure
Tool Labels
Create Account
Sign In
Sign Out
Open
Save
Save as
Print
Share
Export
Release Notes
FAQ
Contact Us
Disclaimer
Life Cycle Policy
Layers
Filter Layers...
Filter
Base Maps
Operational Layers
Popular layers
Building points
Buildings Address Labels
Building footprints
Parcels
Parcels (standardized)
Parcel lines
Parcel polygons
Inactive parcels
Parcels (non-standardized)
Contours (1 foot)
Contours (20 foot)
Soils
Wetlands
Agriculture
Boundaries
Cadastral (Property Ownership)
Quick Tools
parcels
White Ba...
WKID: 4326 Lat/Long
Lat: 44.47776° N
Lon: 73.09955° W
0 0.1 0.2mi
VCGI | VCGI, ANR, VTrans, E911, USGS, many others | VTANRGIS | UVM SAL, VCGI | VCGI, ANR, VAAFM

So I can toggle layers
on and off.
Is that it?
Photo by Luca Ambrosi

Back to Top





Create a public account using an ArcGIS login

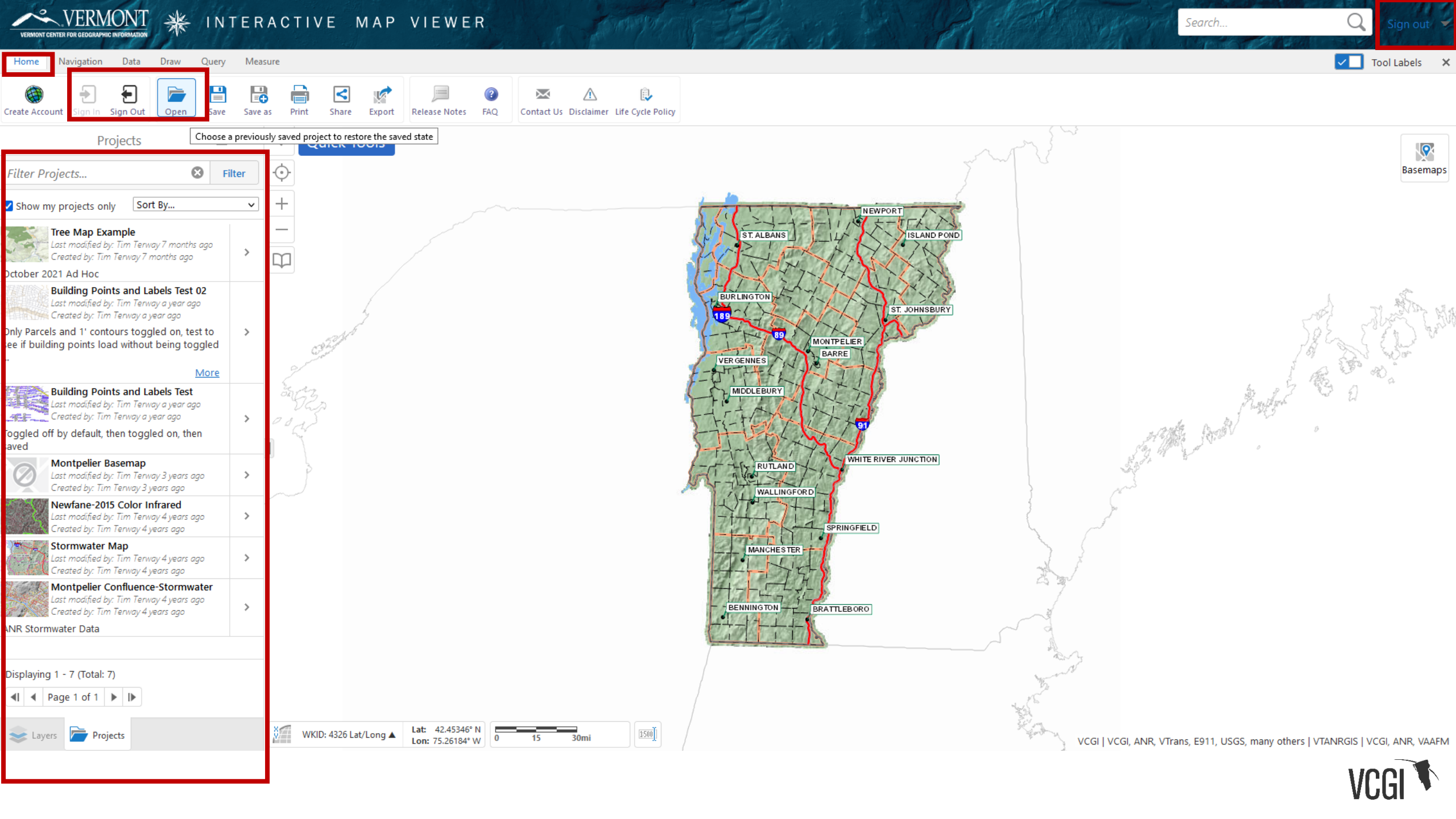
An ArcGIS public account is a free account that is available for individuals to create and share content with limits on usage. Follow the steps below to create an ArcGIS public account using an ArcGIS login:

1. From the website, click the **Sign In** link at the top of the site or access the sign in page directly from https://www.arcgis.com/home/signin.html.
2. Click **Create an account**.
3. Under **Create a free public account**, click **Create an ArcGIS Public Account**.
4. Type your first name, last name, and email address. Retype your email address to confirm.
5. Read the ArcGIS Online terms of use and privacy policy. Check the boxes to agree to the terms and policy and click **Next**.

   ArcGIS Online sends you an email with a link to continue the creation of your account.
6. Open the email and click the link provided, or copy it to your browser's address bar and press Enter.
7. Provide a username that contains 6 to 128 alphanumeric characters. You can also use the following special characters: . (dot), _ (underscore), - (hyphen), and @ (at sign). Other special characters, nonalphanumeric characters, and spaces are not allowed. Your username cannot be the same as

https://doc.arcgis.com/en/arcgis-online/get-started/create-account.htm

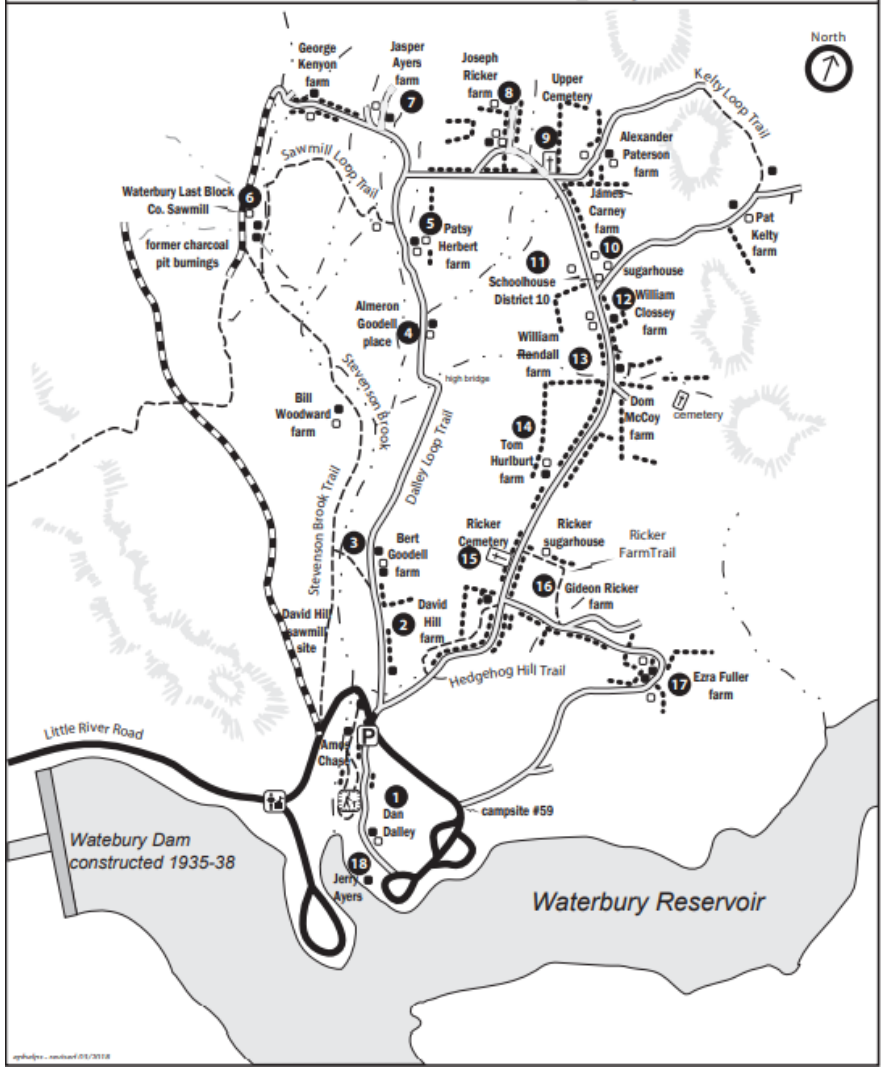
VCGI

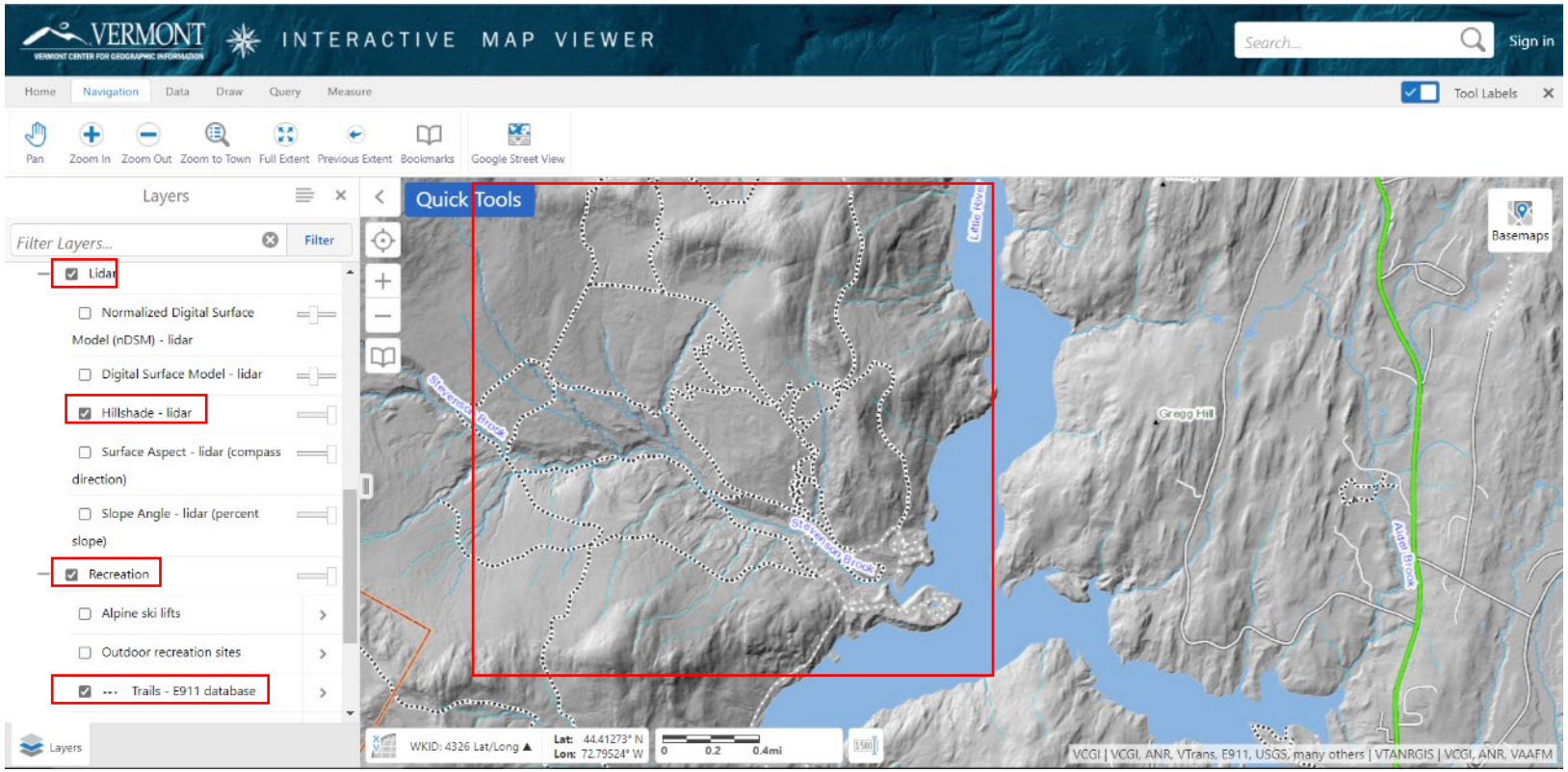

VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION
INTERACTIVE MAP VIEWER
Search...
Sign out
Home
Navigation
Data
Draw
Query
Measure
Tool Labels
Create Account
Sign In
Sign Out
Open
Save
Save as
Print
Share
Export
Release Notes
FAQ
Contact Us
Disclaimer
Life Cycle Policy
Choose a previously saved project to restore the saved state
Projects
Filter Projects...
Filter
Show my projects only
Sort By...
Tree Map Example
Last modified by: Tim Terway 7 months ago
Created by: Tim Terway 7 months ago
October 2021 Ad Hoc
Building Points and Labels Test 02
Last modified by: Tim Terway a year ago
Created by: Tim Terway a year ago
Only Parcels and 1' contours toggled on, test to see if building points load without being toggled
More
Building Points and Labels Test
Last modified by: Tim Terway a year ago
Created by: Tim Terway a year ago
Toggled off by default, then toggled on, then saved
Montpelier Basemap
Last modified by: Tim Terway 3 years ago
Created by: Tim Terway 3 years ago
Newfane-2015 Color Infrared
Last modified by: Tim Terway 4 years ago
Created by: Tim Terway 4 years ago
Stormwater Map
Last modified by: Tim Terway 4 years ago
Created by: Tim Terway 4 years ago
Montpelier Confluence-Stormwater
Last modified by: Tim Terway 4 years ago
Created by: Tim Terway 4 years ago
ANR Stormwater Data
Displaying 1 - 7 (Total: 7)
Page 1 of 1
Layers
Projects
Basemaps
NEWPORT
ST. ALBANS
ISLAND POND
BURLINGTON
ST. JOHNSBURY
MONTPELIER
BARRE
VERGENNES
MIDDLEBURY
WHITE RIVER JUNCTION
RUTLAND
WALLINGFORD
SPRINGFIELD
MANCHESTER
BENNINGTON
BRATTLEBORO
WKID: 4326 Lat/Long
Lat: 42.45346° N
Lon: 75.26184° W
0 15 30mi
VCGI | VCGI, ANR, VTrans, E911, USGS, many others | VTANRGIS | VCGI, ANR, VAAFM
VCGI

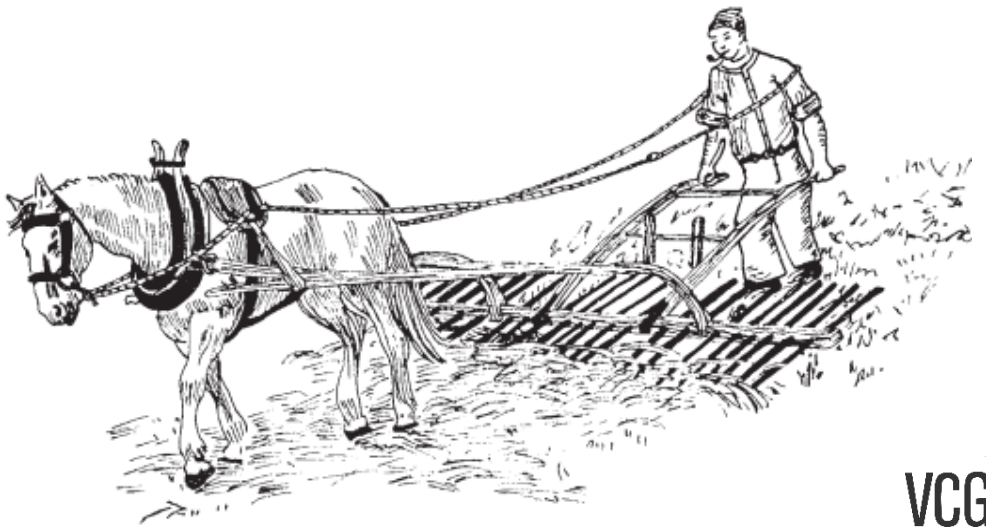
LITTLE RIVER HISTORY HIKE
Historical Settlements and Modern Trails

Legend
- Multi-use trails
- Walking trails/Historical road location (some sections may be logging roads)
- Historical road - impassable
- Trail
- Stream
- Stone wall
- House site/foundation
- Barn or outbuilding site/foundation
- Park office
- Parking
- Self-guided nature trail

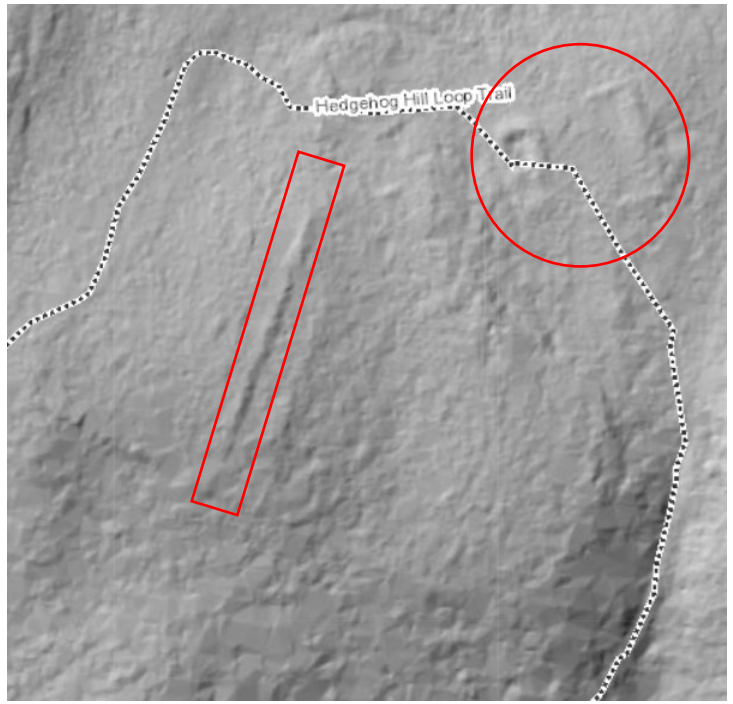
0 500 1000 2000 3000 feet

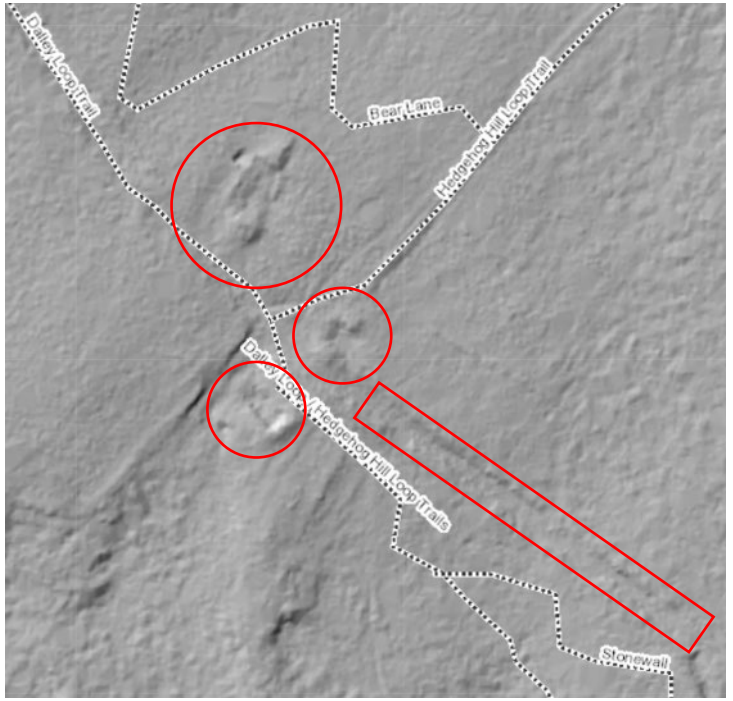


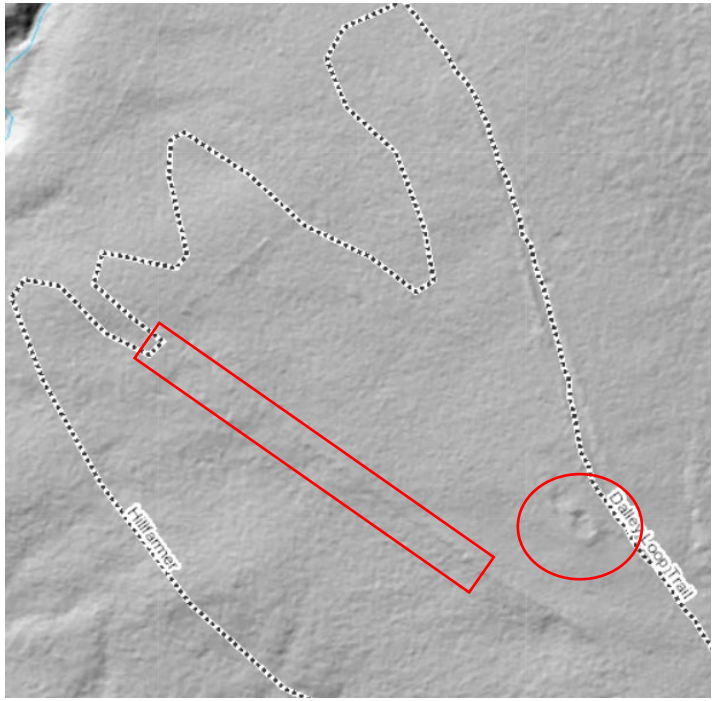


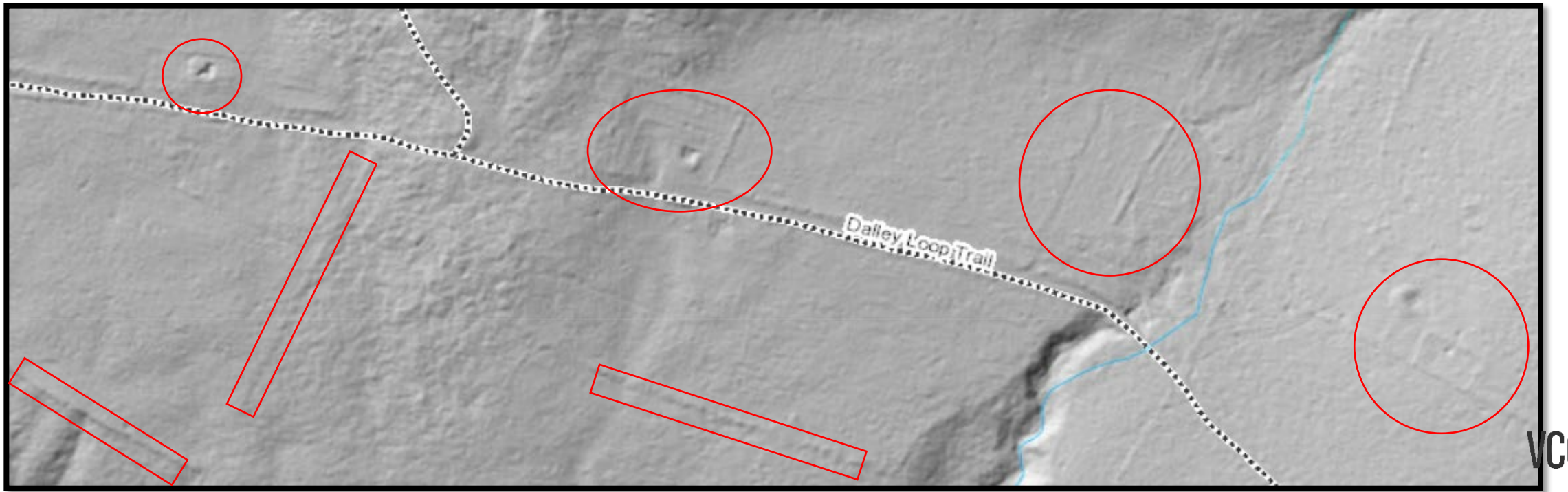


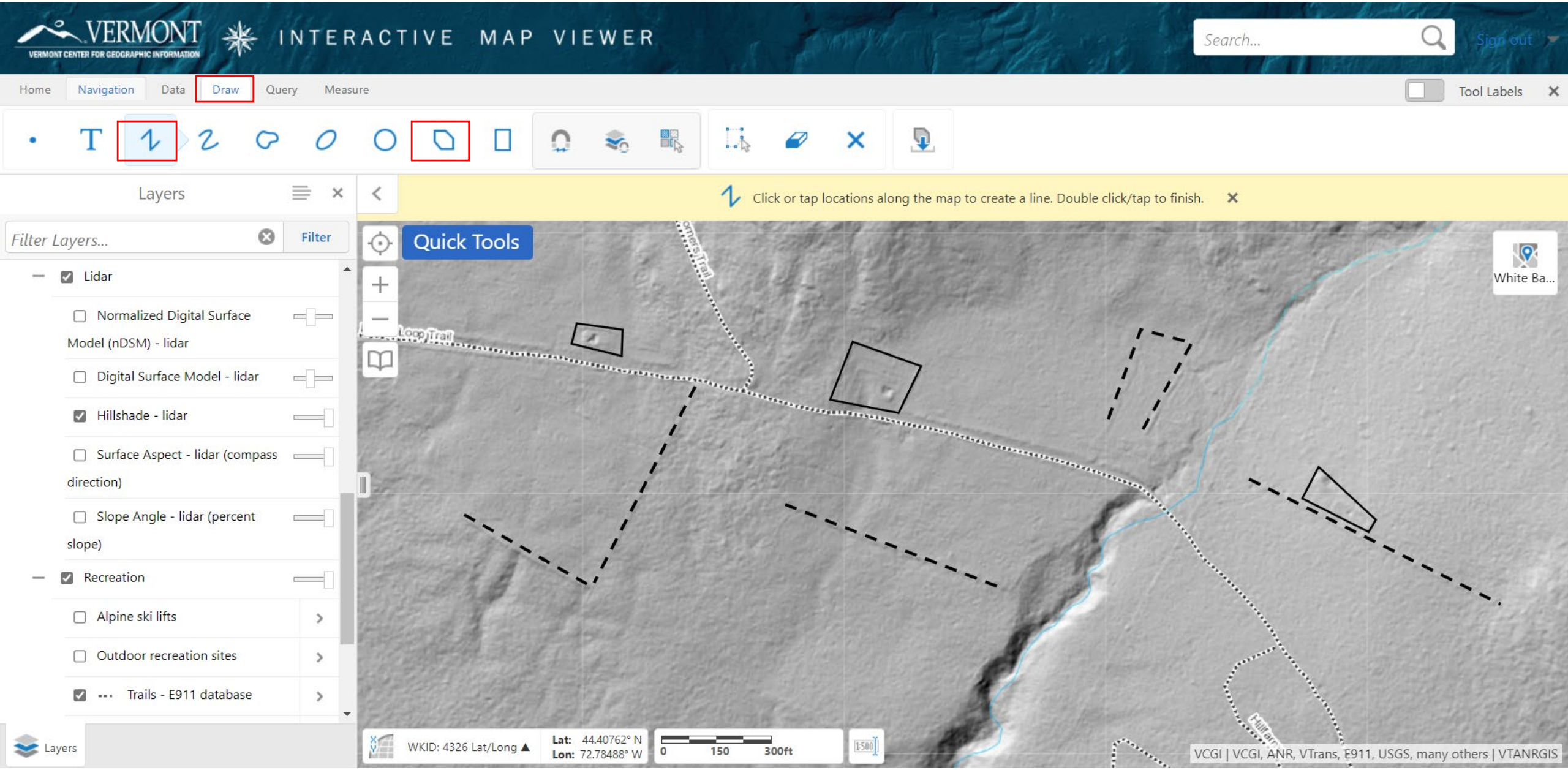
VCGI

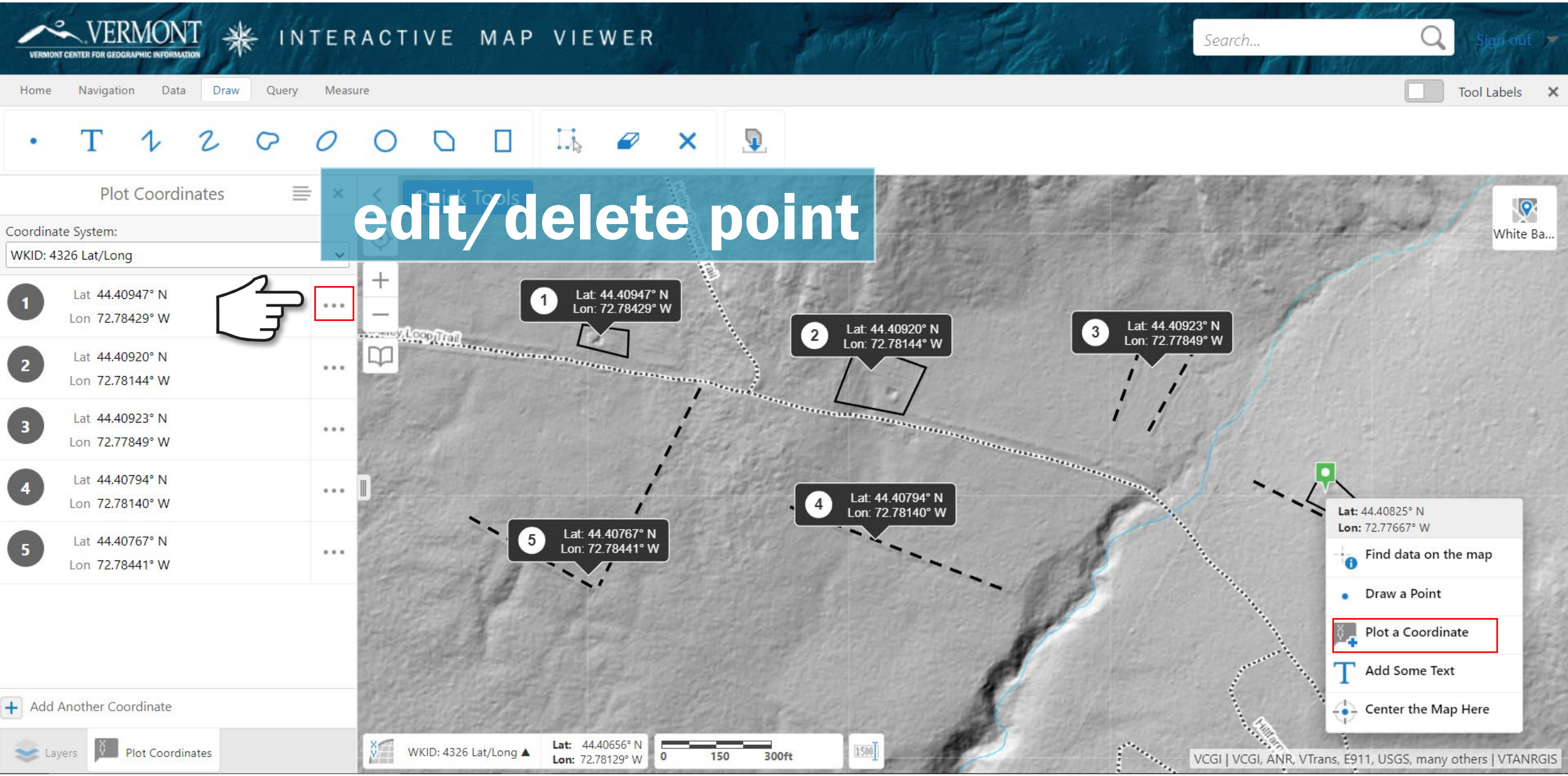

Hedgehog Hill Loop Trail

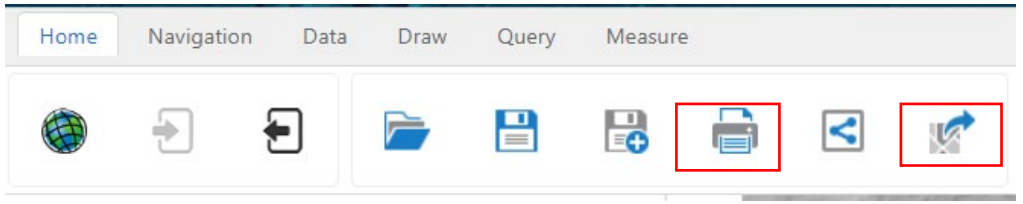

Dailey Loop Trail
Bear Lane
Hedgehog Hill Loop Trail
Dailey Loop Trail
Hedgehog Hill Loop Trail
Stonewall


Hillfarmer
Dailey Loop Trail

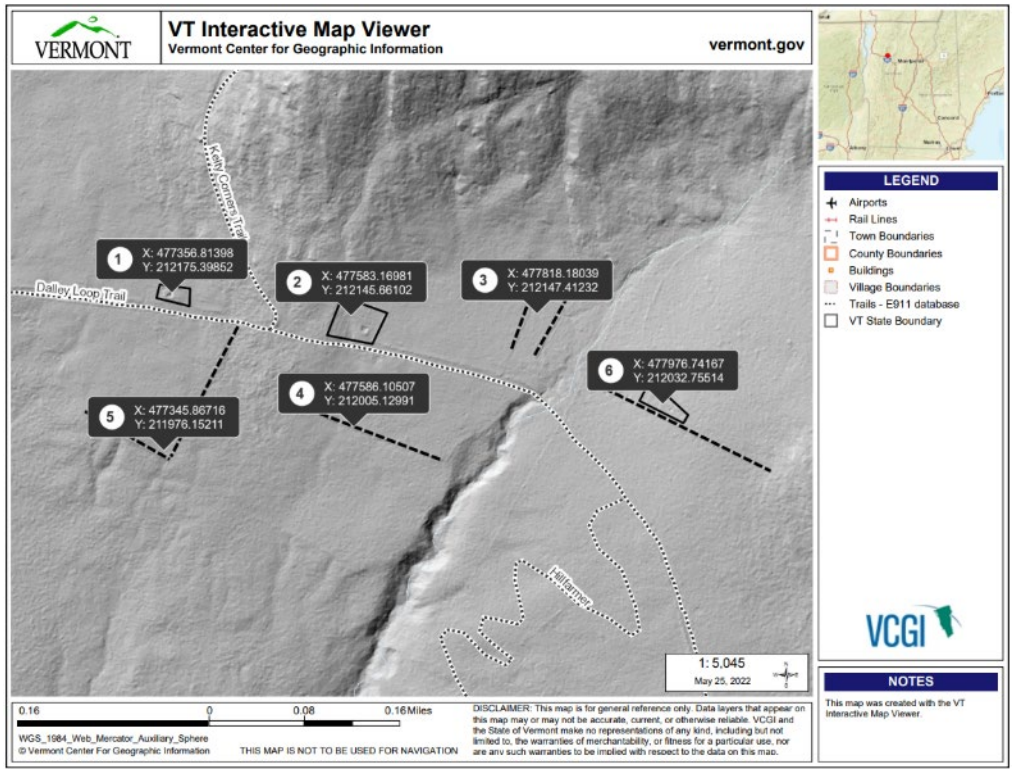

Dailey Loop Trail


VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION
INTERACTIVE MAP VIEWER
Search...
Sign out
Home
Navigation
Data
Draw
Query
Measure
Tool Labels
Layers
Filter Layers...
Filter
Lidar
Normalized Digital Surface Model (nDSM) - lidar
Digital Surface Model - lidar
Hillshade - lidar
Surface Aspect - lidar (compass direction)
Slope Angle - lidar (percent slope)
Recreation
Alpine ski lifts
Outdoor recreation sites
Trails - E911 database
Click or tap locations along the map to create a line. Double click/tap to finish.
Quick Tools
White Ba...
Loop Trail
WKID: 4326 Lat/Long
Lat: 44.40762° N
Lon: 72.78488° W
0
150
300ft
VCGI | VCGI, ANR, VTrans, E911, USGS, many others | VTANRGIS

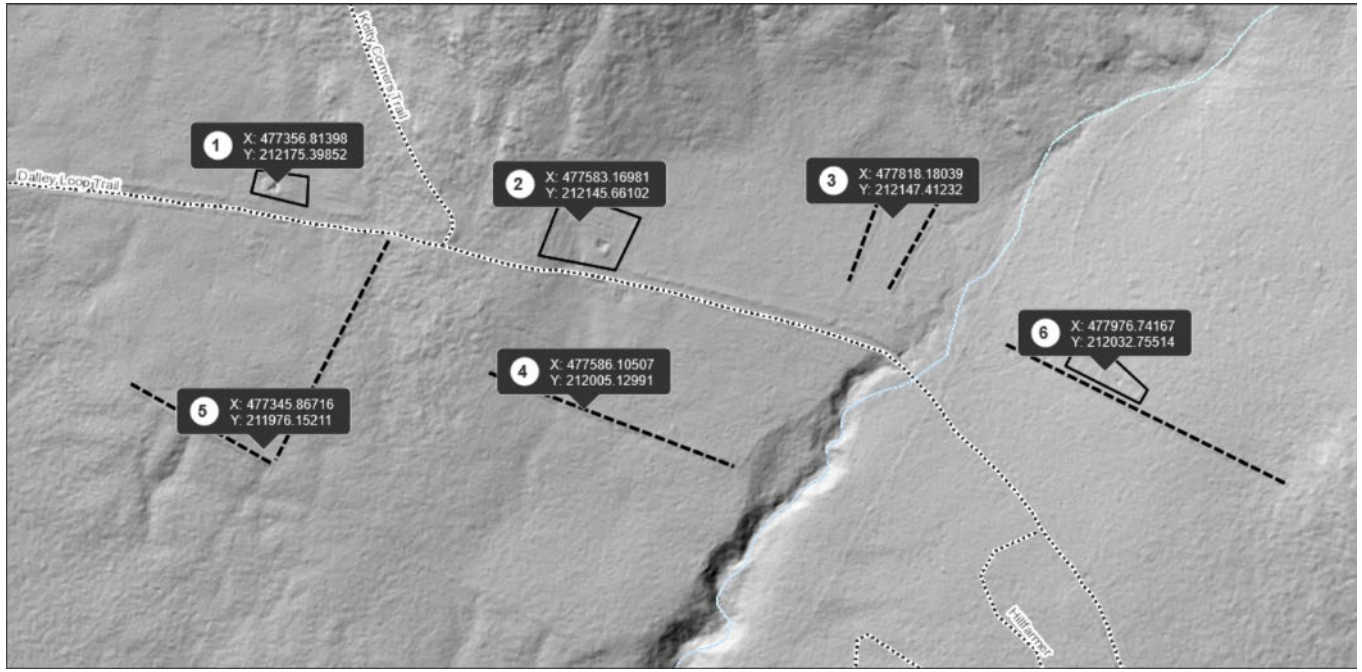

VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION
INTERACTIVE MAP VIEWER
Search...
Sign out
Home
Navigation
Data
Draw
Query
Measure
Tool Labels
Plot Coordinates
Coordinate System:
WKID: 4326 Lat/Long
edit/delete point
1 Lat 44.40947° N Lon 72.78429° W
2 Lat 44.40920° N Lon 72.78144° W
3 Lat 44.40923° N Lon 72.77849° W
4 Lat 44.40794° N Lon 72.78140° W
5 Lat 44.40767° N Lon 72.78441° W
Add Another Coordinate
Layers
Plot Coordinates
Quick Tools
White Ba...
1 Lat: 44.40947° N Lon: 72.78429° W
2 Lat: 44.40920° N Lon: 72.78144° W
3 Lat: 44.40923° N Lon: 72.77849° W
4 Lat: 44.40794° N Lon: 72.78140° W
5 Lat: 44.40767° N Lon: 72.78441° W
Lat: 44.40825° N
Lon: 72.77667° W
Find data on the map
Draw a Point
Plot a Coordinate
Add Some Text
Center the Map Here
WKID: 4326 Lat/Long
Lat: 44.40656° N
Lon: 72.78129° W
0 150 300ft
VCGI | VCGI, ANR, VTrans, E911, USGS, many others | VTANRGIS
VCGI



printable version

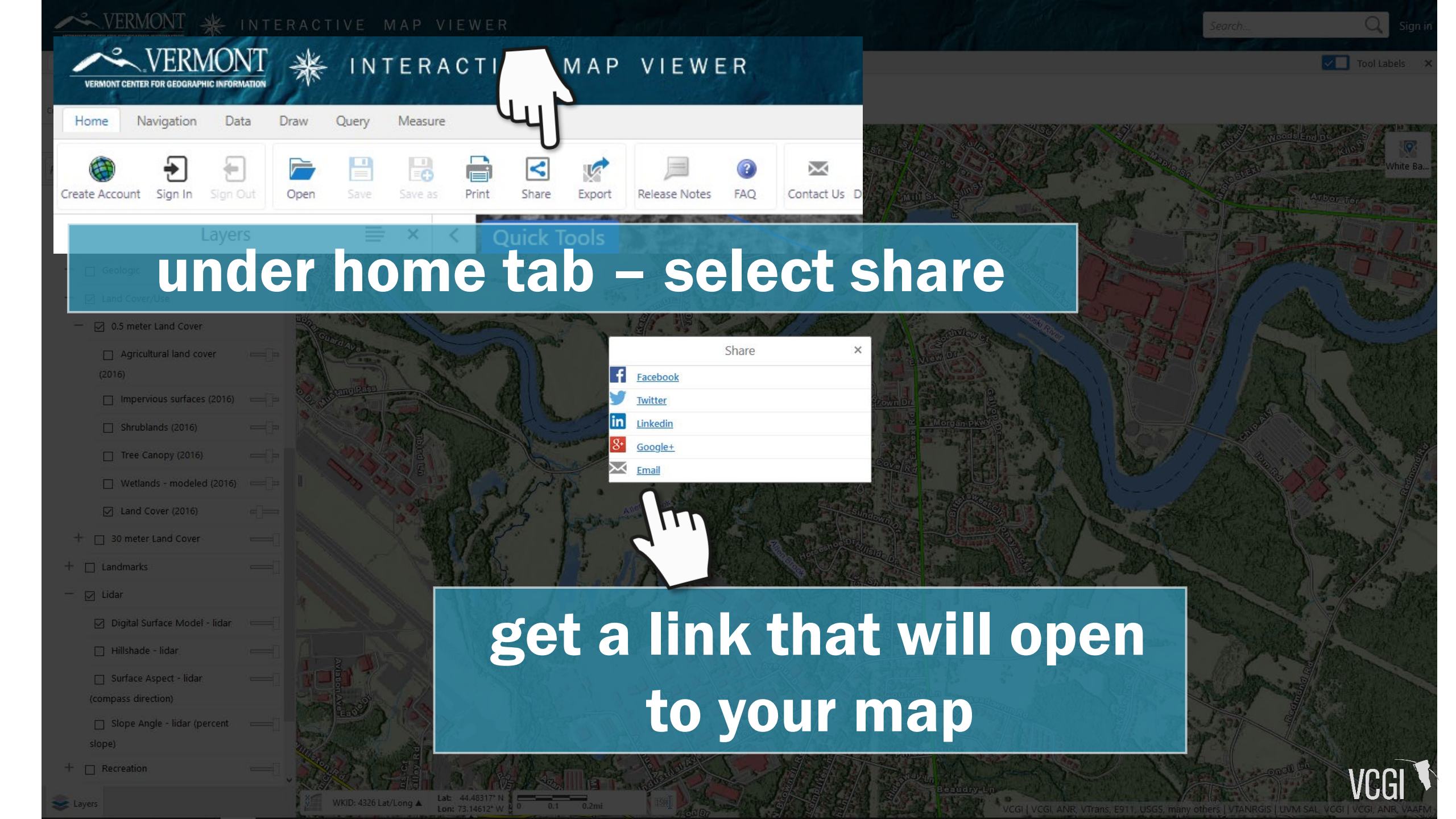


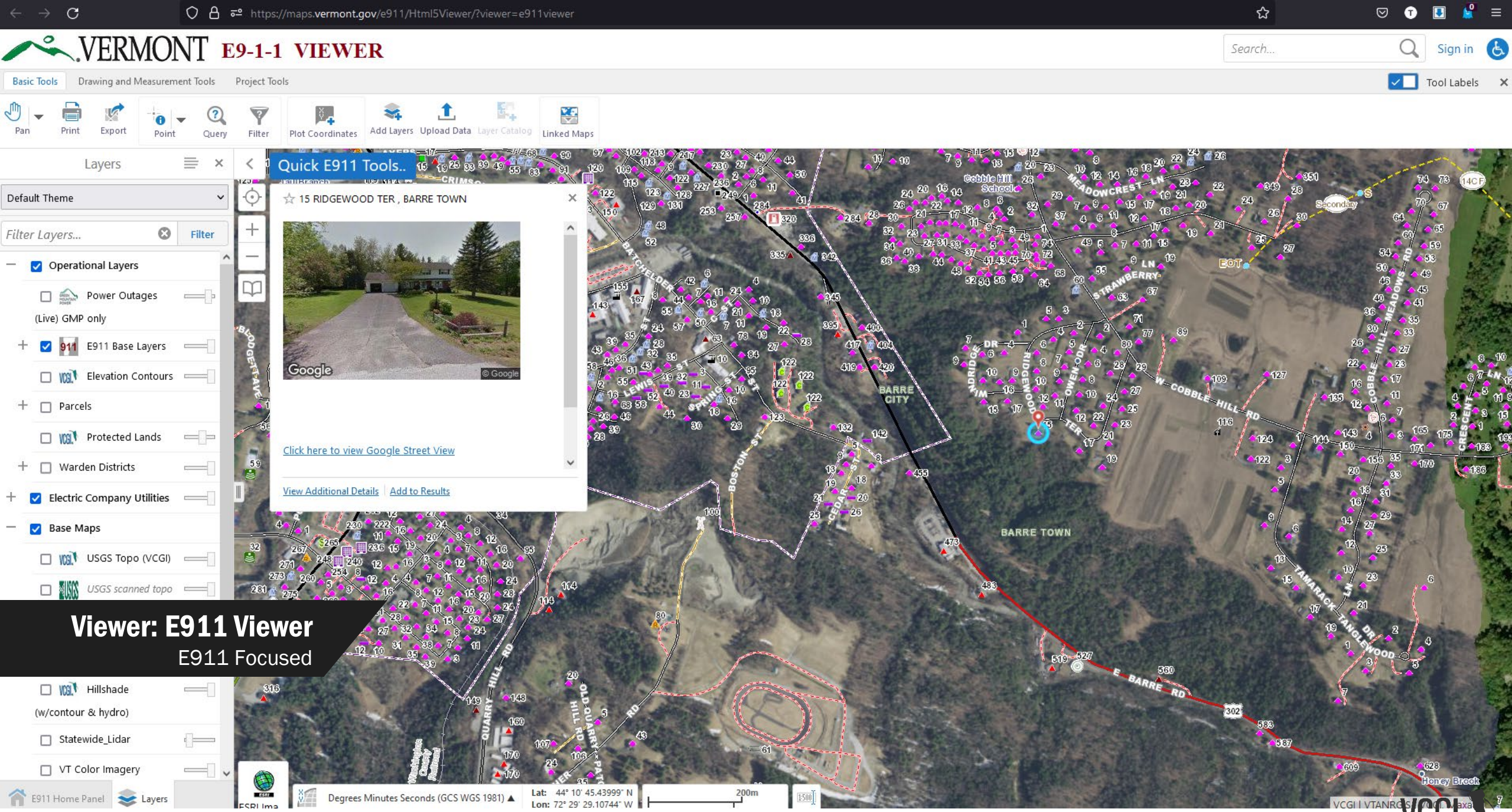
map image



shapefile

VCGI

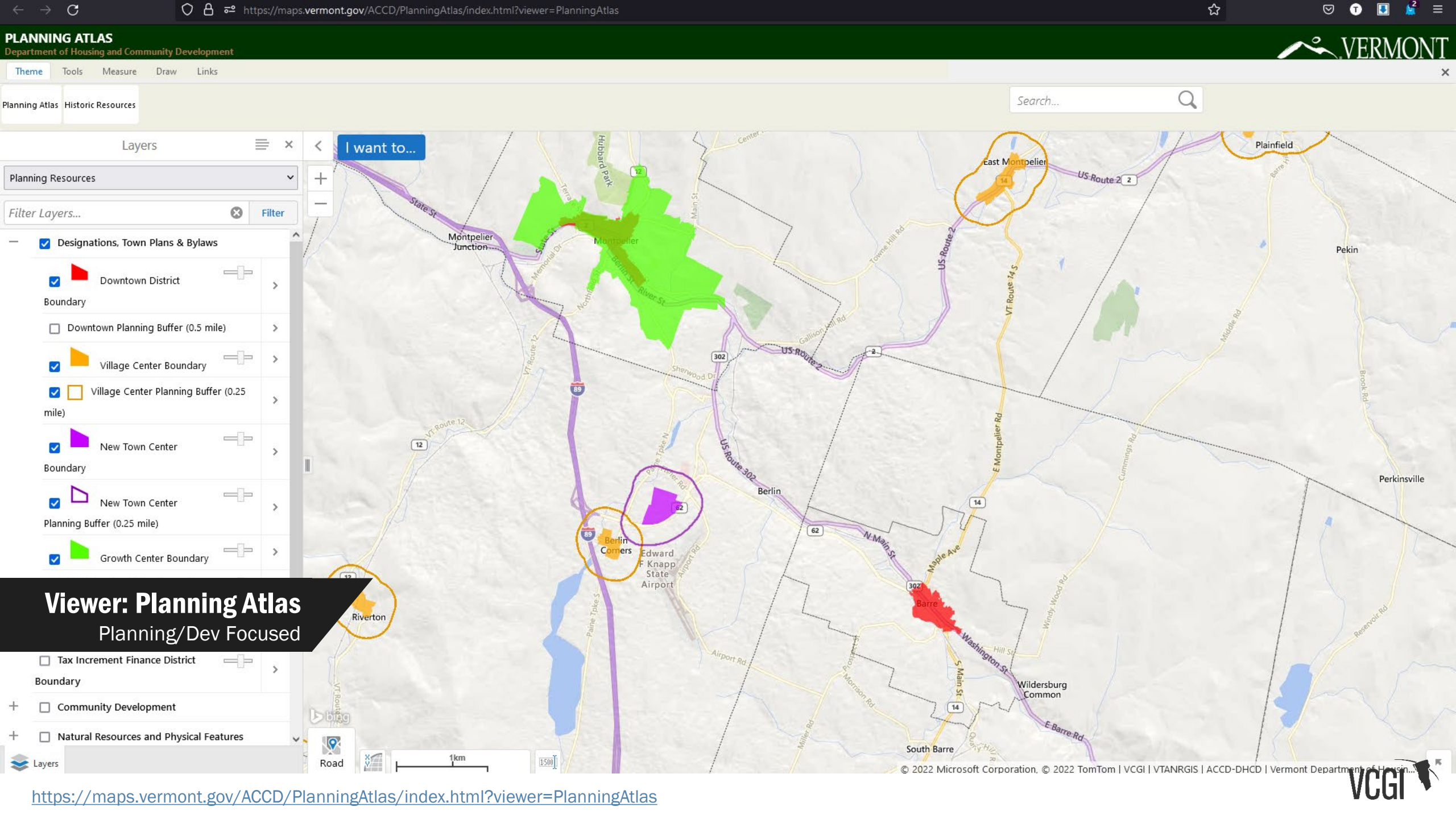

VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION
INTERACTIVE MAP VIEWER
Home
Navigation
Data
Draw
Query
Measure
Create Account
Sign In
Sign Out
Open
Save
Save as
Print
Share
Export
Release Notes
FAQ
Contact Us
Layers
Quick Tools
under home tab – select share
Share
Facebook
Twitter
Linkedin
Google+
Email
get a link that will open to your map
0.5 meter Land Cover
Agricultural land cover (2016)
Impervious surfaces (2016)
Shrublands (2016)
Tree Canopy (2016)
Wetlands - modeled (2016)
Land Cover (2016)
30 meter Land Cover
Landmarks
Lidar
Digital Surface Model - lidar
Hillshade - lidar
Surface Aspect - lidar (compass direction)
Slope Angle - lidar (percent slope)
Recreation
VCGI



Viewer: E911 Viewer

E911 Focused

https://maps.vermont.gov/e911/Html5Viewer/?viewer=e911viewer

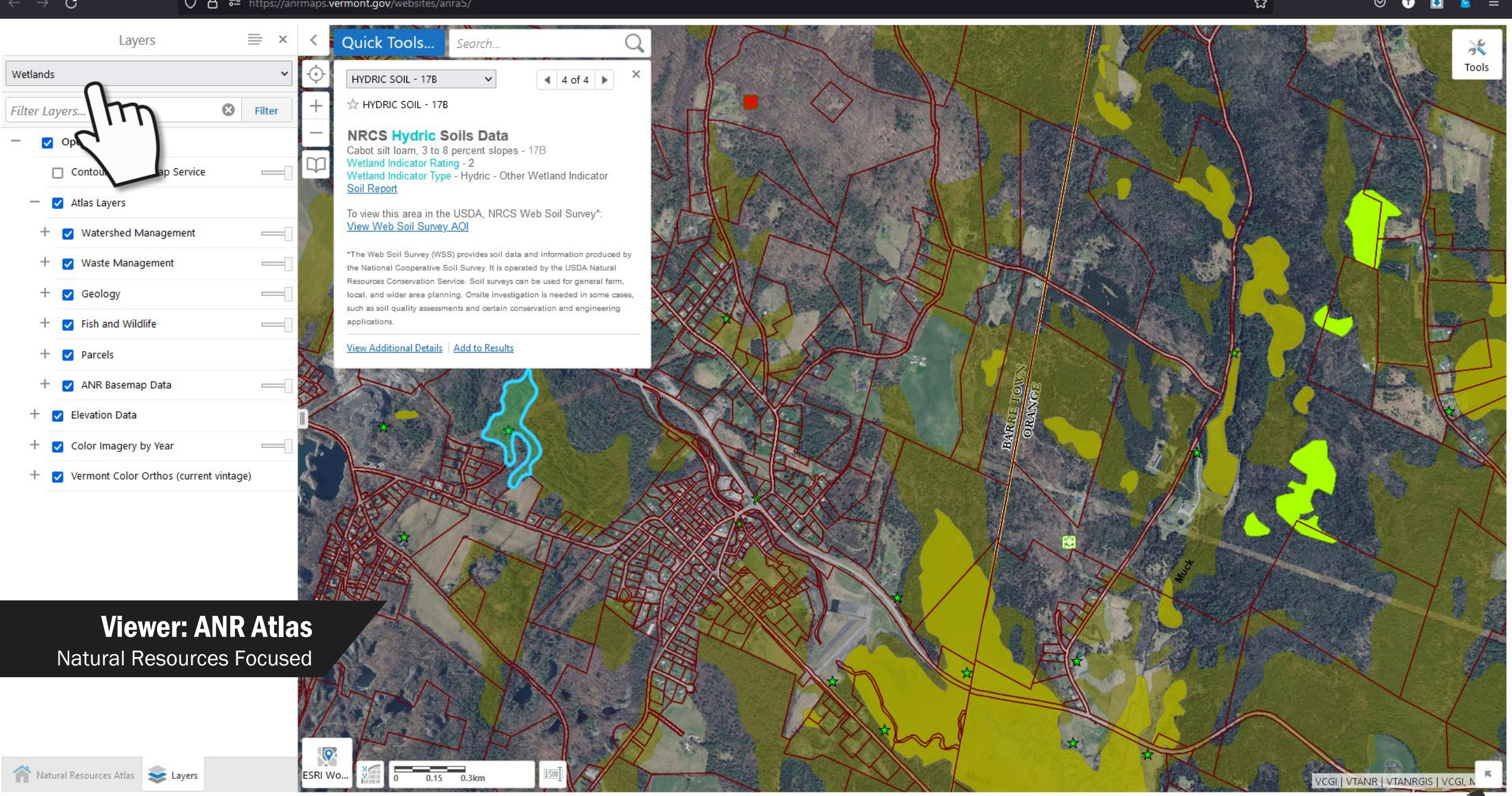


Viewer: Planning Atlas

Planning/Dev Focused

https://maps.vermont.gov/ACCD/PlanningAtlas/index.html?viewer=PlanningAtlas

VCGI



Viewer: ANR Atlas

Natural Resources Focused

https://anrmaps.vermont.gov/websites/anra5/

VCGI

How to Use the Vermont Agency of Natural Resources (VT ANR) Natural Resources Atlas

2020

Prepared by Kristine Stepenuck, who modified and updated an earlier version by Becky Tharp

Viewer: ANR Atlas
Natural Resources Focused

Sea Grant
Lake Champlain

https://www.uvm.edu/seagrant/sites/default/files/files/publication/How%20to%20use%20the%20VT%20ANR%20Atlas%202020.pdf

How to Use the VTANR Natural Resources Atlas[1]

PREPARATIONS BEFORE YOU BEGIN USING THE ATLAS 2

A Note About Functionality on Tablets and Smartphones 2
Allow Pop-ups for the Site 2
How to Use this Tutorial 2

BASIC FUNCTIONS 3

Go to the ANR Atlas Website 3
Open the Toolbar to Sign In 4
Set and Change the Base Map 6
Identify your Area of Investigation 7
Determine Which Layers to Use 9
Explore Specialty Maps 11
Filter Layers 13
Select (Turn on) Layers 14
Zoom to Layers 15
Commonly Used Layers 16
Modify Layer Properties 17
Change Layer Drawing Order 21
Learn More Information About Layers 22

QUICK TOOLS AND TOOLBAR FUNCTIONS 24

Quick Tools 24
Open the Toolbar 25
Map Tools Toolbar 26
Save and Open Projects 26
Navigation Toolbar 28
Map Data Toolbar 28
Upload Data 28
Draw Toolbar 29
Identify Toolbar 30
Add a Buffer 31
Query Toolbar 33
Find Features 33
Filter 35
Delineate a Watershed Area 36
Measurement Toolbar 38
Measure Distance on a Map 38
Measure Area on a Map 41
Identify Latitude and Longitude for a Location 42
Map Tools Toolbar Revisited 43
Save, Share and Print Your Map 43
Export Your Map 46

[1] Last updated February 27, 2020

VCGI

IMV, Atlas, e911 Viewer, Planning Atlas Caveats

- They are viewers. Not a full-fledged GIS solution.
  - Not really a digitization platform
  - Or Cartographic platform
  - Or Geoprocessing/analytic platform
  - Or Data management platform…
- Kitchen sink app. That has pros/cons.
- Layers mostly pre-loaded. Custom use lends itself to other applications, including—gasp!—desktop GIS.
- Suited for trial/error: you won't break anything!

VCGI

Data and Programs
Resources
Maps
Partner Agency Maps
Historic Maps
Partners
About VCGI

PARTNER AGENCY MAPS

VCGI works with multiple state agencies through the Enterprise GIS Consortium, whose own maps and mapping applications are linked below.

Map Applications

AGENCY / DEPARTMENT	INTERACTIVE MAP	USES
ACCD / DHCD	Planning Atlas	View planning, development, and historic preservation-related spatial datasets.
ACCD / DHCD	Municipal Planning Data Center	View status of municipal plans, bylaws and designated areas throught Vermont.
ACCD	Themed Tourism Maps	View lodging, attractions, shops, events, and fun facts around Vermont.
ACCD / DED	Interactive Community Atlas	View businesses in Vermont with 30 or more employees and across a variety of sectors.
AHS / VDH	Local Health Basemap	View information to support local health work in Vermont.
AHS / VDH	Public Health Data Explorer	View public health information, trends over time, and visualize health indicators on a map.
AHS / VDH	Community Profiles	View public health information, trends over time, and visualize health indicators on a map, sortable by different health communities.
AHS / VDH	Environmental Public Health Tracking	View data on air quality, asthma, cancer, climate and health, drinking water, and more, all by location in Vermont.
AHS / VDH	Social Vulnerability Atlas	View the number of social vulnerability measures above the 90th percentile for Vermont census tracts.
AHS / VDH	Heat Vulnerability Index	View the overall vulnerability of each Vermont town to heat related illness.
AHS / VDH	Community Level Estimates	View disparities in risk behaviors and chronic disease for 89 geographies across Vermont.
AHS / VDH	Cyanobacteria (Blue-Green Algae) Tracker	View status of cyanobacteria (blue-green algae) in Vermont waterways.
AHS / VDH	Tick Tracker	View status and report sighting of ticks across Vermont.
AHS / VDH	EMS & MRC On-Call Station Finder	Find the Emergency Medical Services and Medical Reserve Corps locations closest to you.
AHS / VDH	Vermont Travel Clinic Finder	Find clinics near you to provide the immunizations needed for travel abroad.

Finding VT GIS Apps
Partner Agency Maintained

https://vcgi.vermont.gov/maps/partner-agency-maps

VCGI

VERMONT OFFICIAL STATE WEBSITE

VERMONT

AGENCY OF DIGITAL SERVICES

Vermont Center for Geographic Information

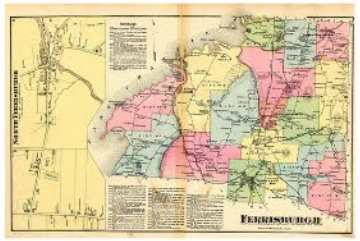
SEARCH

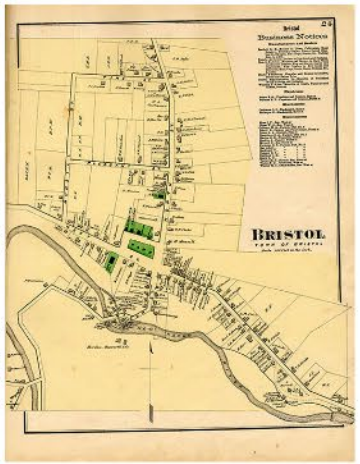
CONTACT

- Data and Programs
- Resources
- Maps
  - Partner Agency Maps
  - Historic Maps
- Partners
- About VCGI

HISTORIC MAPS

Where can you find hard copy and digital historic maps? Here are some sources suggested by members of the VT mapping community:





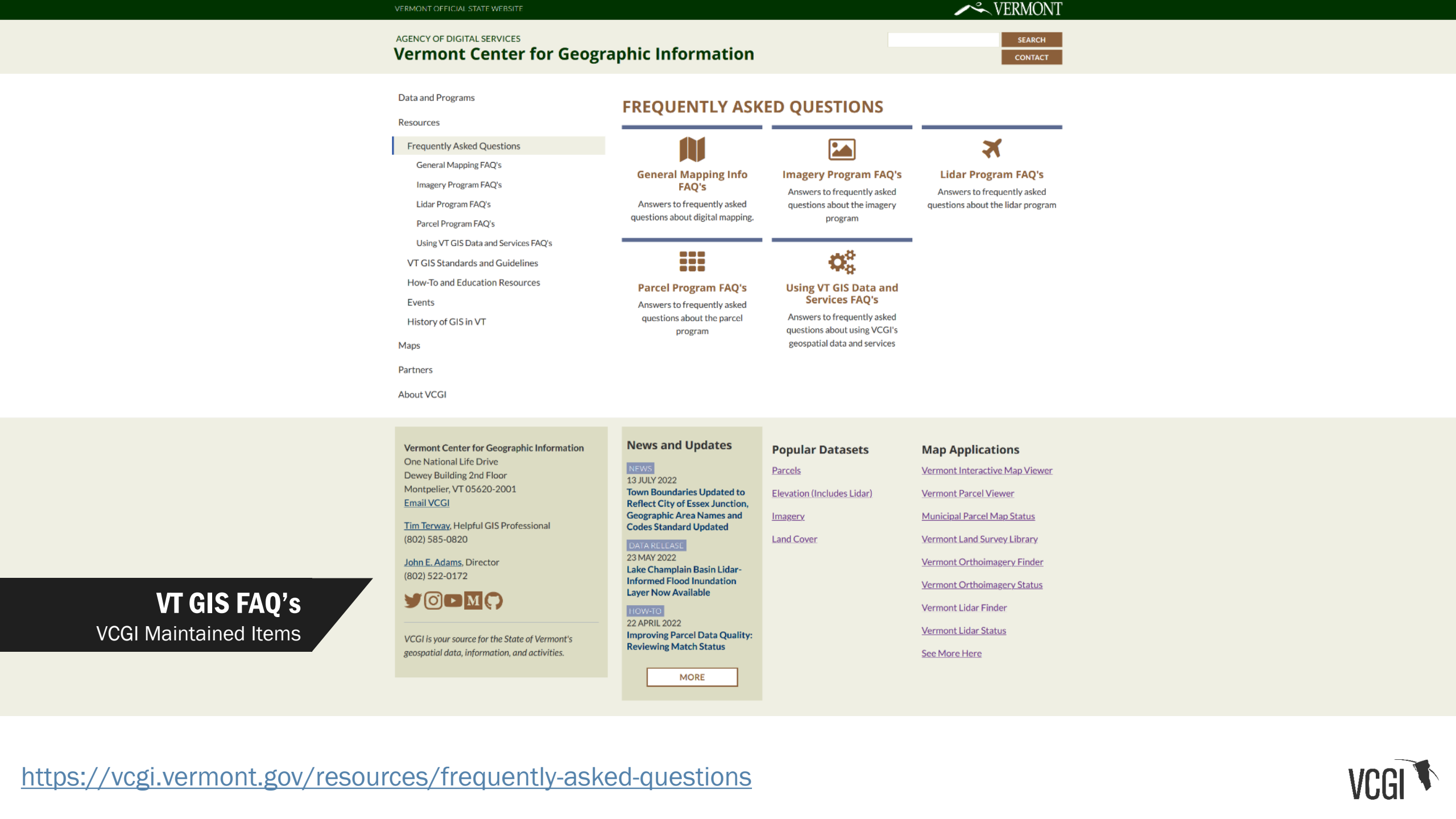
- VT Division of Historic Preservation Online Research Center - Though this doesn't include GIS data, it does include digital documents that often have geospatial reference info
- VT State Archives and Records Administration
  - Maps and Lotting Plans
- University of VT Map Room
- Middlebury College Historic Map Collection
- VT Historical Society
- USGS Historic Topo Maps
- University of New Hampshire - Historic USGS Maps of New England & NY
- Hipkiss' Scanned Old Maps Note: You may need to manually enter https:// instead of http:// as a prefix to these pages to view.
- The David Rumsey Collection of Scanned Maps
- The Perry-Castaneda Library
- The New York Public Library
- The Library of Congress
- The UVM Special Collections Center for Digital Initiatives online collection includes some scanned maps.
- The Vermont Society of Land Surveyors has scanned thousands of surveys from around Vermont. They are not indexed or available online, but you can check whether they have surveys by a particular surveyor if you have a name.
- Norman B. Leventhal Map & Education Center at the Boston Public Library

Finding Historical Maps

Resources Elsewhere

https://vcgi.vermont.gov/maps/historic-maps

VCGI



VT GIS FAQ's

VCGI Maintained Items

https://vcgi.vermont.gov/resources/frequently-asked-questions

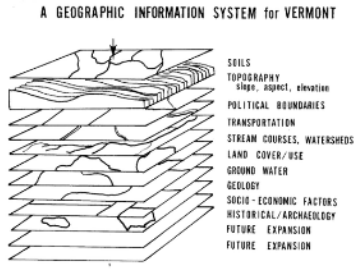
VCGI

Data and Programs
Resources
Frequently Asked Questions
VT GIS Standards and Guidelines
How-To and Education Resources
Events
History of GIS in VT
Maps
Partners
About VCGI

HOW-TO AND EDUCATION RESOURCES

The pace of change in geographic information system (GIS) technology and applications is often difficult to keep up with. The resources linked below are good starting points for learning more about GIS, whether you are an absolute beginner or an advanced user with specific questions.

Training and Support



GIS Concepts and Practices

List of GIS software

Basic Comparison of GIS Software

Introduction to GIS (from QGIS) *Excellent overview for those just starting to understand GIS.

Introduction to GIS Fundamentals *Similarly excellent overview for newcomers, this time in slide deck, day-long workshop format.

How to Learn GIS resources from GIS Lounge

QGIS Tutorials and Tips

GIS @ Tuft's Tutorials (comprehensive)

GIS Manual (Paul Cote, comprehensive)

GIS&T Body of Knowledge - University Consortium for Geographic Information Science (comprehensive overview of GIS-related concepts)

ESRI Map Book Library *Excellent resource for inspirational examples of different mapping techniques and mappable content.

Common Design & Engineering Operations (including GIS to CAD conversion of contour data in QGIS and older Arc platforms PDF)

Geospatial and Statistical Data Resources (Harvard GSD) *Includes links to free GIS resources, common operations

Software & Platform Focused

ESRI (ArcGIS) Training Offerings

QGIS Training Directory

QGIS Training Manual

QGIS 3 for Absolute Beginners *Video link, ideal companion to Introduction to QGIS resources linked above.

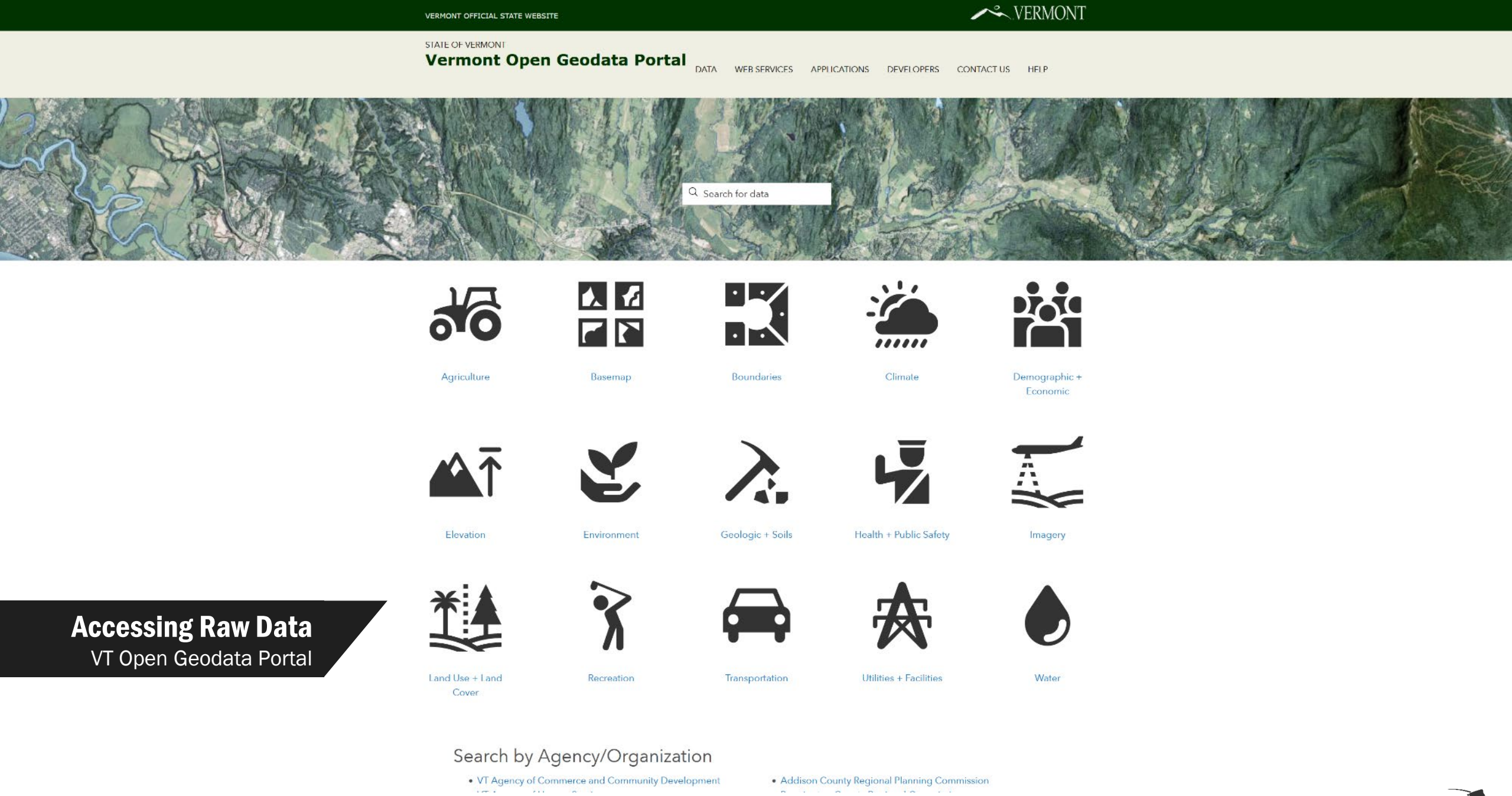
OGC Geopackage Documentation *A potential successor to the shapefile

How to Export SHP to CAD Without Losing Elevation Value Using QGIS *Useful for working with elevation data such as 1' contours

Learning GIS
Resources Elsewhere

https://vcgi.vermont.gov/resources/how-and-education-resources

VCGI



Accessing Raw Data

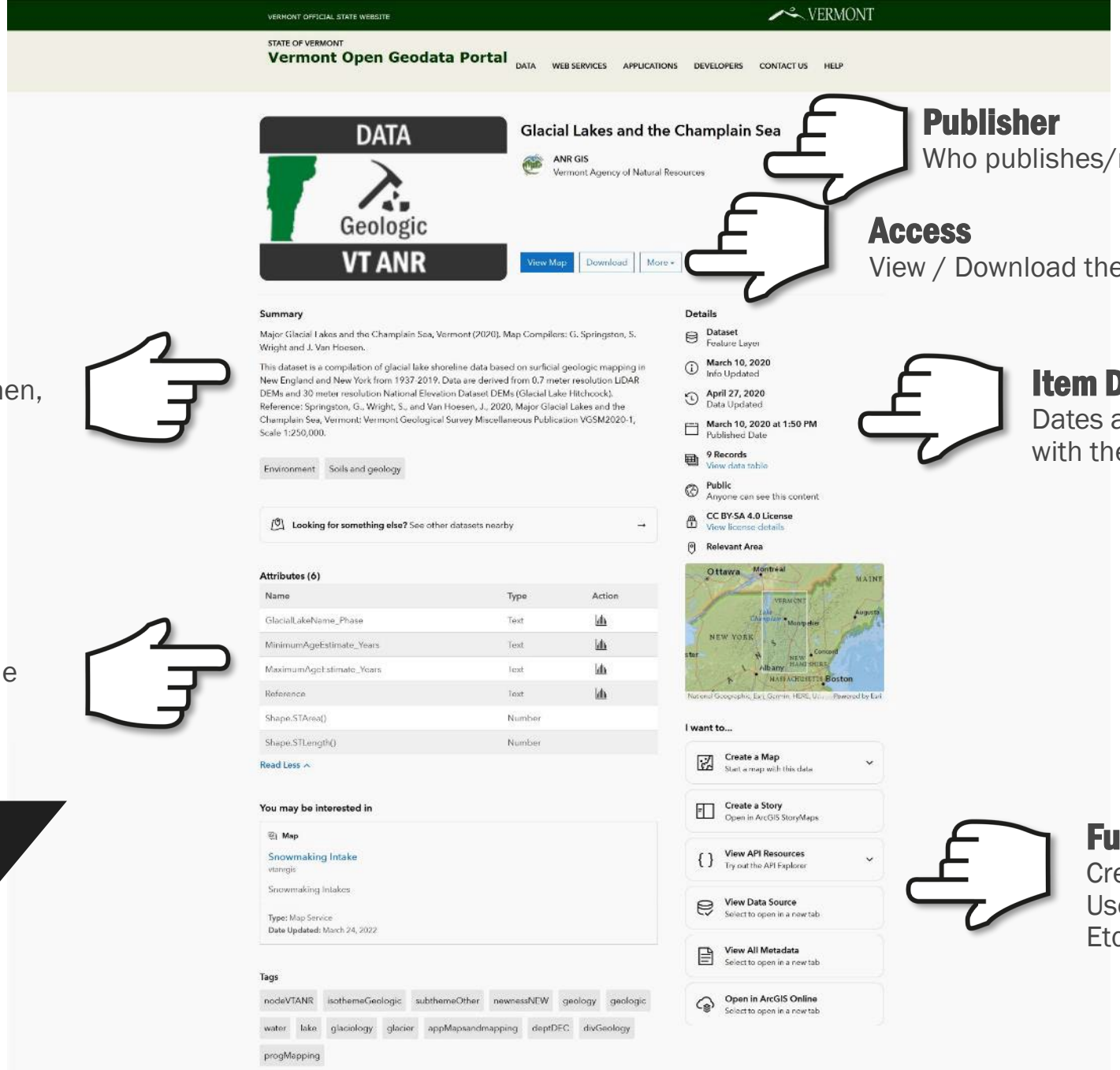
VT Open Geodata Portal

https://geodata.vermont.gov/

VCGI

Accessing Raw Data

VT Open Geodata Portal



Publisher
Who publishes/maintains the item

Access
View / Download the GIS item

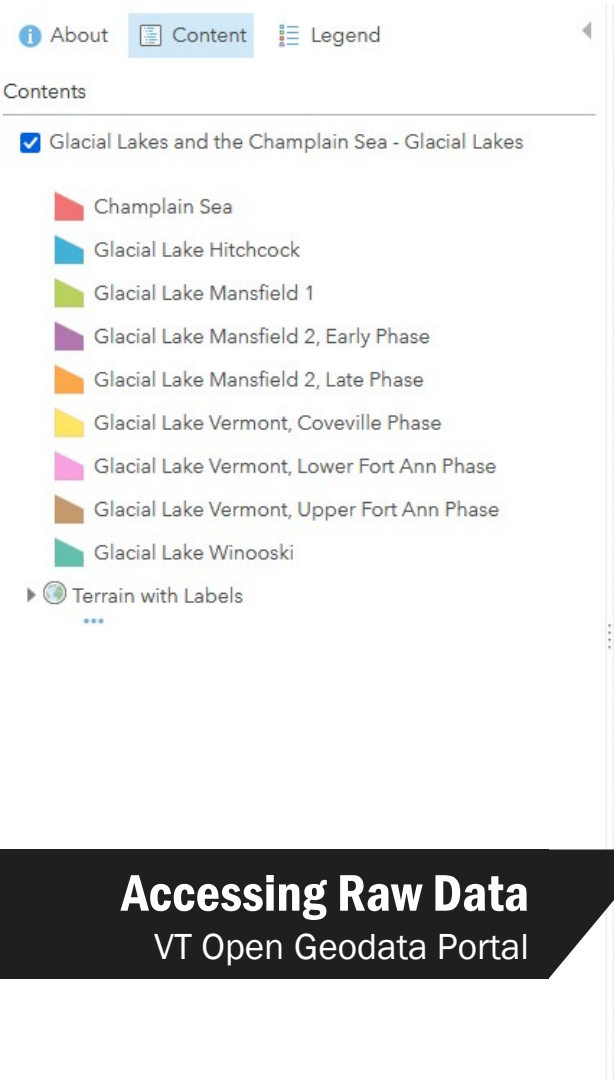
Item Description
The “what, who, how, when, why” information.

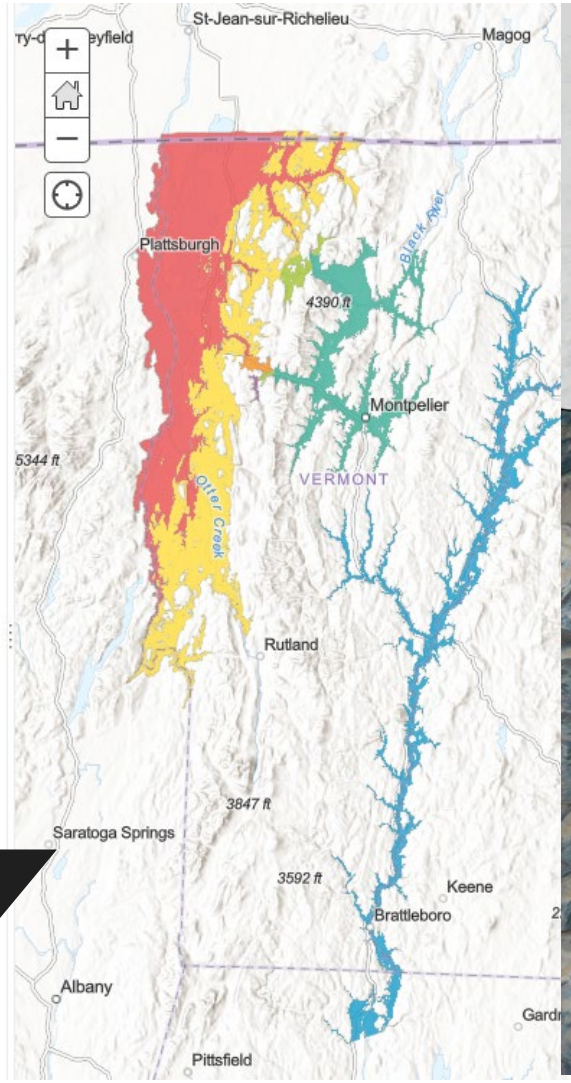
Item Details
Dates and details associated with the item

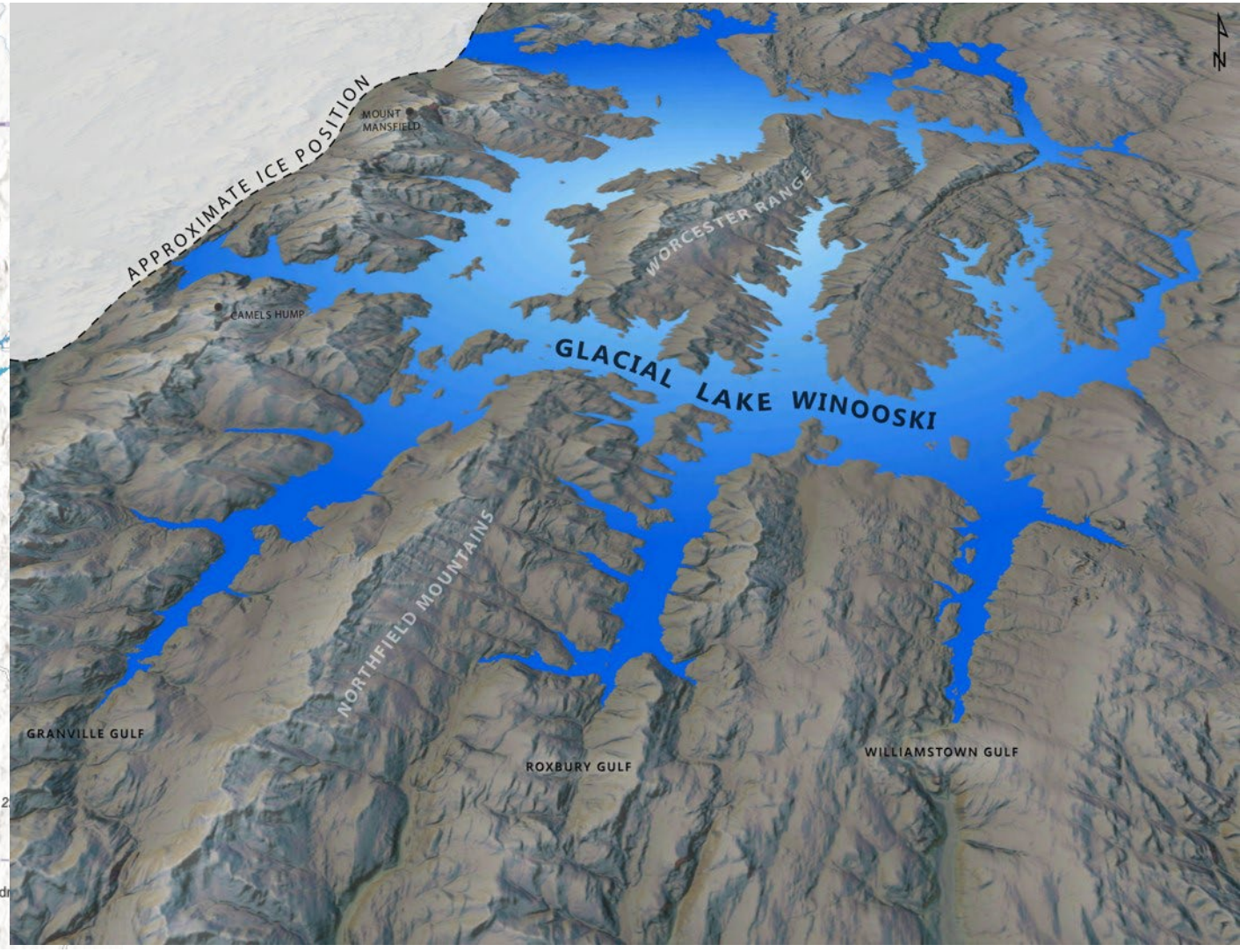
Table Preview
Fields and type within the dataset.

Further Uses
Create ArcGIS Online map,
Use the API, service, metadata,
Etc.

https://geodata.vermont.gov/datasets/VTANR::glacial-lakes-and-the-champlain-sea/about







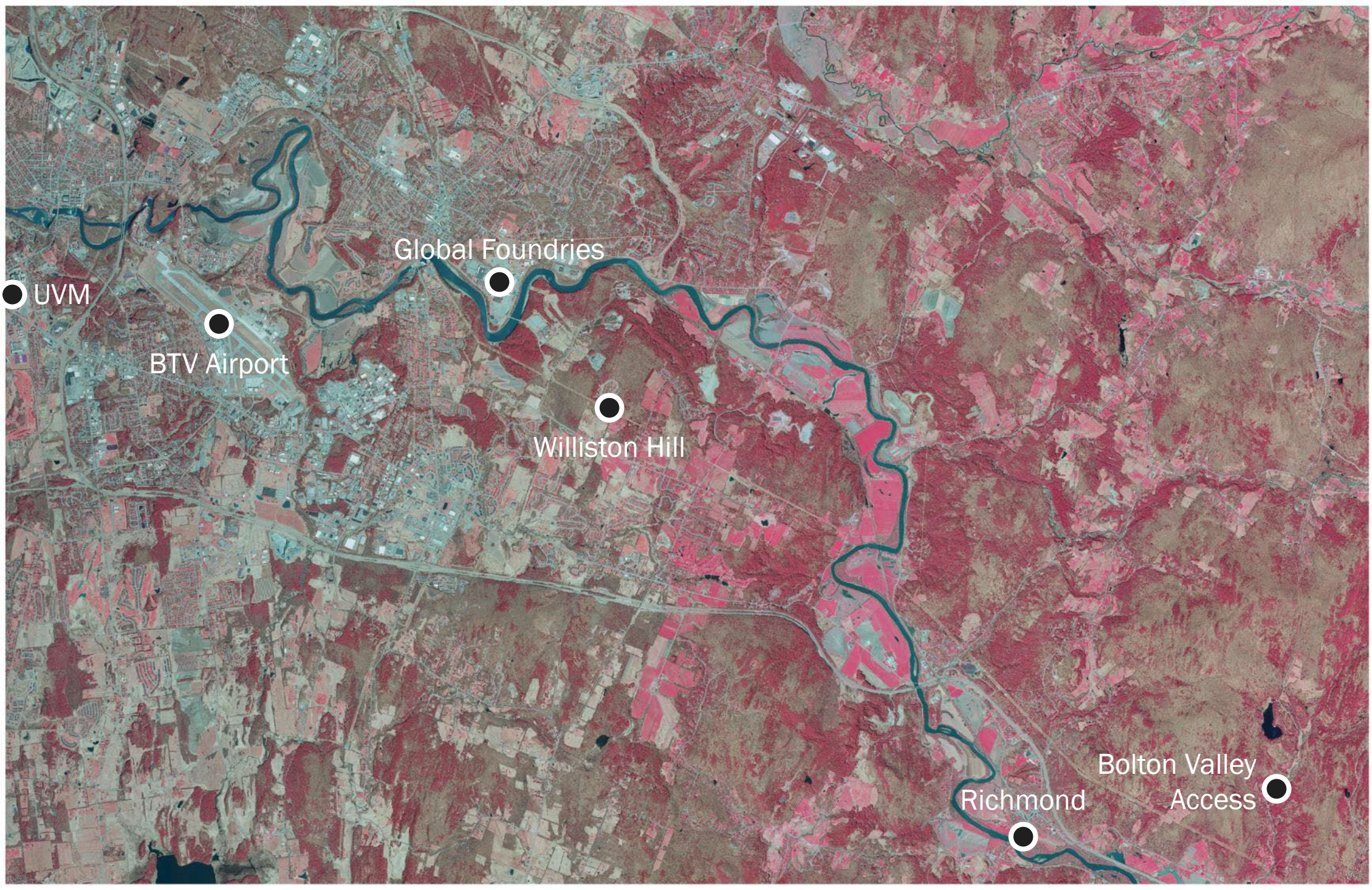
Accessing Raw Data

VT Open Geodata Portal

IMAGE: COLIN DOWEY, ANR

https://geodata.vermont.gov/datasets/VTANR::glacial-lakes-and-the-champlain-sea/about

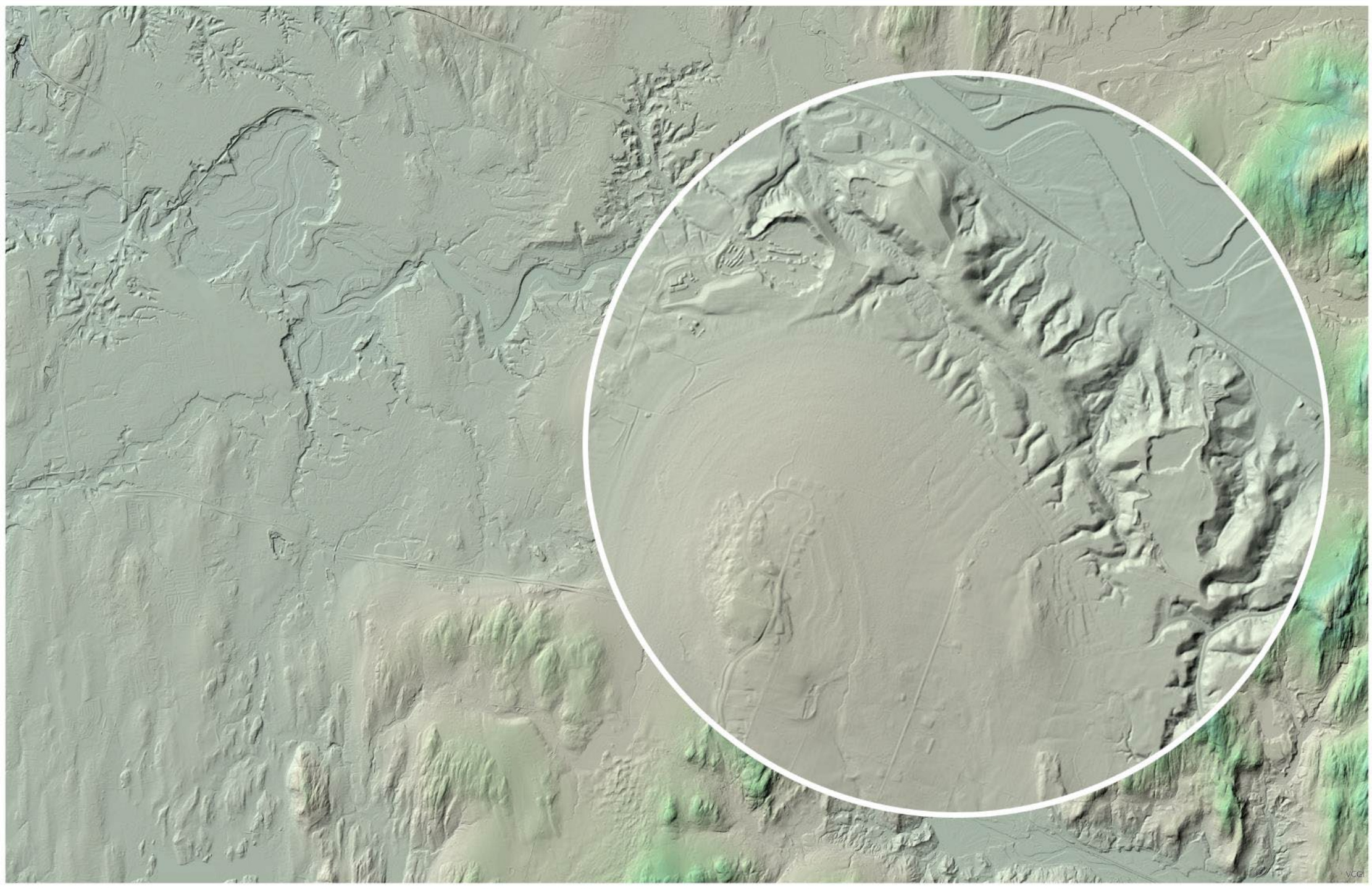
VCGI



GEOLOGY:
Glacial Lakes
And the
Champlain
Sea

CIR Imagery

VCGI



GEOLOGY:
Glacial Lakes
And the
Champlain
Sea

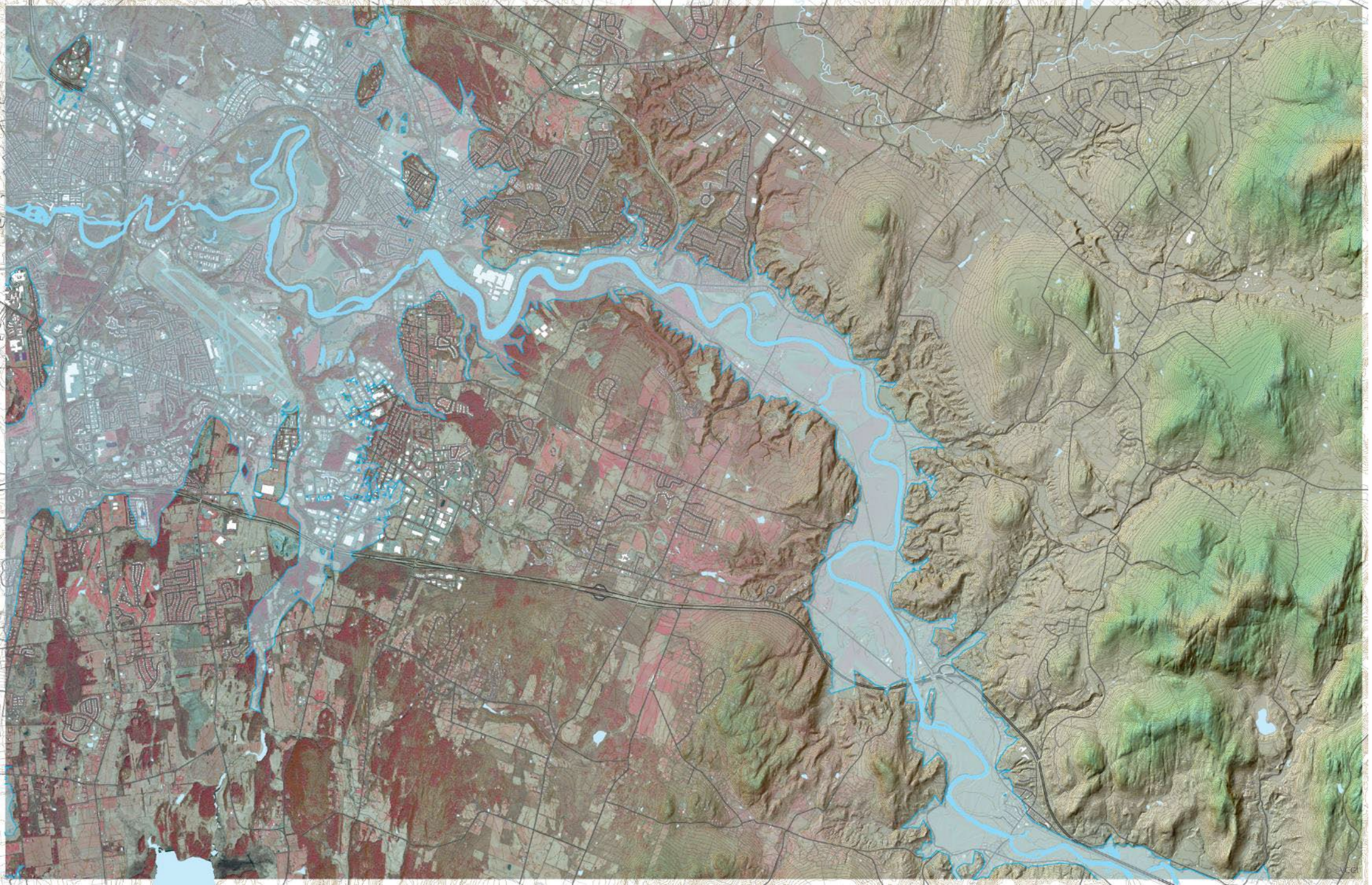
DEM - Shaded
Relief; Detail

VCGI

GEOLOGY:
Glacial Lakes
And the
Champlain
Sea

CIR + DEM +
Hydro + Contours
+ Infrastructure

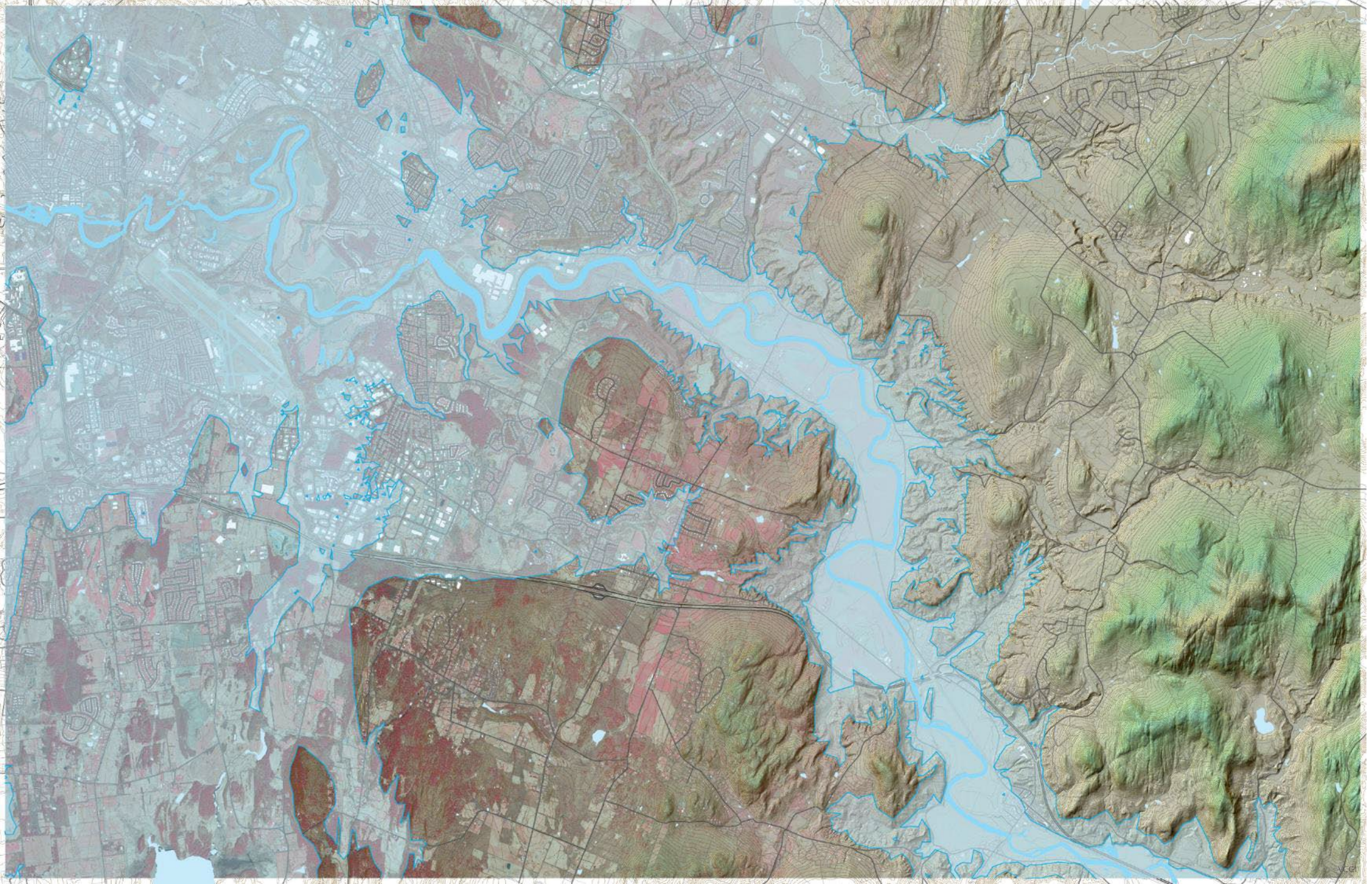
VCGI



GEOLOGY:
Glacial Lakes
And the
Champlain
Sea

Former Extent
Champlain Sea

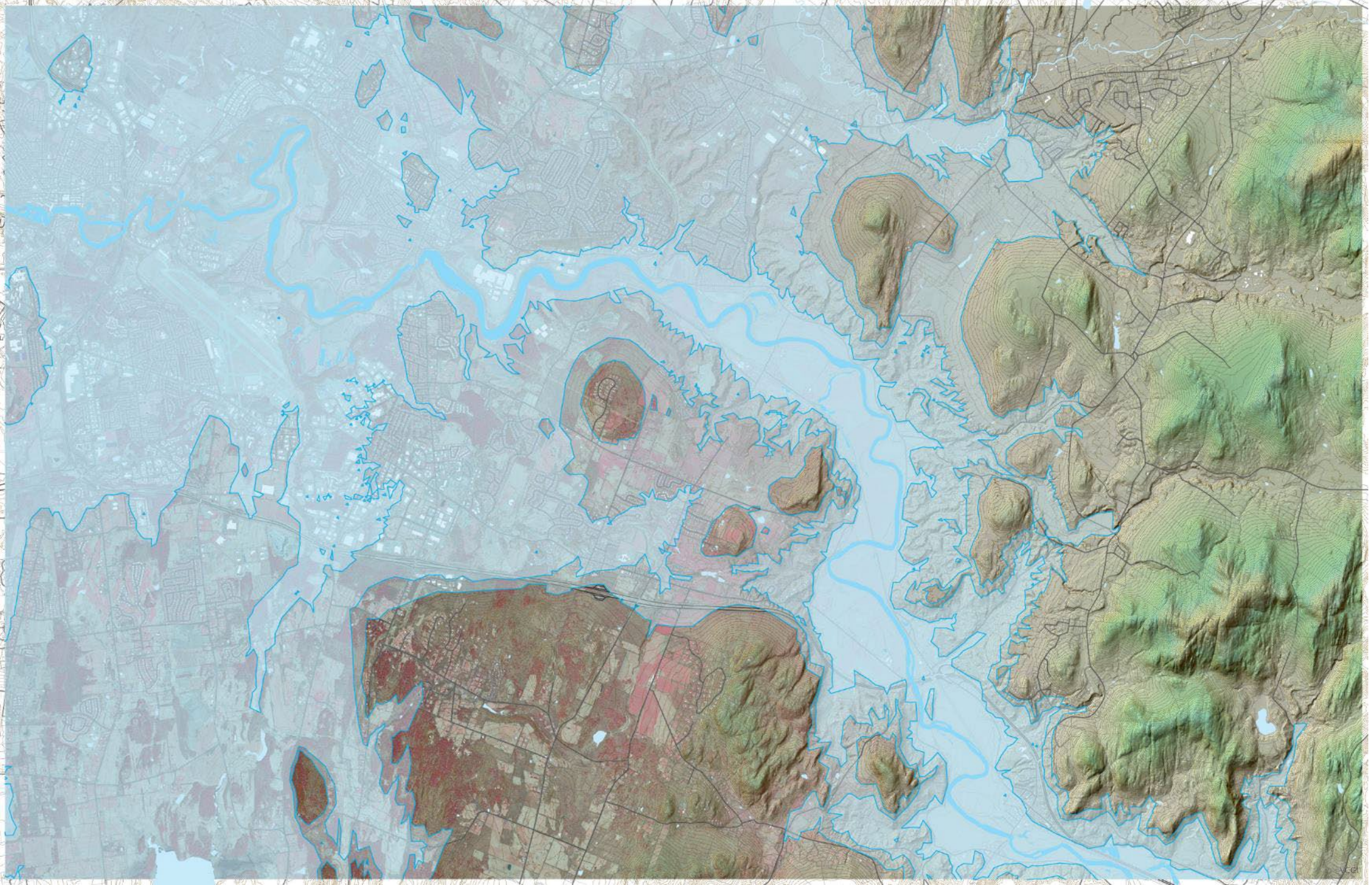
VCGI



GEOLOGY:
Glacial Lakes
And the
Champlain
Sea

Former Extent
Lower Fort Ann

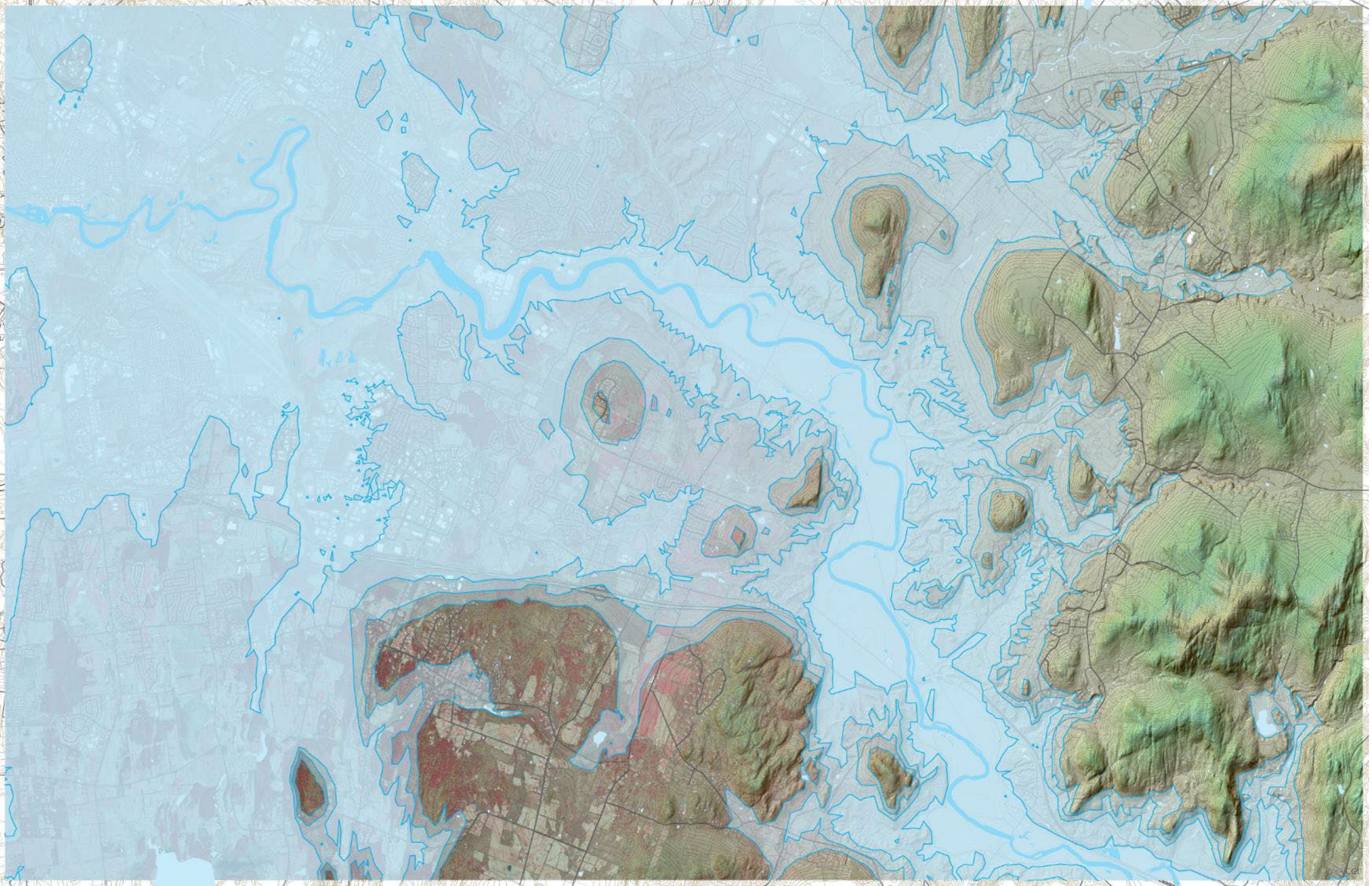
VCGI



GEOLOGY:
Glacial Lakes
And the
Champlain
Sea

Former Extent
Upper Fort Ann

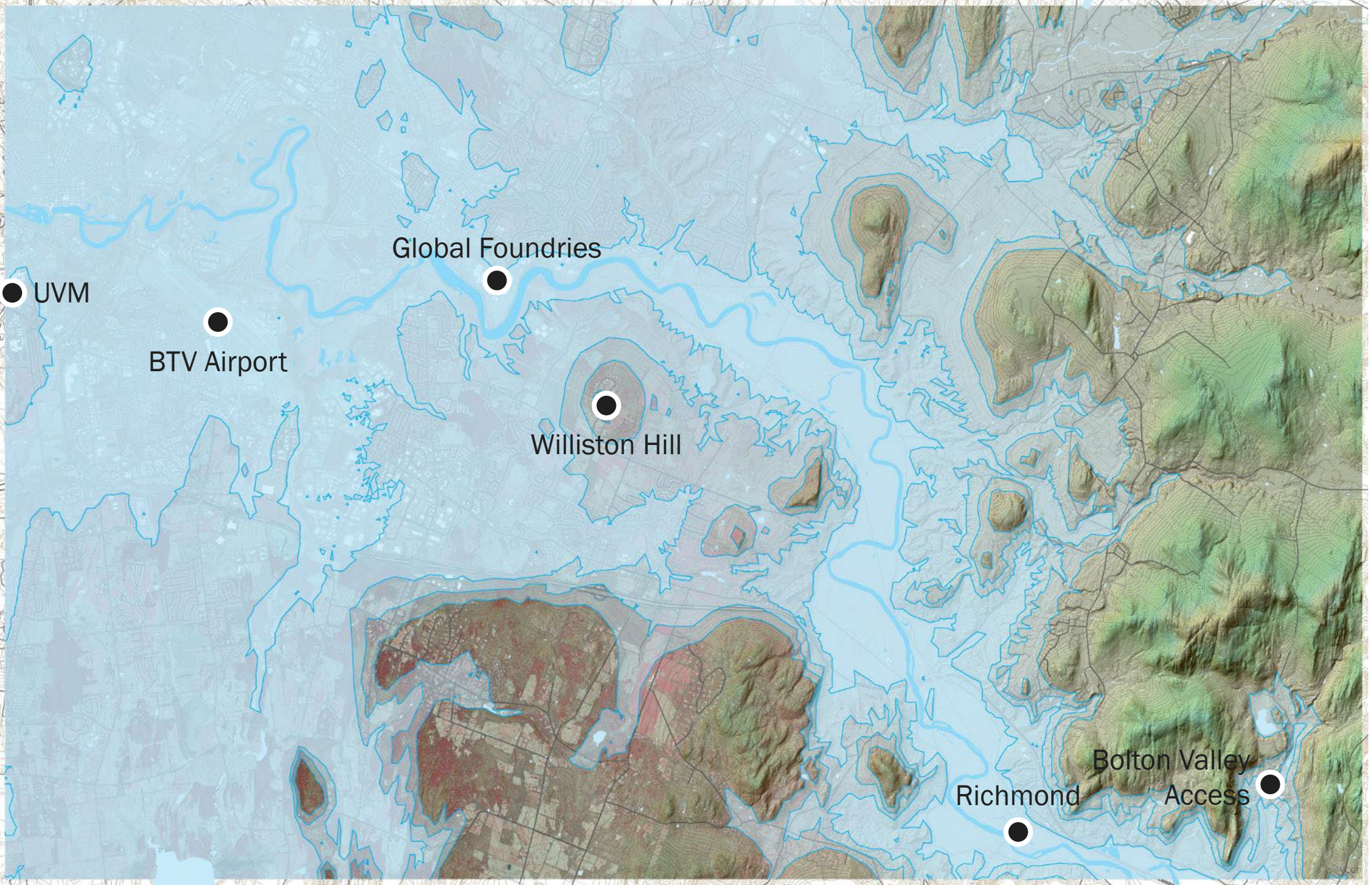
VCGI



GEOLOGY:
Glacial Lakes
And the
Champlain
Sea

Former Extent
Lake Coveville

VCGI

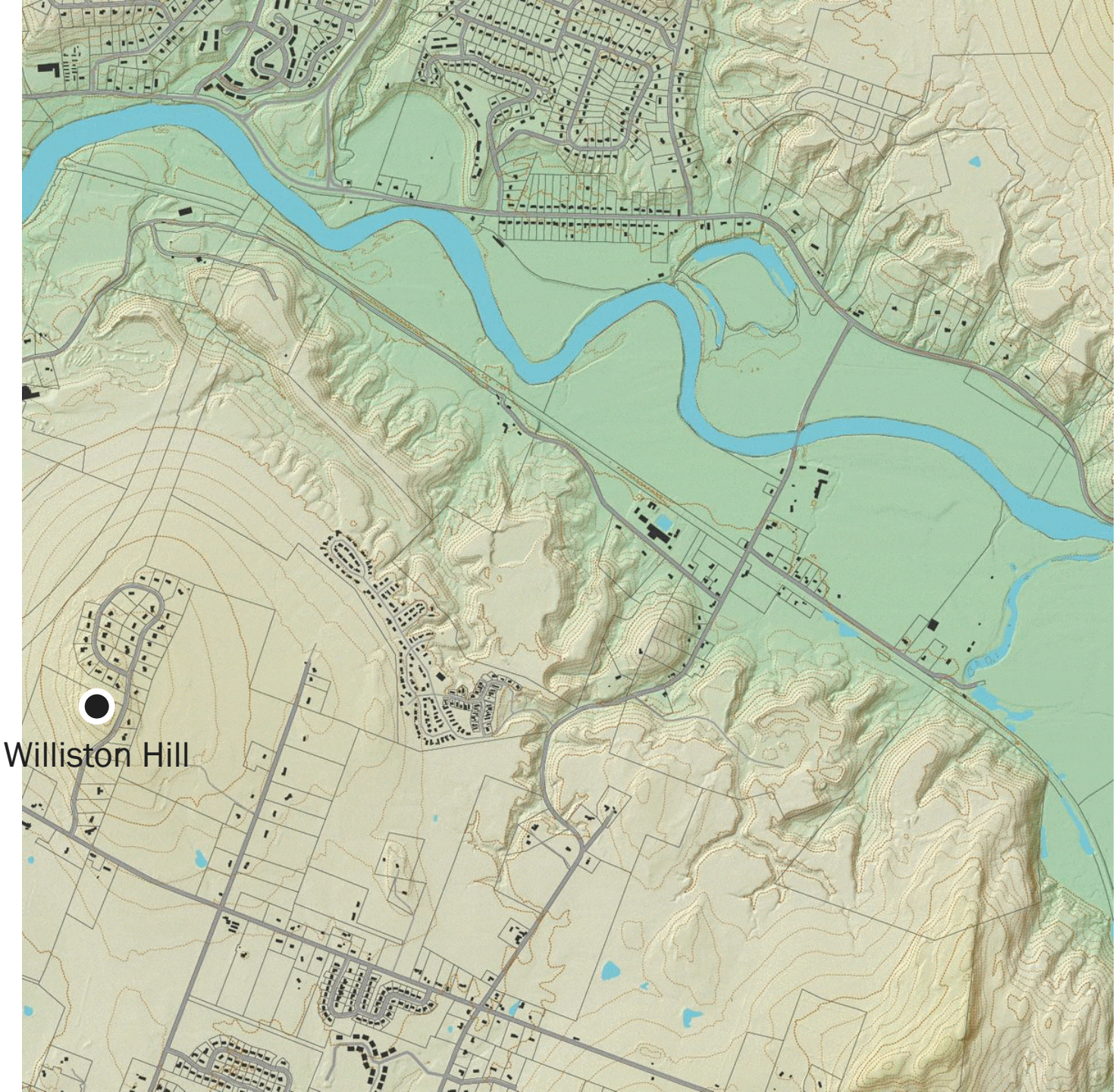


GEOLOGY:
Glacial Lakes
And the
Champlain
Sea

Former Extent
Lake Coveville

VCGI

GEOLOGY:
Glacial Lakes
And the
Champlain
Sea



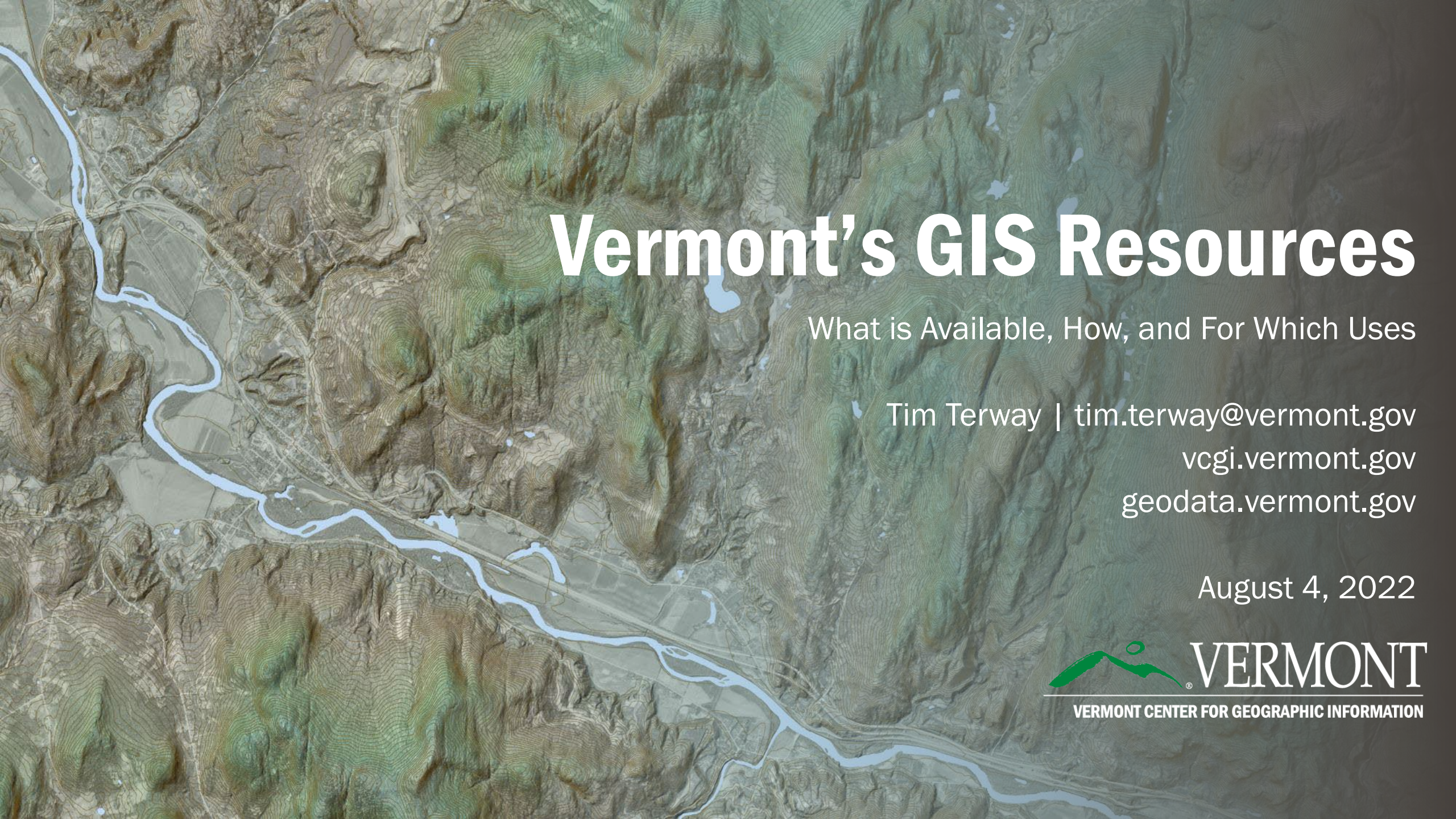
Champlain Sea
through
Lake Coveville

VCGI

Some Linked Resources

- Vermont Lidar Program
- Lidar FAQ's
- VT Interactive Map Viewer
- ANR Natural Resources Atlas
- Beneath the Trees App
- What's My Elevation App
- VT Open Geodata Portal Elevation Page (Raw Data Access)
- VT Lidar Status App
- VT Lidar Finder App
- VCGI News and Announcements (e.g., new data release notice)
- Learning Resources (for going further on your own)

Elevation | Imagery | Parcels



Vermont's GIS Resources

What is Available, How, and For Which Uses

Tim Terway | tim.terway@vermont.gov

vcgi.vermont.gov

geodata.vermont.gov

August 4, 2022

VERMONT

VERMONT CENTER FOR GEOGRAPHIC INFORMATION