

Vermont's Geographic Information System

John E. Adams AICP
House Committee on Energy and Technology
February 12, 2020

24 V.S.A. § 4306 Municipal and Regional Planning Fund

(2)The Fund shall be composed of 17 percent of the revenue from the property transfer tax... (3)(A) 10 percent shall be disbursed to the Vermont Center for Geographic Information;

| Prop Transfer Tax - FY19 - FY21 | FY 2019 As Passed | FY 2020 BAA | FY2020 BAA (as amended by FY2021 budget) | FY 2021 Gov Rec |
|---|-------------------|-------------------|--|-------------------|
| Property Transfer Tax (PTT) revenue estimate | 44,400,000 | 45,580,000 | 45,100,000 | 48,200,000 |
| VHCB Transfer (Housing Bond Debt Service - 32 V.S.A. § 9610(d)(1)) | 2,500,000 | 2,500,000 | 2,500,000 | 2,500,000 |
| 2% to Tax ((32 V.S.A. § 9610(c)) | 838,000 | 861,600 | 852,000 | 914,000 |
| Remainder for distribution | 41,062,000 | 42,218,400 | 41,748,000 | 44,786,000 |
| 33% to GF (32 VSA Sec 435(b)(10)) | 13,550,460 | 13,932,072 | 13,776,840 | 14,779,380 |
| 50% to Housing & Conservation Trust (10 VSA Sec 312) | 9,804,840 | 10,804,840 | 10,804,840 | 10,804,840 |
| 17% to Municipal & Regional Planning Fund ((24 V.S.A. § 4306(a)(2)) | 3,760,599 | 3,760,599 | 3,760,599 | 3,760,599 |
| 70% of MRPF to Regional Planning Commissions (24 V.S.A. § 4306(a)(3)(b)) | 2,924,417 | 2,924,417 | 2,924,417 | 2,924,417 |
| 20% of MRPF to Municipal Planning Commissions (24 V.S.A. § 4306(a)(3)(c)) | 457,482 | 457,482 | 457,482 | 457,482 |
| 10% of MRPF to Geographic Information Service (24 V.S.A. § 4306(a)(3)(a)) | 378,700 | 378,700 | 378,700 | 378,700 |
| Transfer of PTT Surcharge from HCTF | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 |
| Transfer from PVR Special Fund to GF per session law | 320,000 | 343,600 | 334,000 | 396,000 |
| Additional Direct Application to the General Fund | 15,266,101 | 15,064,489 | 14,739,721 | 16,837,181 |
| Total to General Fund | 28,816,561 | 28,996,561 | 28,516,561 | 31,616,561 |

* The FY column totals are realized through notwithstanding language in the specific FY's appropriations Act and do not necessarily match the statutory language and posted percentages provided in the descriptions above.

WHAT VCGI DOES



BUILD

Foundational
Datasets
(Spatial Data
Infrastructure)



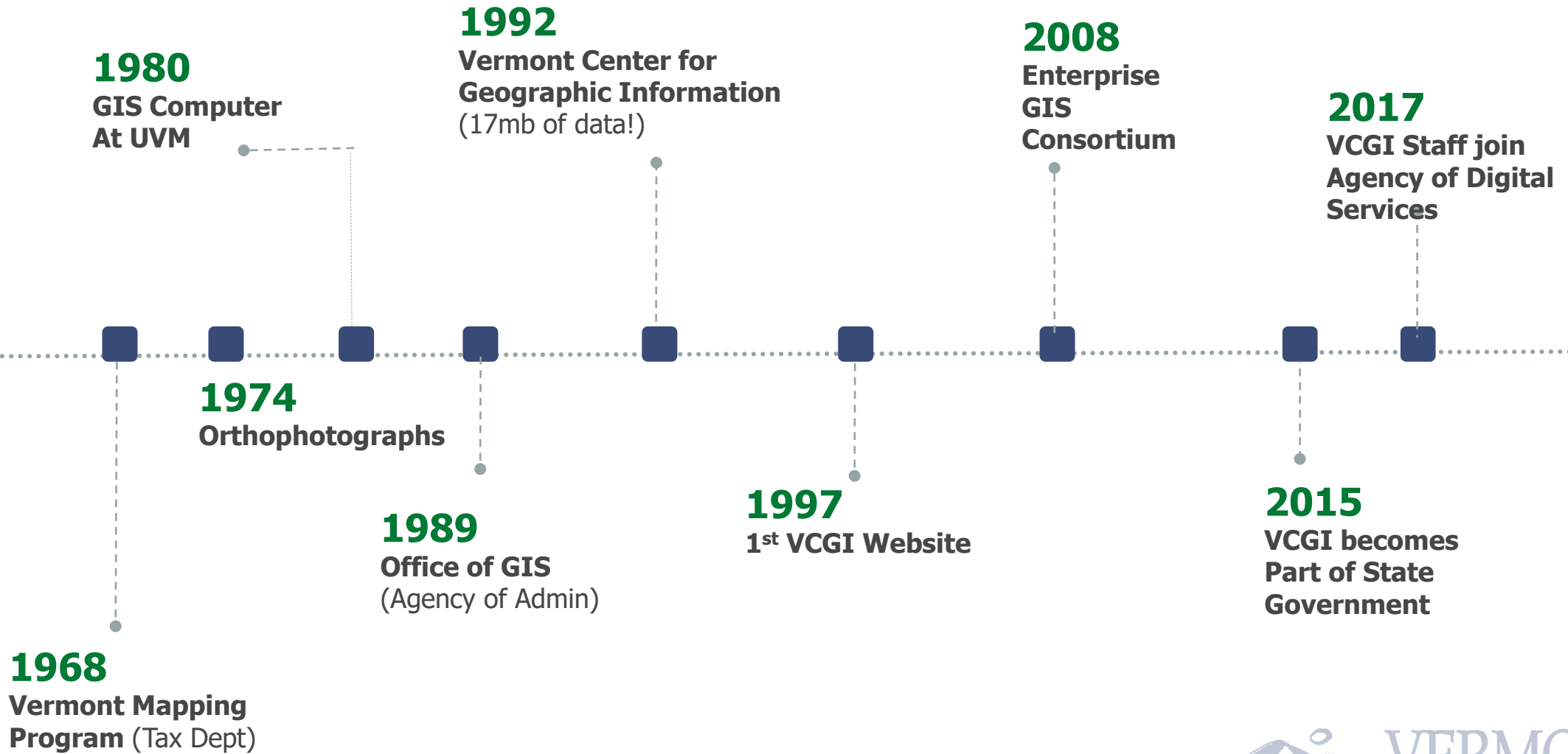
LEAD

Development and
use of Statewide
Geographic Information
System (GIS)

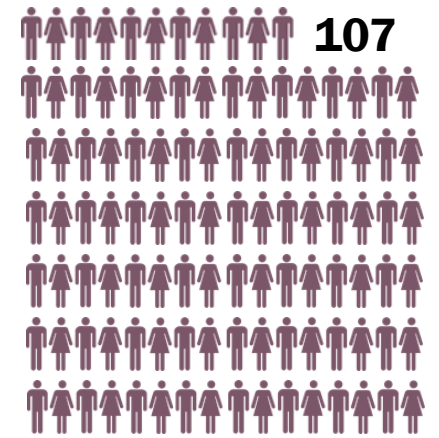


EMPOWER

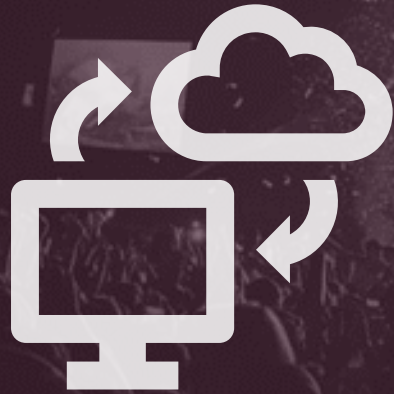
Data analysis,
visualization and
informed decision
making



1992

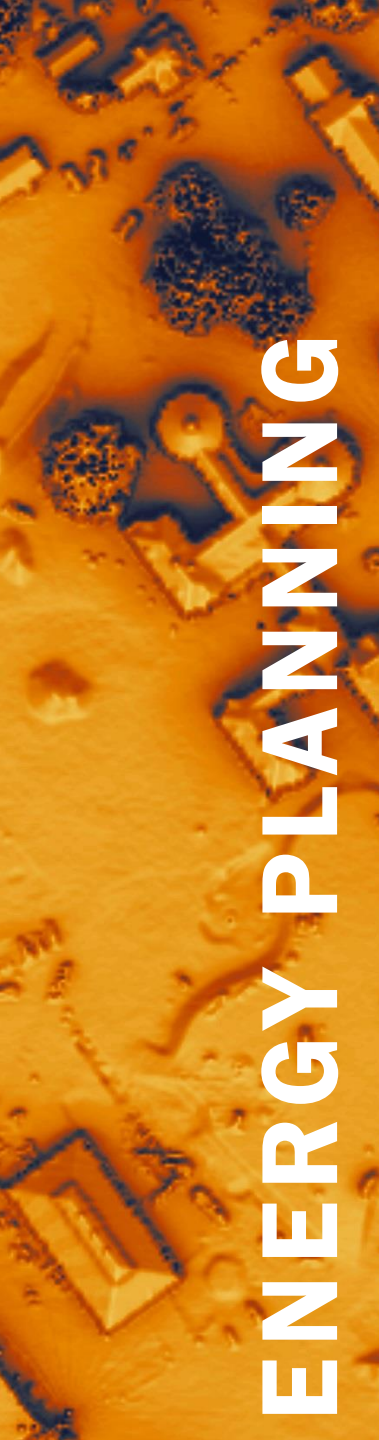


2020

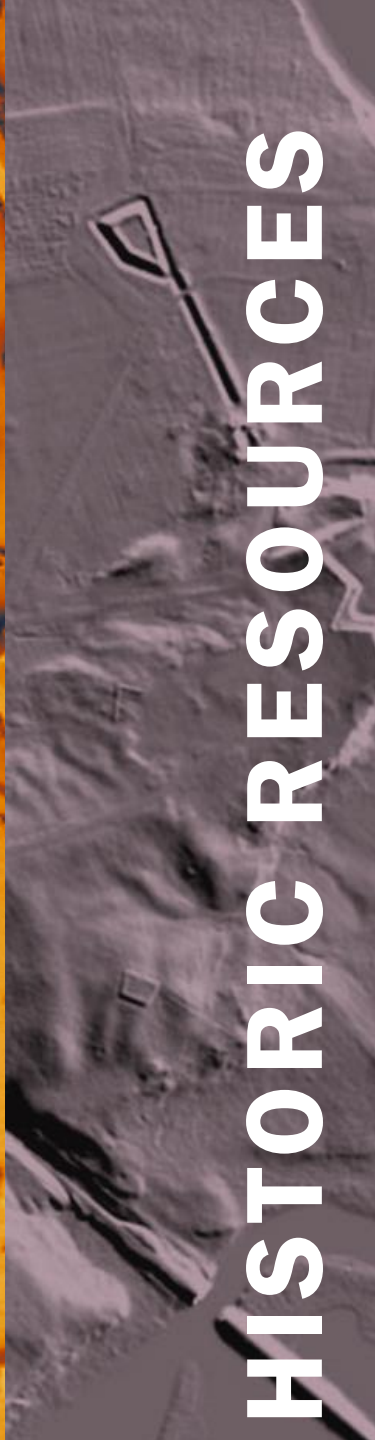


17
~~17~~
TB

80,000+
users



ENERGY PLANNING



HISTORIC RESOURCES



WATER QUALITY



SERVICE DISTRICTS



ASSET MANAGEMENT

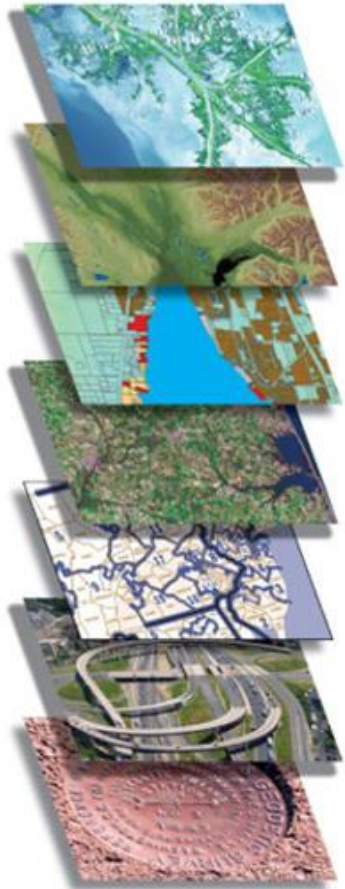


FISCAL IMPACT MODEL



DEVELOPMENT SUITABILITY

Spatial Data Infrastructure



Digital Orthoimagery

Elevation

Governmental Units

Cadastral (Parcels)

Land Cover

E911 Addresses (E911)

Transportation (VTrans)

Hydrography (ANR)

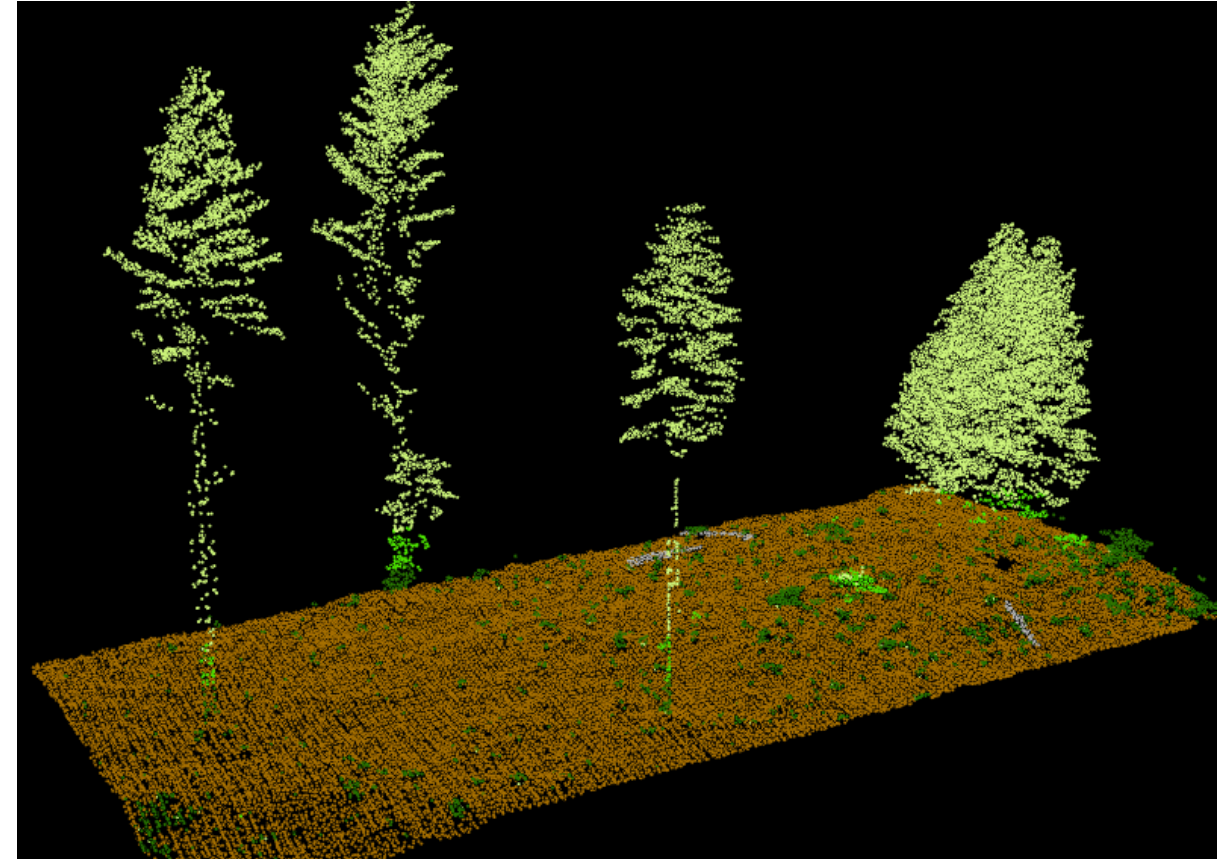
FGDC.GOV
FEDERAL GEOGRAPHIC DATA COMMITTEE



 **NSGIC**
National States Geographic Information Council

[See Geospatial Maturity Assessment Report Card](#)

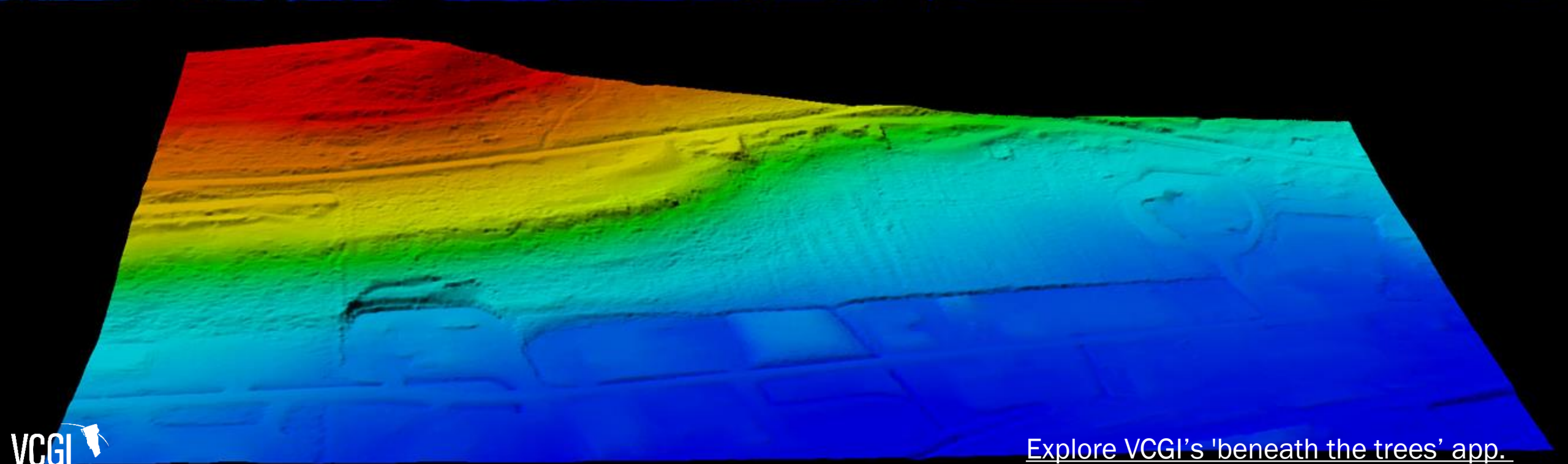
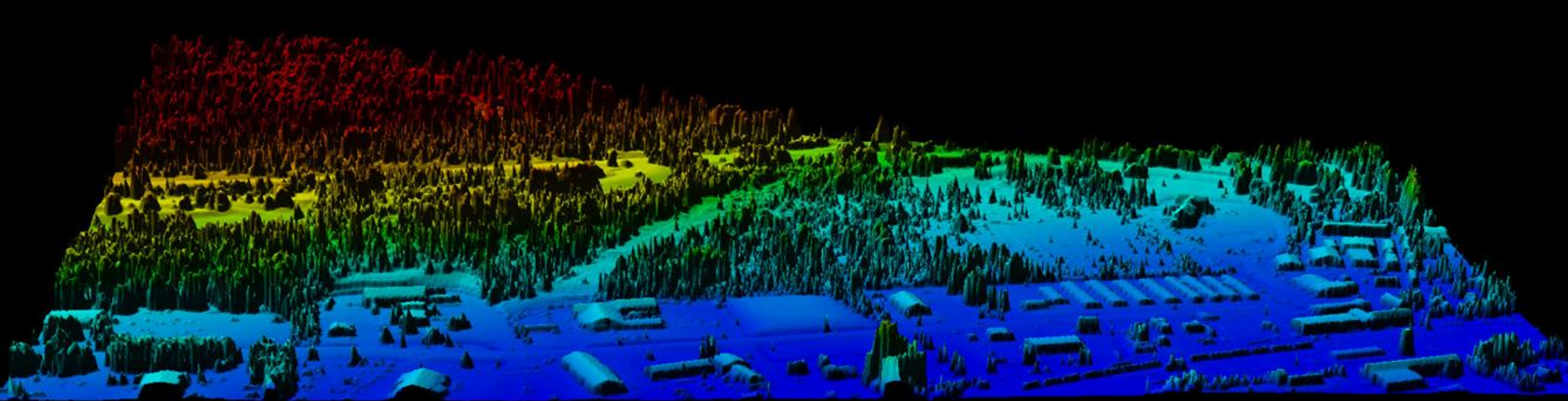
LIDAR: Light Detection And Ranging



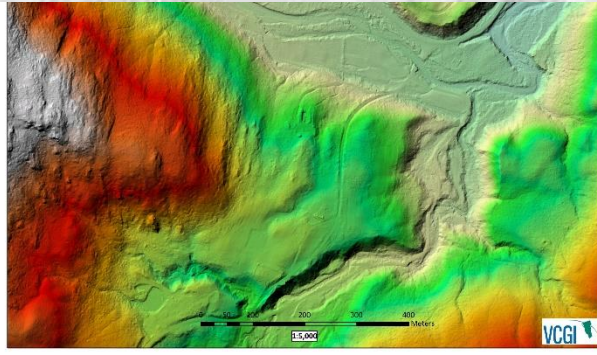
For more information on how lidar works, watch [this video](#) by the National Ecological Observatory Network.



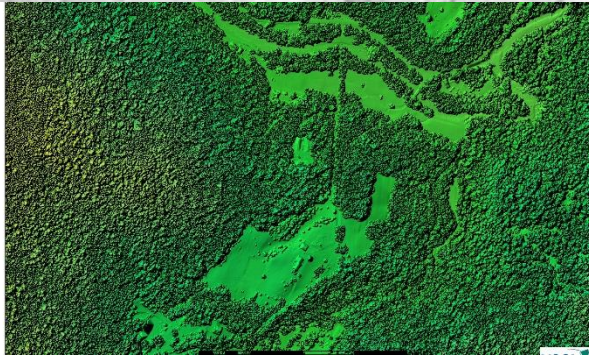
Point Clouds



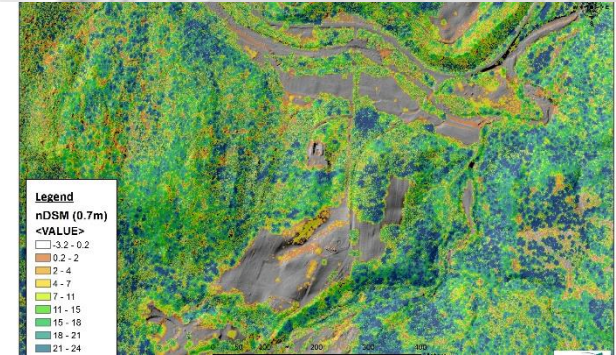
LIDAR DERIVATIVES



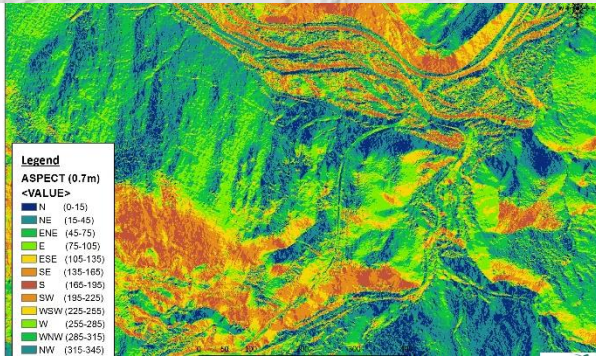
DIGITAL ELEVATION MODEL (DEM)



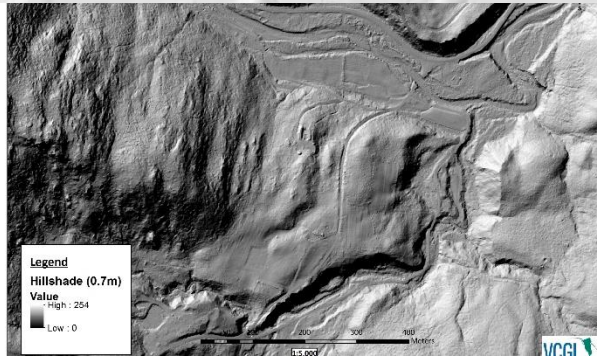
DIGITAL SURFACE MODEL (DSM)



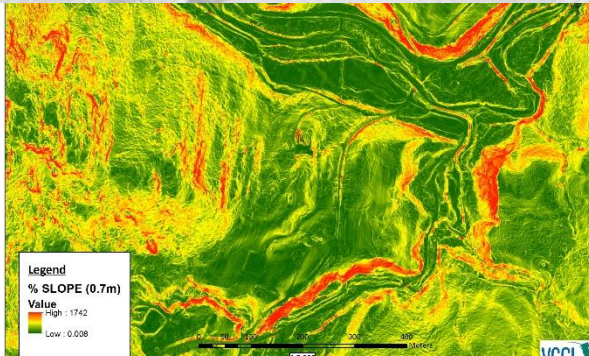
NORMALIZED DSM (nDSM)



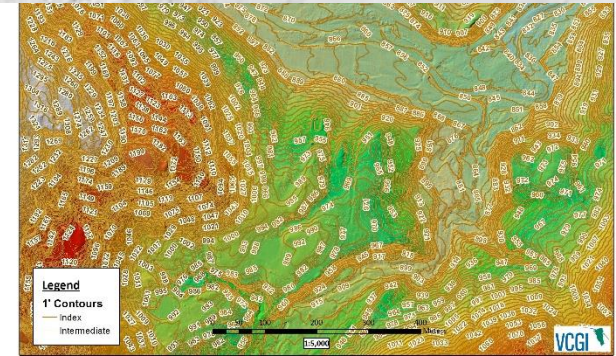
ASPECT (AZIMUTH)



“BARE EARTH” HILLSHADE



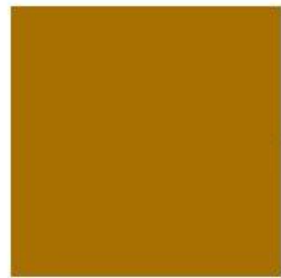
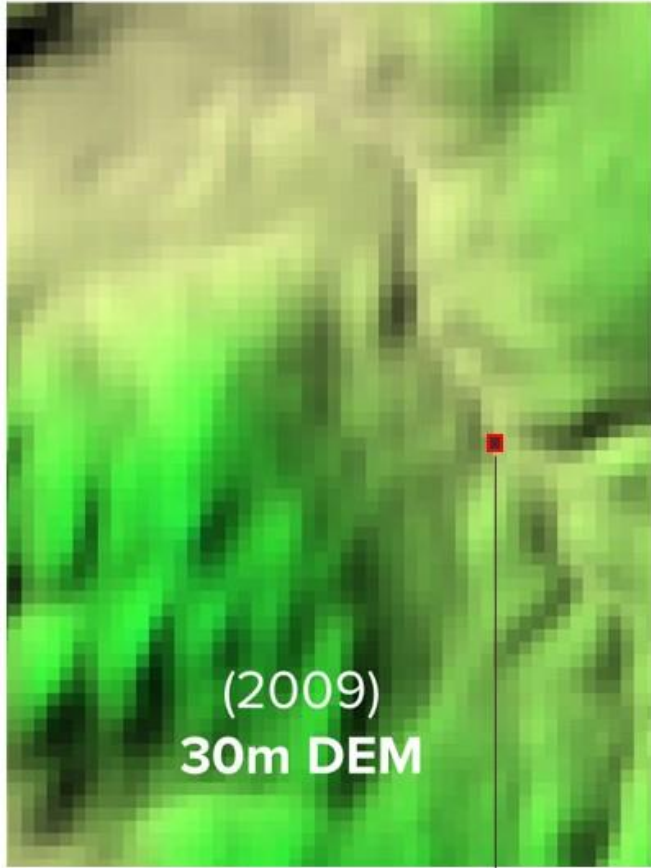
SLOPE



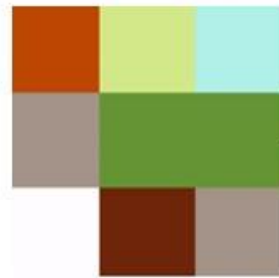
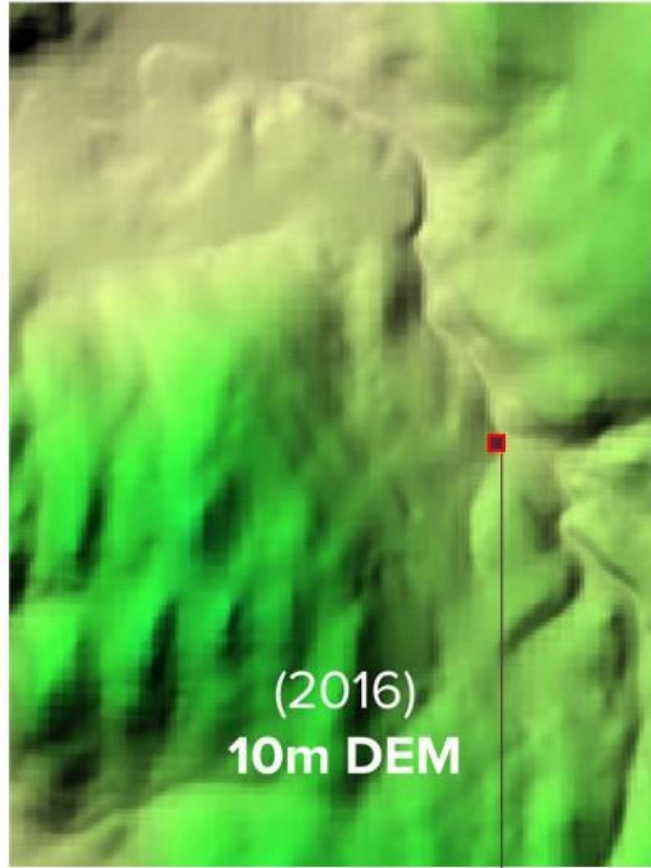
1 FOOT CONTOURS

National Elevation Dataset: Reported vertical accuracy= 8 ft.

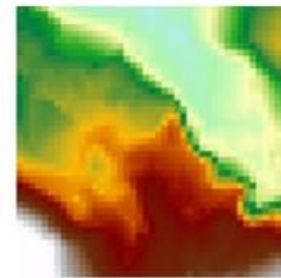
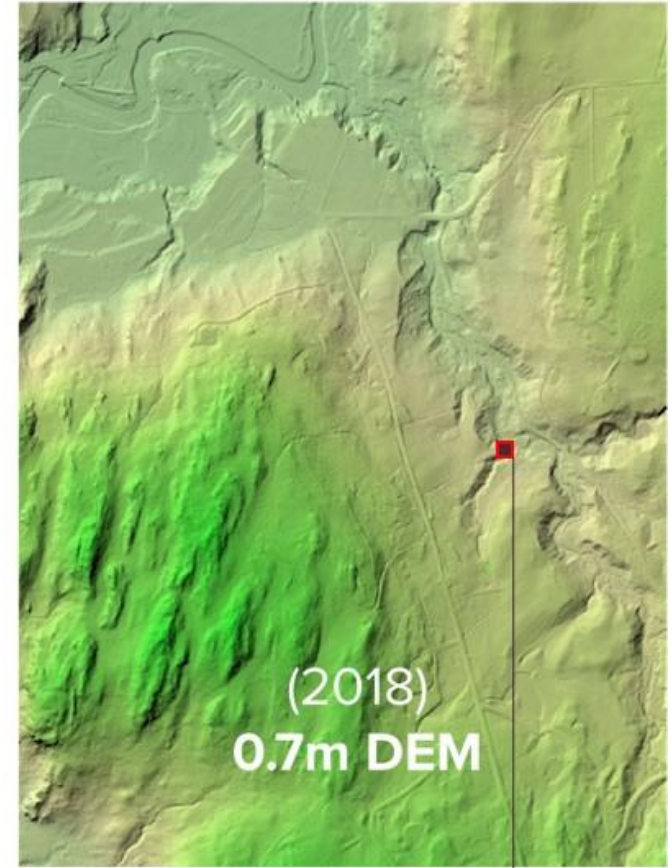
LIDAR: Vertical accuracy= 3.6 in.



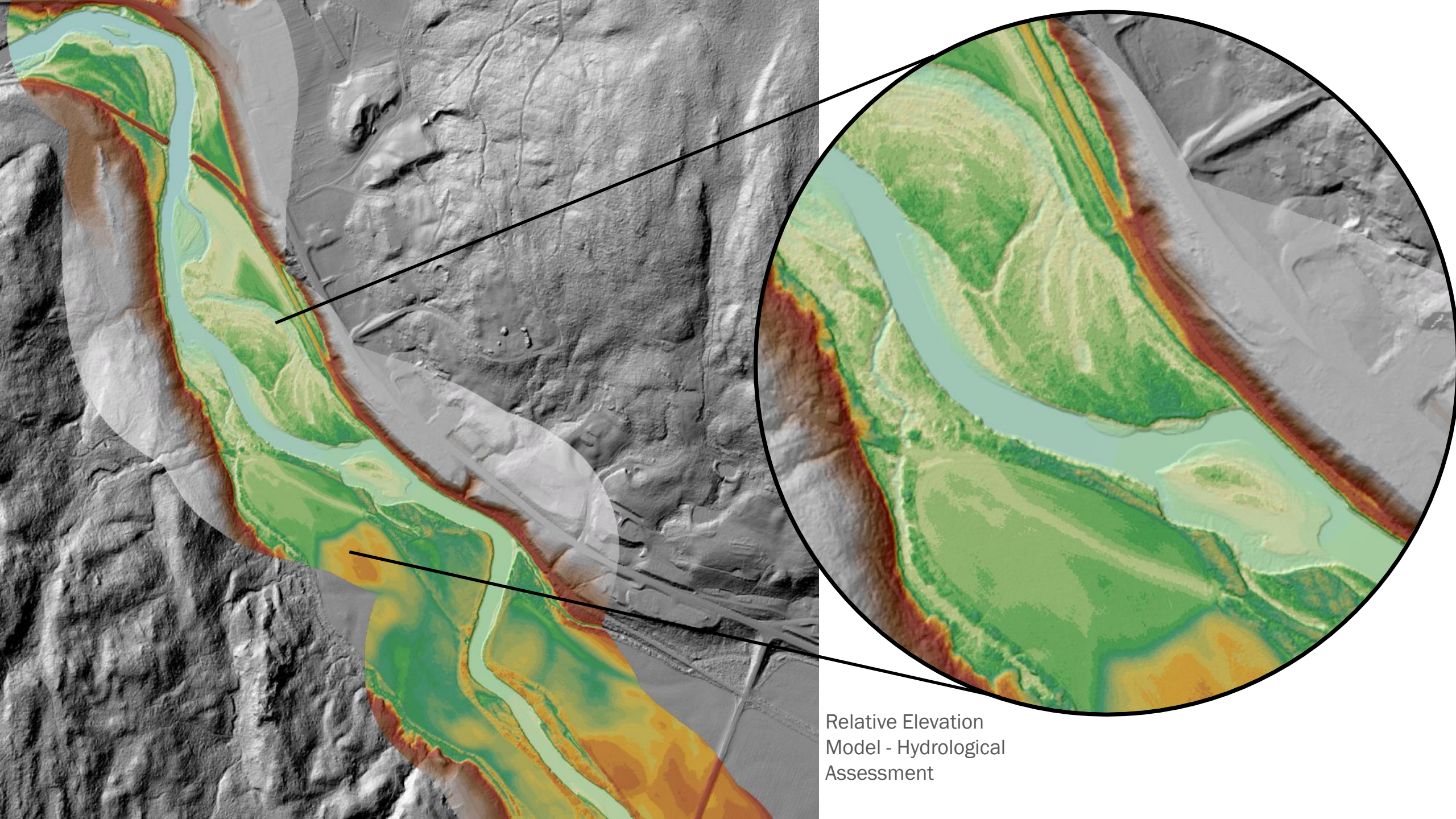
Cell size: 9688 sq ft



Cell size 1078 sq ft



Cell size 5.27 sq ft



Relative Elevation
Model - Hydrological
Assessment

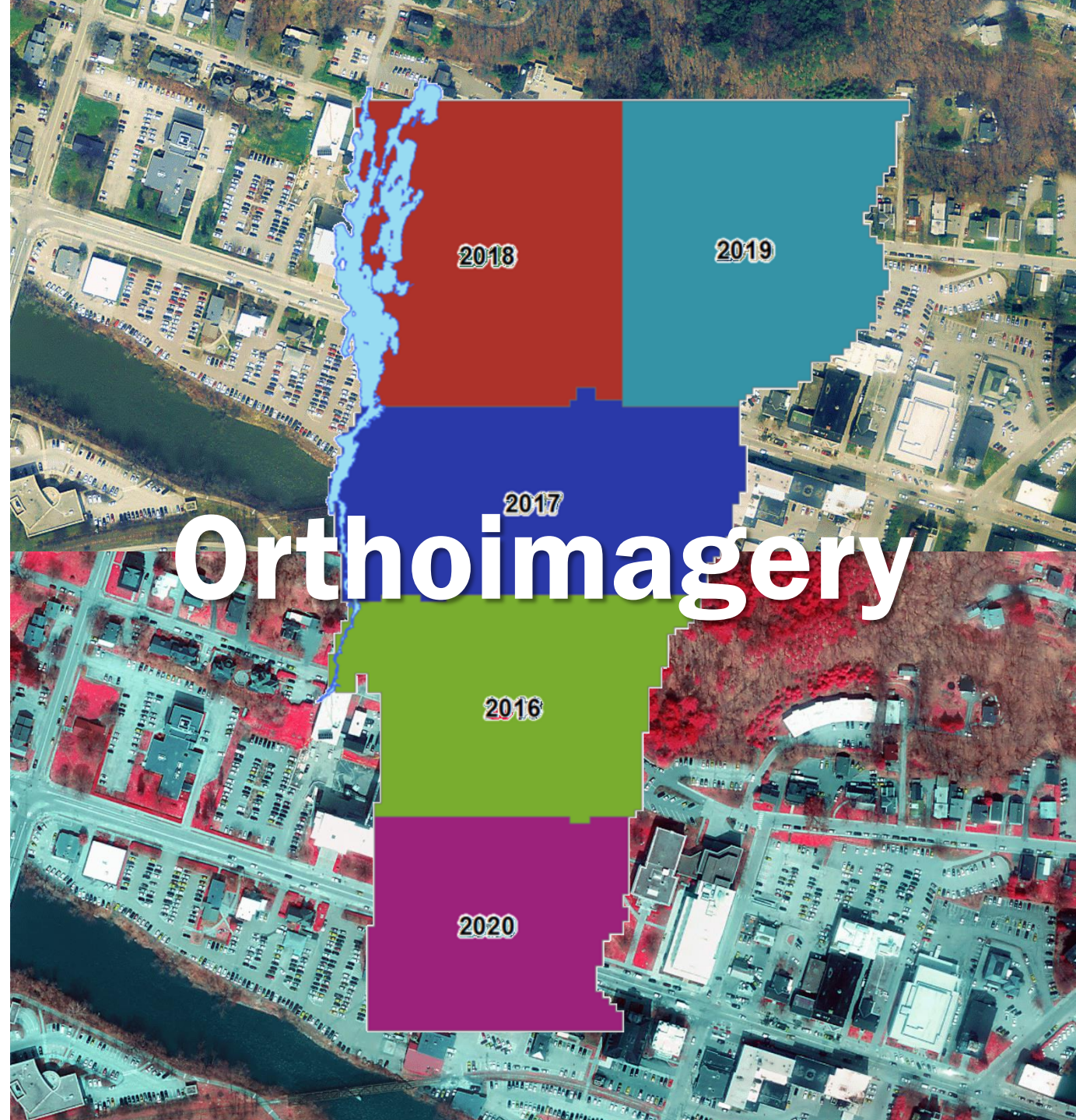
**Collected in sections with 5
year cycle**

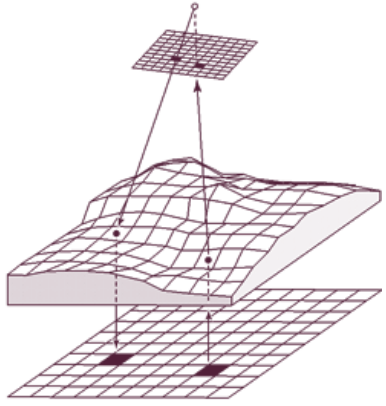
**Leaf-Off, No Snow, No
Clouds, Infrared**

Minimum 30cm resolution

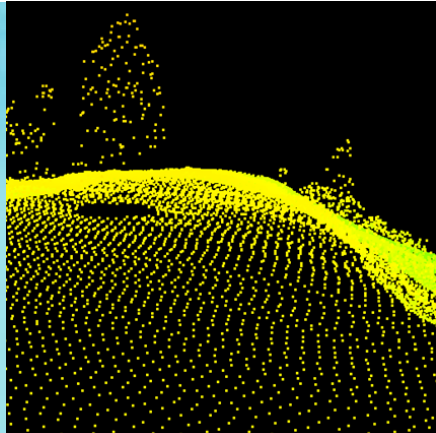
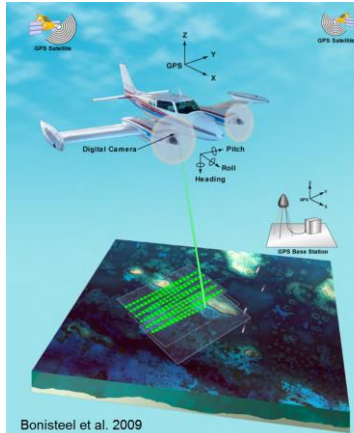
**Accuracy within 73.4cm
meeting NSSDA accuracy**

[Learn about accessing newly available
historic imagery.](#)



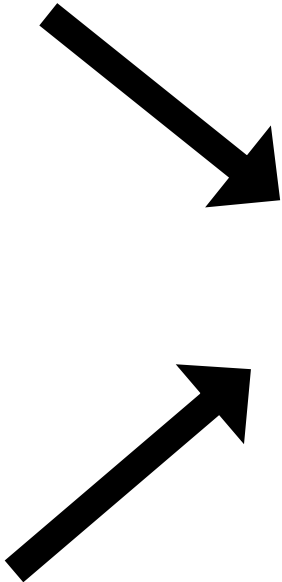


ORTHOIMAGERY

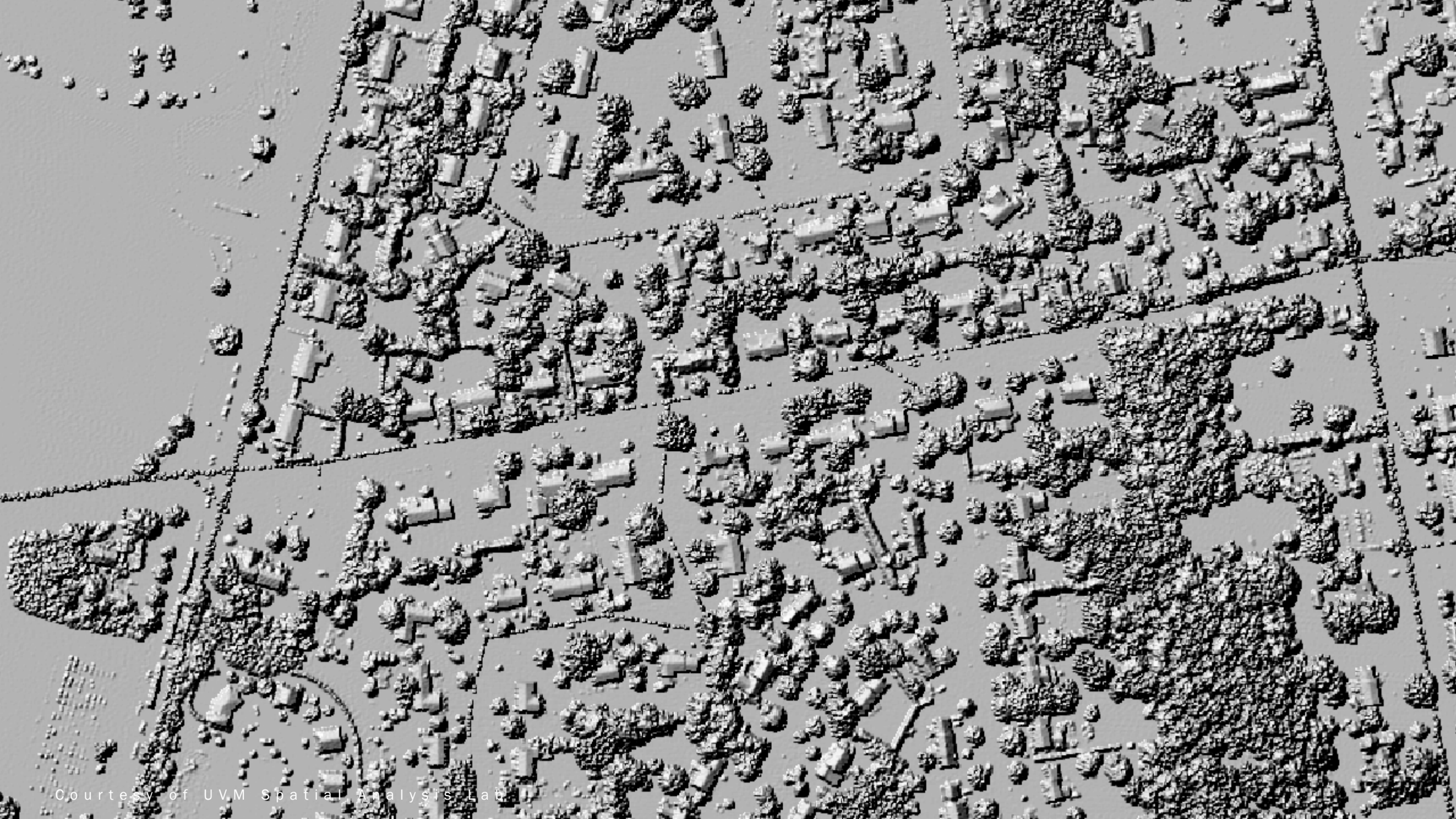


Bonisteel et al. 2009

LIDAR

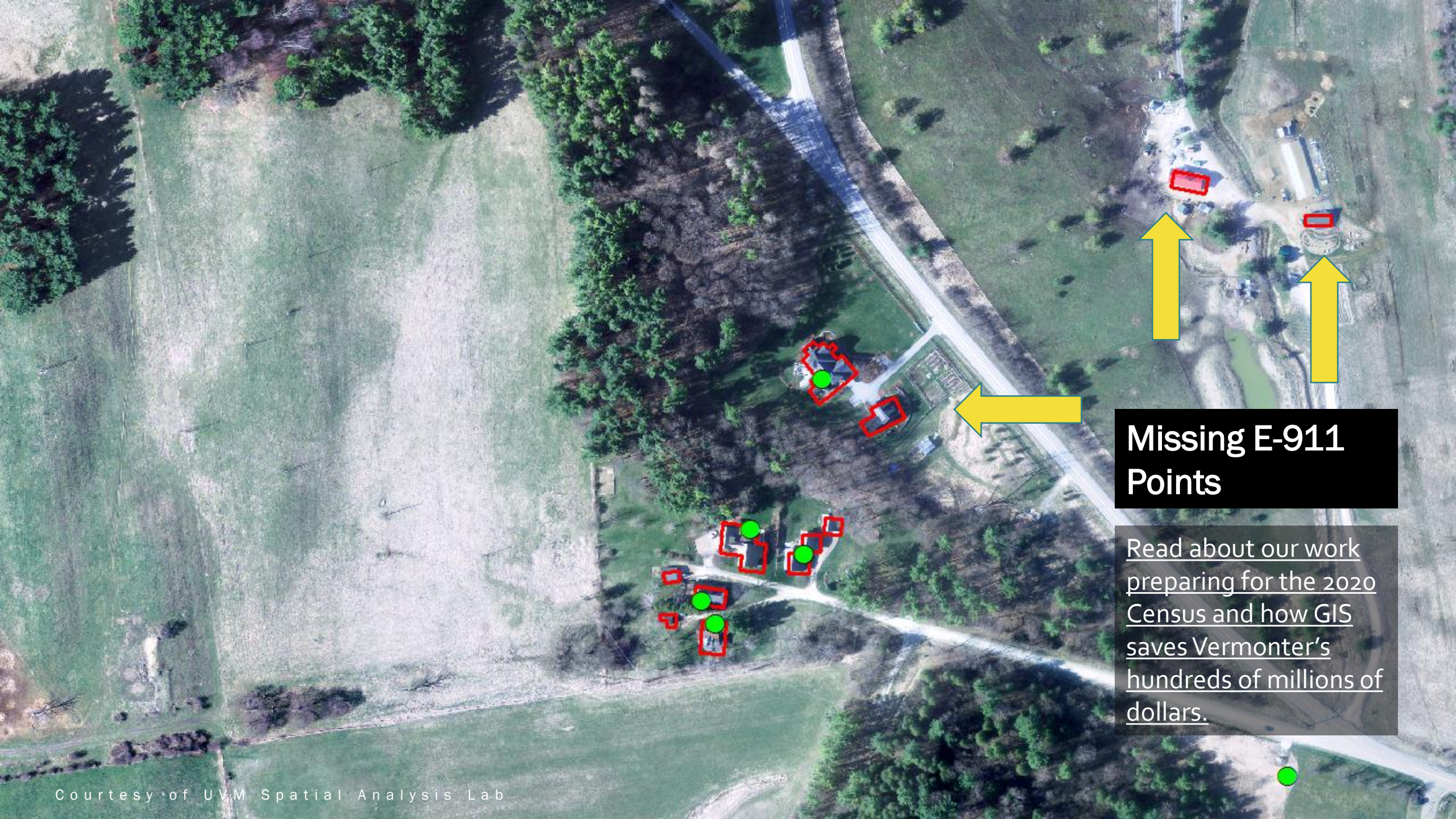


Land Cover



Courtesy of UVM Spatial Analysis Lab





Missing E-911 Points

[Read about our work preparing for the 2020 Census and how GIS saves Vermonter's hundreds of millions of dollars.](#)

An aerial photograph of a coastal region, likely a large island or peninsula, with a dense network of green lines overlaid on the land. These lines represent individual parcels of land, showing a complex grid of property boundaries. The water is visible on the right and bottom edges of the landmass.

Tax Parcel Data

[Land Survey Library](#)

[Parcel Data Viewer](#)

Municipal & Regional Planning Partners



AGENCY OF COMMERCE & COMMUNITY DEVELOPMENT
DEPARTMENT OF HOUSING & COMMUNITY DEVELOPMENT



Vermont's Enterprise GIS Consortium

MISSION: The mission of the EGC is to improve quality & lower the cost of government services through coordinated investment, management, and application of geospatial data & systems.

PARTNERSHIPS

Engage partners and lead a culture of information sharing that supports responsible decision making based on accurate data.

DATA

Lead efforts to create and maintain high quality geospatial data necessary to meet the State's Goals.



TECHNOLOGY

Coordinate investment & application of GIS technologies to support effective information sharing, collaboration, and cost savings.

PEOPLE

Empower people to make, use, analyze, and share maps and geographic information.



**Build it once,
use it many times.**



BOSTITCH
HEAVY DUTY STAPLER
MODEL B300HDS
Uses SB35 Staples

To 30" Sheets To 60" Sheets To 100" Sheets

heavy duty stapler
For best results, use only Swingline Heavy Duty Staples.

| HD Staple Size | Sheet Capacity* |
|----------------|-----------------|
| 1/4" | 2-25 |
| 3/8" | 25-60 |
| 1/2" | 40-90 |
| 5/8" | 75-120 |
| 3/4" | 90-160 |

*Capacity based on 200 paper weight.
Do NOT use 1/4" standard staples. They will jam this stapler.

Swingline



APPS



DATA DOWNLOAD



SERVICES

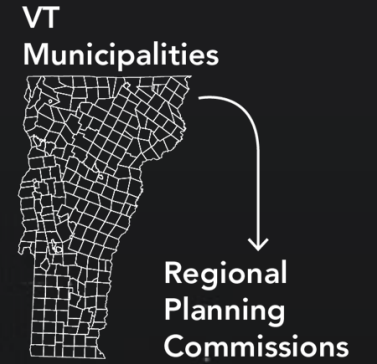
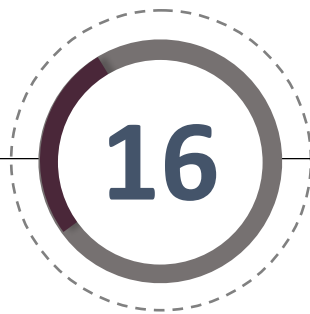


Photo Credit: Taylor Vick

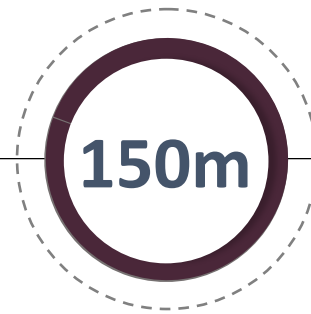
01 **Data Contributors**



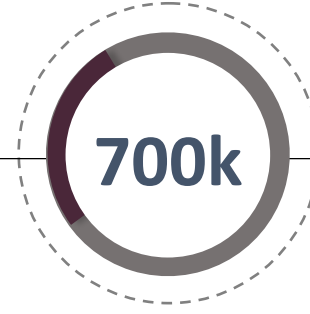
02 **Datasets**



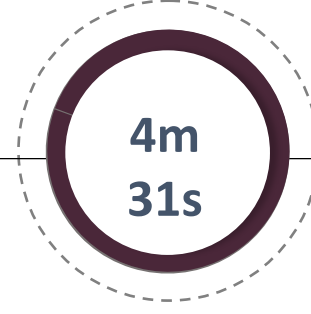
03 **Map Requests**



04 **Page Views**



05 **Average Time**



Geodata Portal

STATE OF VERMONT Vermont Open Geodata Portal

DATA WEB SERVICES APPLICATIONS DEVELOPERS CONTACT US HELP

VT Data - Williston Zoning

Last updated 10 months ago | 13 Records



12/24/2018 Feature Layer Custom License

Zoning District Data for Williston, Vermont. Data corresponds to the [Unified Development Bylaw](#) on the Williston website. Last amended on February 19, 2019.

Overlaid District data is available as a separate file.

[More](#)

Attributes

Chart Map Visualization

| | | | | | | |
|------------------|--------------|----------------------|------------------------|----------------------|----------------------|--|
| DISTRICT Text | NOTE Text | Shape_Area Number | Shape_Length Number | SHAPE_Area Number | SHAPE_Leng Number | SHOW MORE 1 Attribute |
|------------------|--------------|----------------------|------------------------|----------------------|----------------------|--|

Download full or filtered item

Download APIs

Connect to API

Read the Bylaw, check date

About

CCRPC Open Data
Shared By: pbrangan
Data Source: services1.arcgis.com

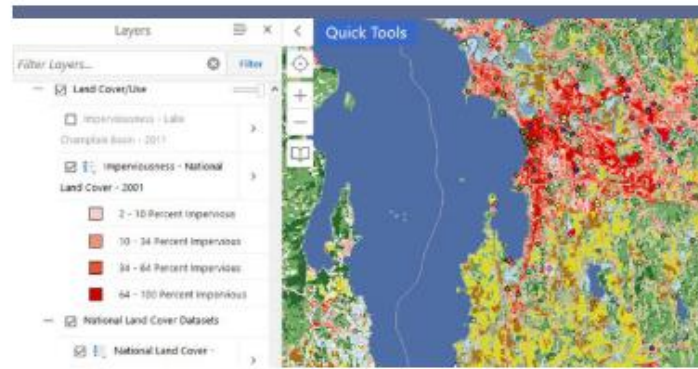
Item publisher/steward

Item endpoint

View data, add other layers



Online Mapping Applications



Vermont Interactive Map Viewer

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

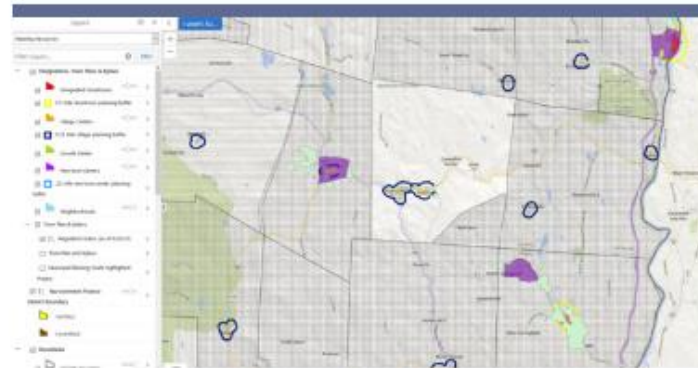
[LAUNCH MAP VIEWER](#)



ANR Atlas

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

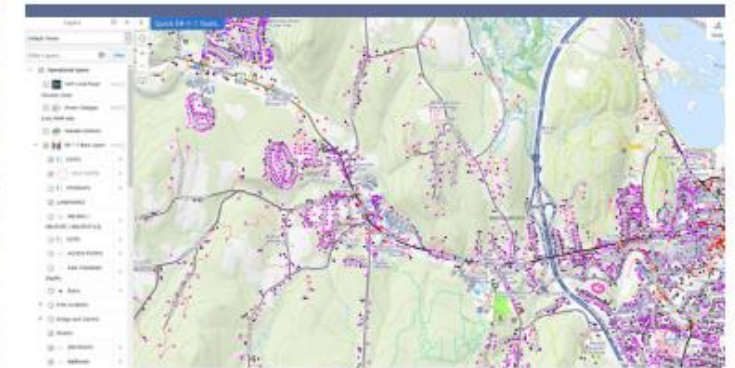
[LAUNCH MAP VIEWER](#)



Planning Atlas

Use the Department of Housing and Community Development's Planning Atlas to create maps in your browser, with emphasis on pre-loaded planning-related datasets.

[LAUNCH MAP VIEWER](#)



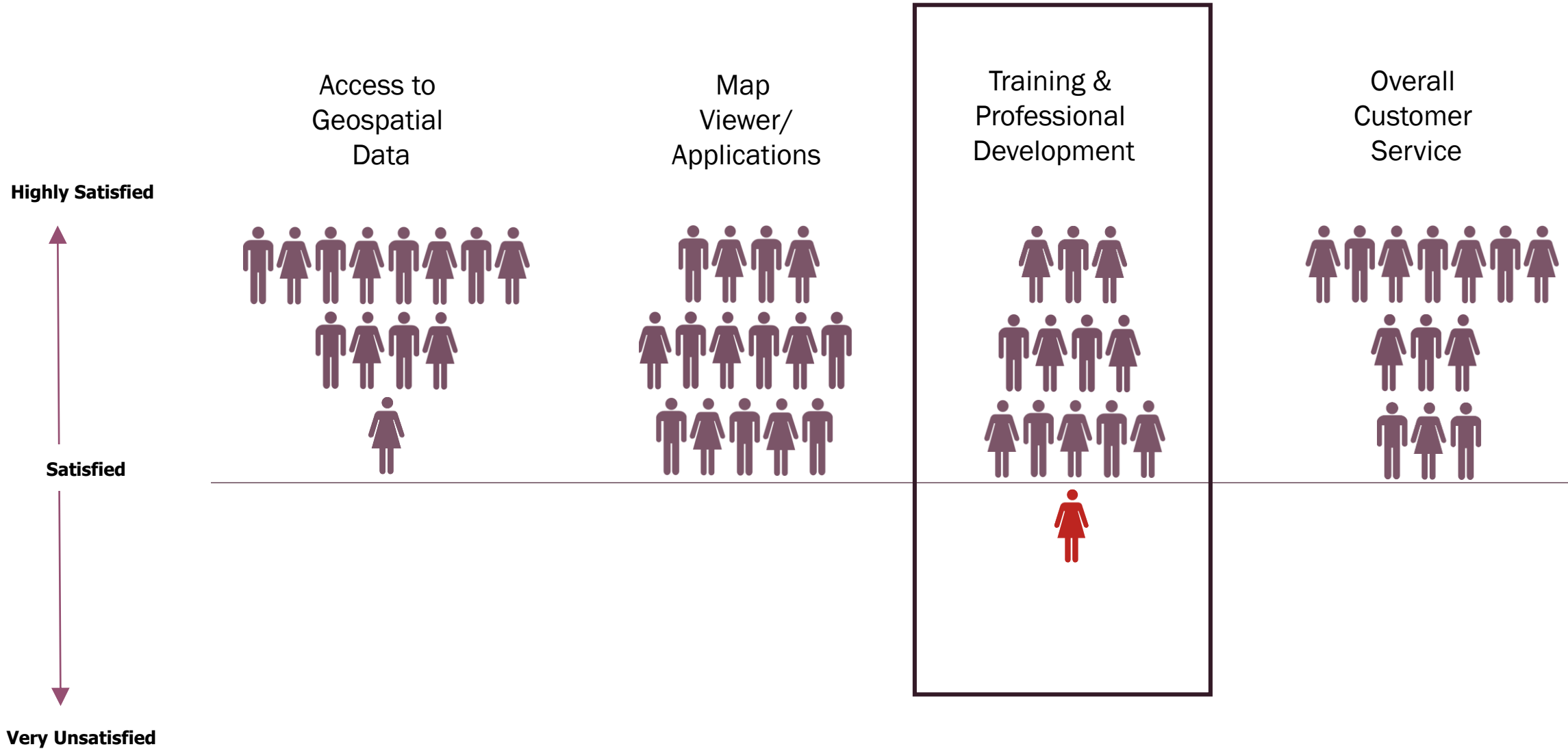
e-9-1-1 Viewer

Use the Enhanced 9-1-1 Board's Viewer to create maps in your browser, with emphasis on the complete e-9-1-1 feature set.

[LAUNCH MAP VIEWER](#)

Customer Satisfaction

n 96



Trainings & Events



34
In person
EVENTS

At least 1 in every RPC region.

Examples of Trainings & Events

Municipal Day: Springfield, Montpelier, Rutland, Essex

Town Officers Education Conference: Fairlee, Rutland

Municipal Map Jam

VLCT Planning and Zoning Forum

Opportunity Zones Summit

Next Generation of Land Conservation in Vermont

Vermont Development Conference

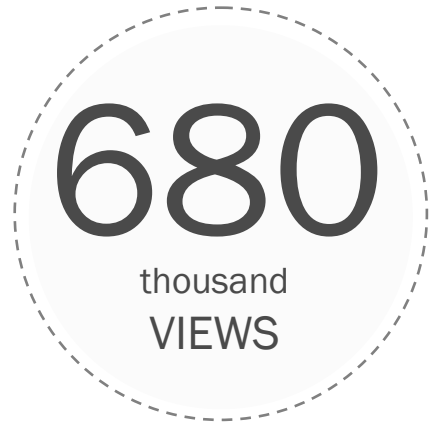
Northern New England Planners Conference

Southern Vermont Economic Development Summit

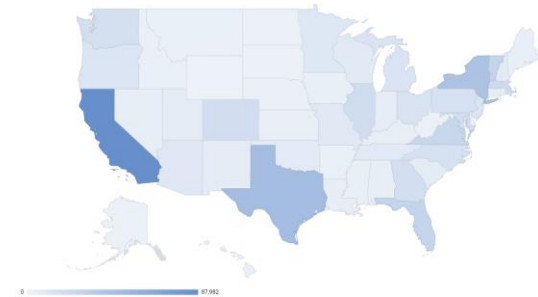
Act 171 Trainings

Historic Preservation & Downtown Conference

Statewide Housing Conference



VCGI Youtube Analytics as of 02/06/2020



YouTube navigation bar with search, upload, grid, and notification icons, and the channel name 'VCGI'.



How To - Geocode Addresses in ArcGIS Pro with the Vermont E911 Geocoder

YouTube navigation bar with search, upload, grid, and notification icons, and the channel name 'VCGI'.



How To - Geocode Addresses in ArcGIS Pro with the Vermont E911 Geocoder

Presentation to the Commission on Act 250: the Next 50 Years

Settlement Patterns in Vermont

John E. Adams
October 26th 2018



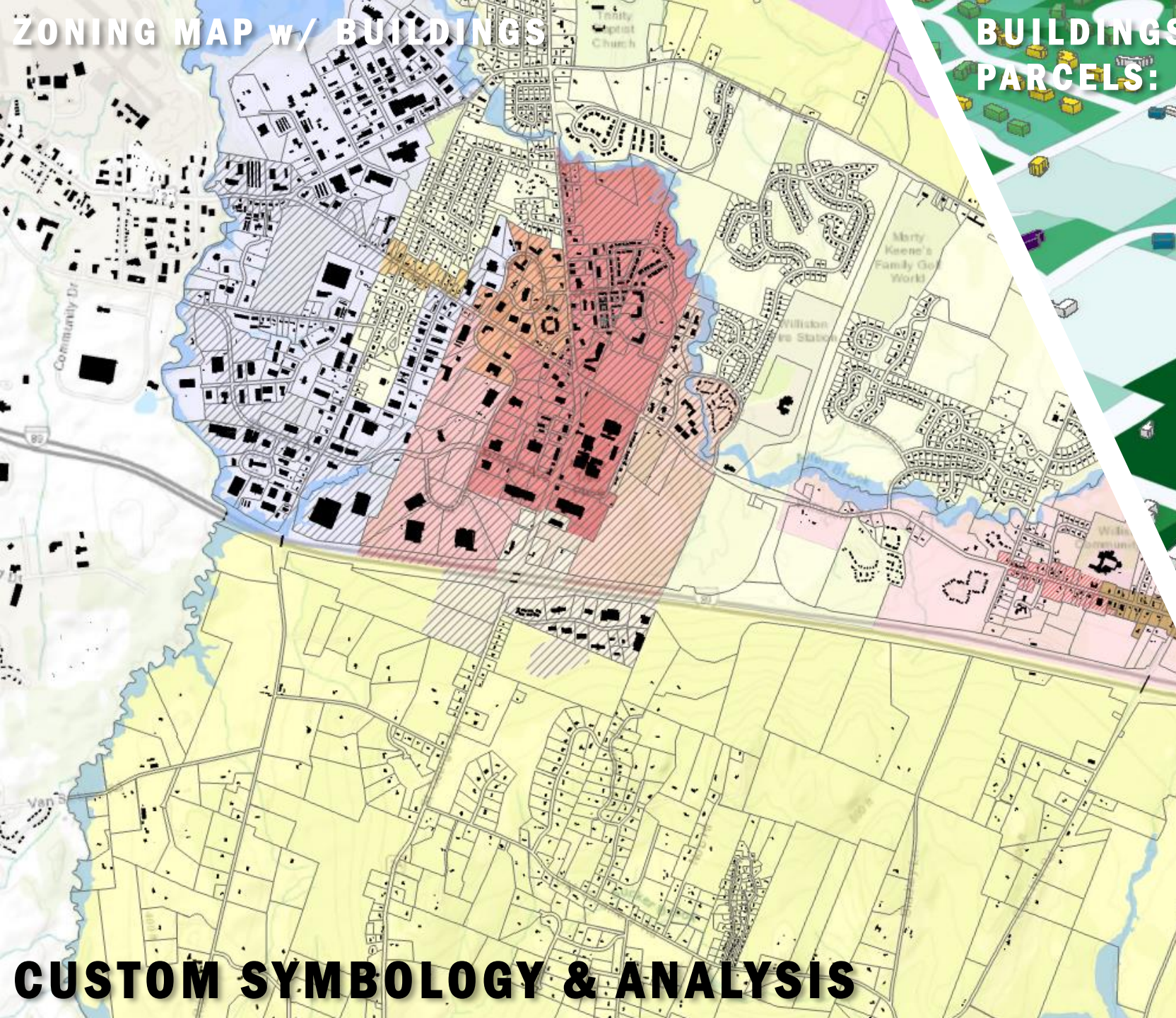
Land Use Planning in Vermont

Presentation to the Study Committee on
Land Use Regulation and Forest Integrity

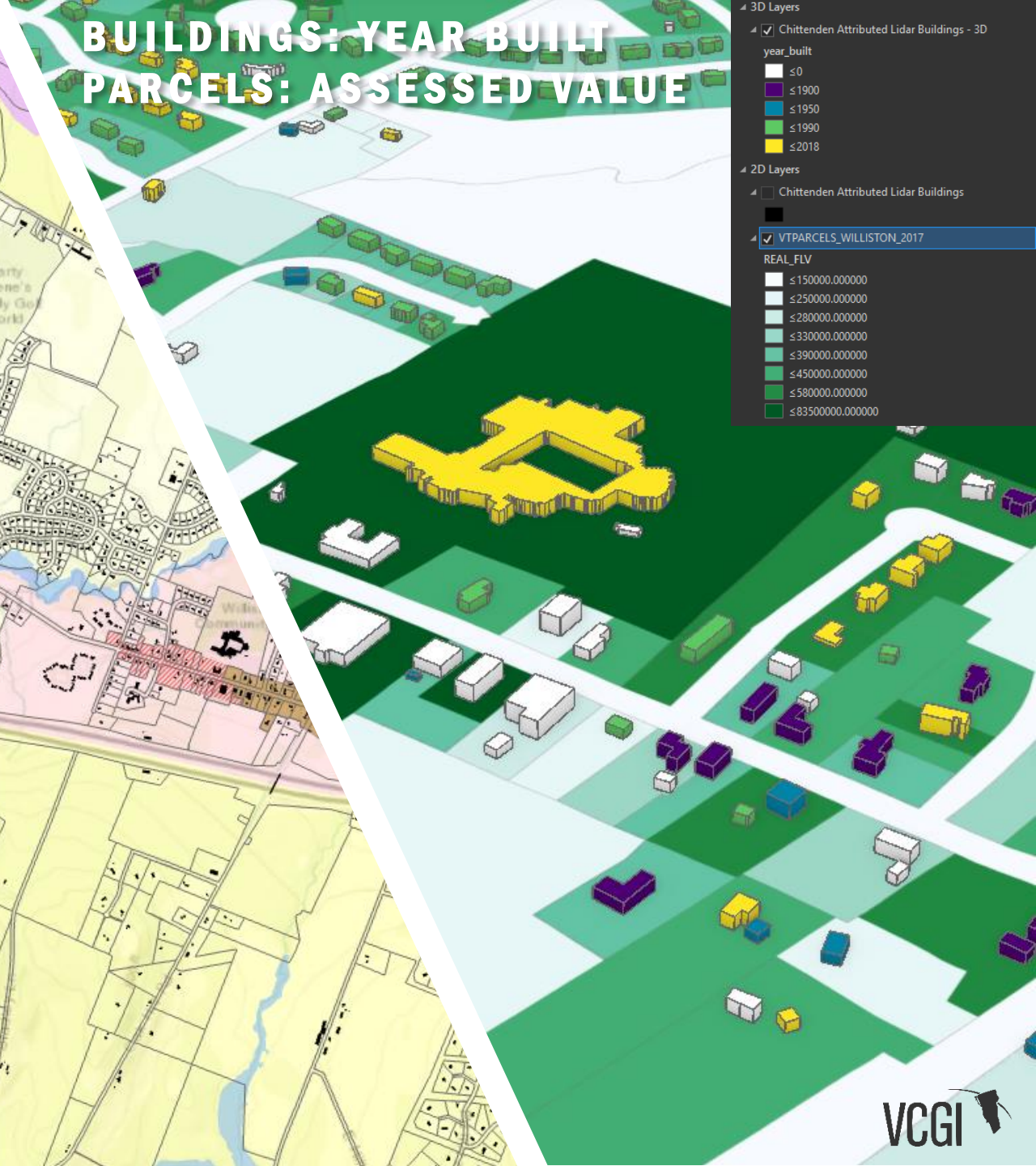


HISTORY OF LAKE CHAMPLAIN

ZONING MAP w/ BUILDINGS



BUILDINGS: YEAR BUILT PARCELS: ASSESSED VALUE



3D Layers

- Chittenden Attributed Lidar Buildings - 3D

year_built

- ≤ 0
- ≤ 1900
- ≤ 1950
- ≤ 1990
- ≤ 2018

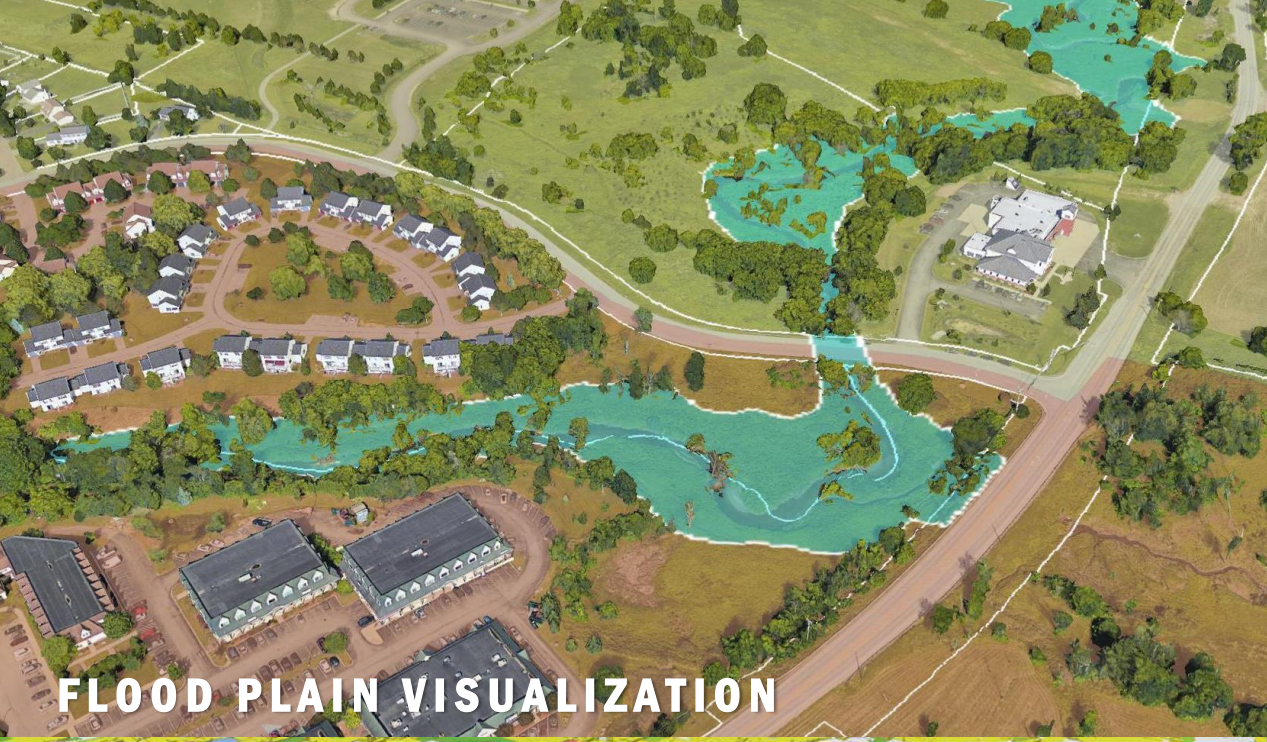
2D Layers

- Chittenden Attributed Lidar Buildings
- VTPARCELS_WILLISTON_2017

REAL_FLV

- ≤ 150000.000000
- ≤ 250000.000000
- ≤ 280000.000000
- ≤ 330000.000000
- ≤ 390000.000000
- ≤ 450000.000000
- ≤ 580000.000000
- ≤ 83500000.000000

CUSTOM SYMBOLOGY & ANALYSIS



FLOOD PLAIN VISUALIZATION



ZONING, TIF DISTRICTS

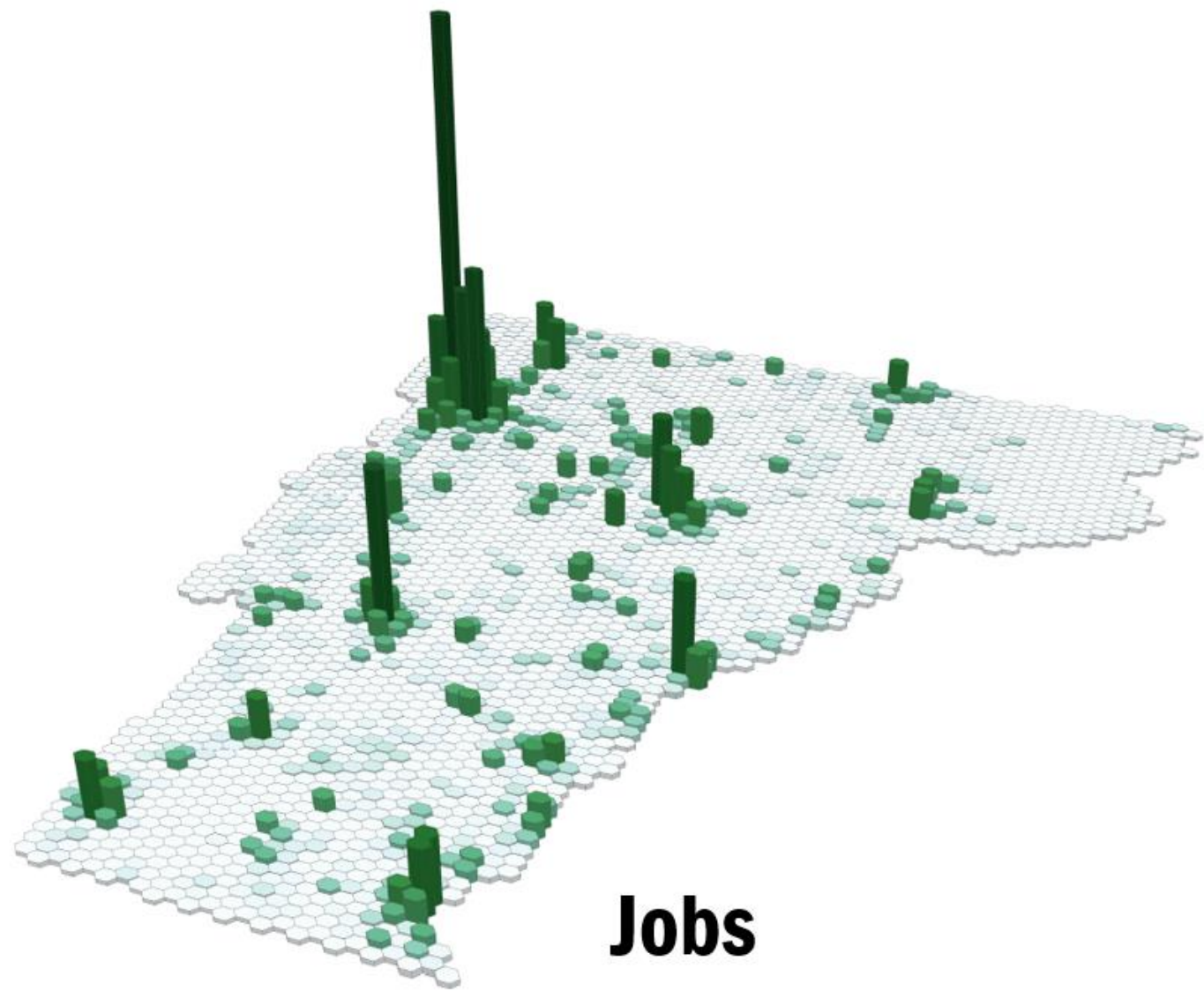
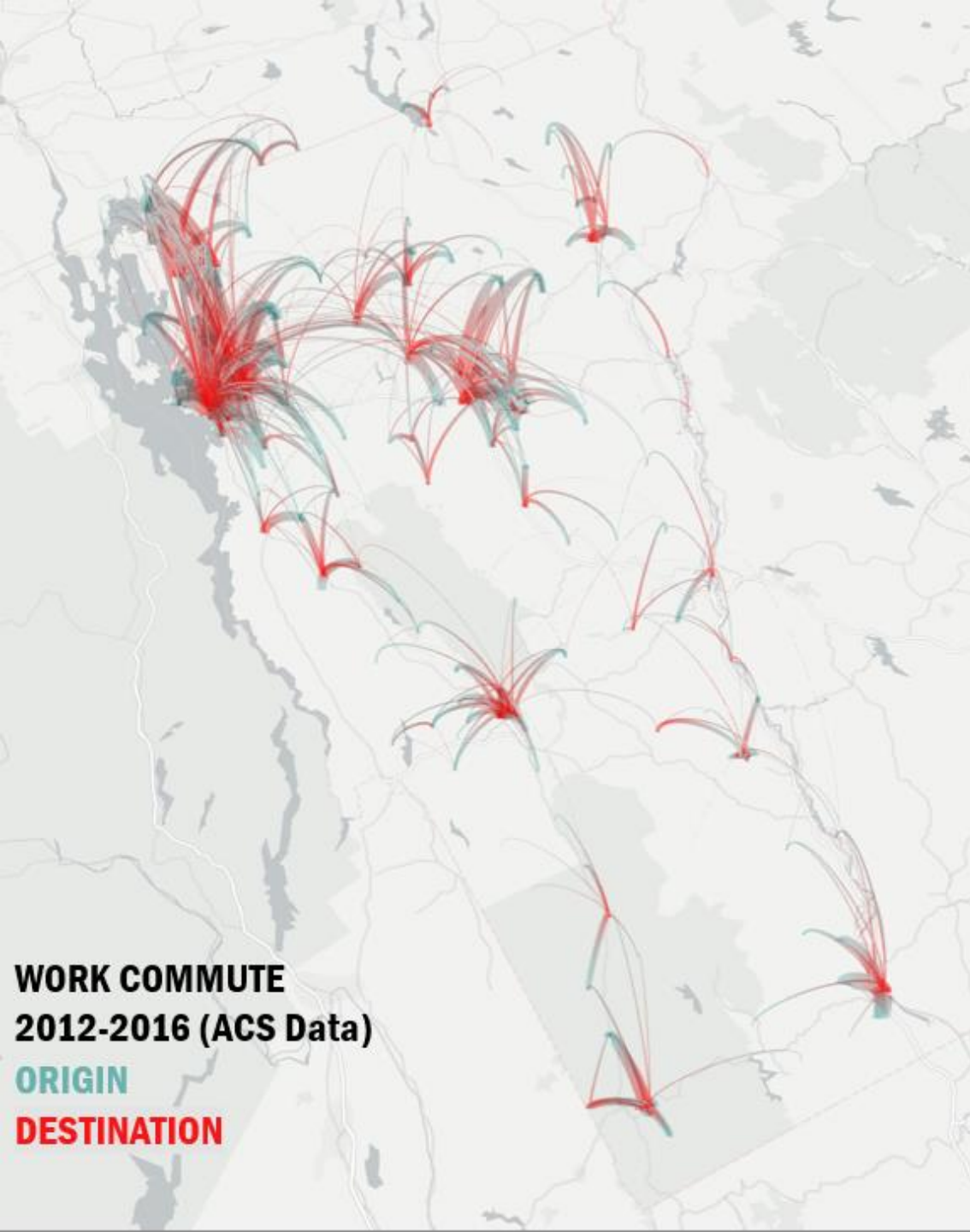
A map of Vermont showing Opportunity Zones. The zones are color-coded in various shades of green, yellow, and red. 3D vertical bars of varying heights are placed over the zones to represent their relative values. The Vermont logo and workshop title are also present.

 VERMONT
VERMONT CENTER FOR GEOGRAPHIC INFORMATION

VERMONT OPPORTUNITY ZONES WORKSHOP

Telling your story with data.

John E. Adams
Director
john.e.adams@vermont.gov
vcgi.vermont.gov
06.27.2019



Learn More

- [2019 Year in Review](#)
- [Interactive Map Viewer](#)
- [Tax Parcel Data Viewer](#)
- [Census: High Cost of a Low Count](#)
- [Historic Imagery](#)
- [Geodata Portal](#)
- vcgi.vermont.gov

john.e.adams@vermont.gov

