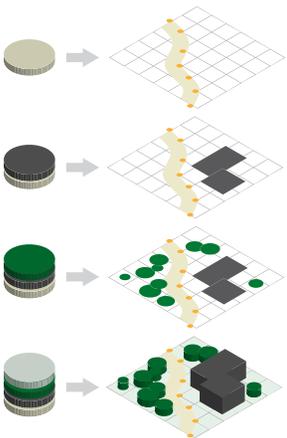




WHAT IS GIS?

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?

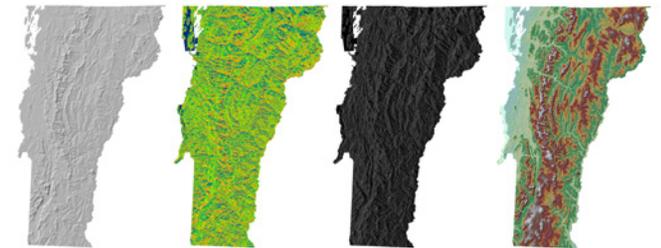
Coordination among user groups is a key aspect of GIS. As a system, how well it functions reflects how its constituent parts are resourced, work, relate, and serve which goals.

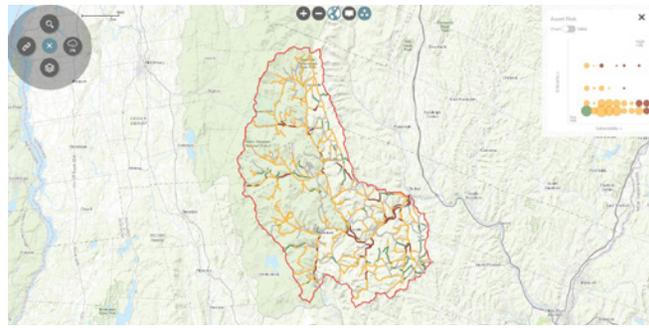
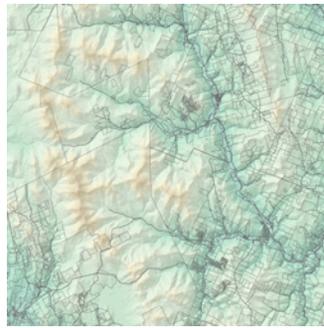
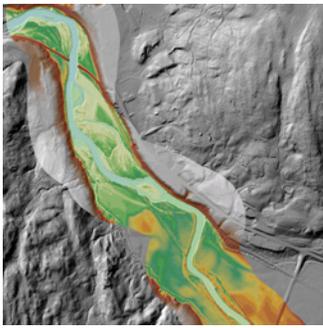


HOW IS GIS USED IN VT?

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 respective 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.





WHAT'S NEXT FOR GIS IN VT?

The [EGC's 2017-2020 Strategic Plan](#) outlines a vision of geospatial data and technologies playing an important role in helping the State of Vermont meet its goals. Whether having improved water quality, optimized snow plow routing, increased predictability and speed of permitting or helping better target services for those struggling with opiate addiction – the EGC aims to contribute to the partnerships, data, technology, and people responsible for finding innovative solutions to some of Vermont's biggest challenges.

The plan specifies a need for further investments in:

- data-based decision making
- advancing a statewide GIS Advisory Council with partners outside of government,
- increasing equitable distribution of GIS infrastructure and knowledge within and across state government agencies,
- further developing easy-to-use maps and applications for users without professional GIS experience.

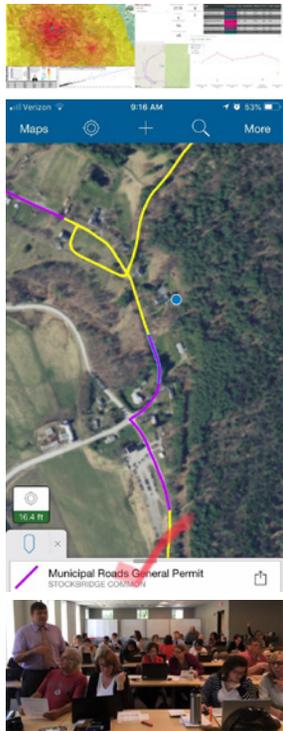
This vision is further detailed in the EGC's Enterprise GIS Architecture Plan, which recommends:

- strengthening GIS governance through a federated support model and EGC decision-making authority
- using GIS technology to support the State's evolving data strategy
- consolidating software licensing to make enterprise solutions available to all agencies
- strengthening server administration to improve cybersecurity, and
- phasing the roll out of all of the above to ensure the vision's implementation.

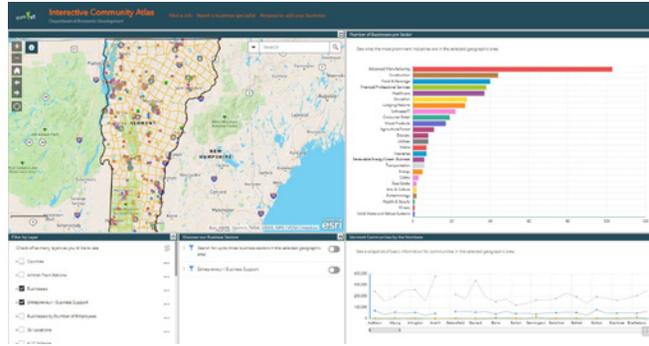
Taken together, this vision for GIS in VT and its supporting actions characterize a state with best-in-class geospatial resources for supporting a growing set of needs and uses statewide.

Example uses of GIS in VT: (Left) High-resolution lidar is used to obtain a digital elevation model of the surfaces of the earth, which can then be used to display relative elevation for hydrological assessment. (Right): Grand-list matched parcels will be available statewide in late 2019.

(Above): AOT, in collaboration with ANR, VT Emergency Management, RPC's and other stakeholders developed the Vermont Transportation Flood Resiliency Planning Tool (TRPT), which evaluates the vulnerability of road embankments, bridges and culverts to damage from floods.



(Above): The Agency of Natural Resources' (ANR) storymap presents ways forward for monitoring the emerald ash borer in Vermont. (Left Top): ANR mapped PFOA contaminants in public water supplies in North Bennington. (Left Middle): ANR supported the Municipal Roads General Permit by enabling GIS mapping in the field using mobile mapping tools. (Left Bottom): The Agency of Human Services (AHS) provided hands-on workshops for developing community profiles. (Bottom): VCGI testing displays of a parcels' grand list information.



(Top): The Department of Housing and Community Development worked with VCGI to create an interactive storymap of 2018's investments in downtowns and village centers. (Middle) The Agency of Commerce and Community Development maintains an interactive community atlas of business sectors and prominent industries in Vermont. (Bottom): The enhanced 911 board (e911) uses geospatial technology to more effectively route responses to 911 calls. These projects and more can be viewed online at the EGC's 2018 Year in Review story map linked here.



vcgi.vermont.gov/data-and-programs/enterprise-gis-consortium