VermontView Remote Sensing Activities 2014 - 2015

Unmanned Aircraft Systems

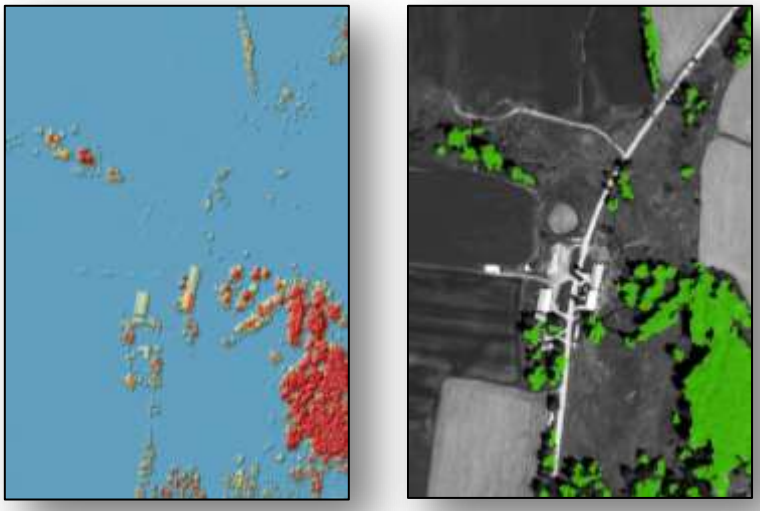
In 2010, Tropical Storm Irene caused hundreds of millions of dollars' worth of damage to Vermont. One of the great obstacles early on in the response effort was assessing the extent of the damage. Cloud cover prevented satellites from getting clear pictures and imagery from traditional aircraft could not get from airports to incident commanders fast enough due to the compromised road network. In 2014 the University of Vermont formed the Unmanned Aircraft Systems (UAS) Team, a group dedicated to providing timely, accurate, mapping-grade imagery to organizations throughout the state. Funded by AmericaView and the US Department of Transportation, the UAS Team is capable of capturing imagery in situations when satellites and manned aircraft cannot. Since its formation, the UAS team has done everything from respond to natural disasters to showcasing UAS technology to Vermont's farmers.

UAS Team imagery of downtown Barre showing the sediment damage that occurred during the July 19, 2015 storm event that caused flash flooding in the area.

UAS Team imagery of pre and post flood conditions in April of 2015 at the "wrong way bridge" where Route 15 crosses the Lamoille River in Cambridge.

High-Resolution Land Cover Mapping

Federal and state agencies spend hundreds of thousands of dollars on imagery and LiDAR in the state. These datasets provide an unprecedented way of looking at Vermont's landscape, but they are just data. VermontView has been turning these data into high-resolution land cover maps that are over 900 times more detailed than the existing land cover datasets in the state. For example, trees as small as eight feet tall can be mapped. With this information, decision makers and resource managers are able to quantify features on the landscape with unprecedented accuracy and detail. From calculating the amount of impervious surfaces within a watershed to identifying gaps in riparian buffers within agricultural areas; the VermontView high-resolution land cover enables more informed decision making. Data available at vcgi.vermont.gov



LiDAR 3D model (left) and tree canopy from the VermontView high-resolution dataset (right) for a portion of the Rock River Watershed in Franklin County.

VermontView is a member of the AmericaView Consortium, a nationally coordinated network of academic, agency, non-profit, and industry partners and cooperators that share the vision of promoting and supporting the use of remote sensing data and technology within each state.

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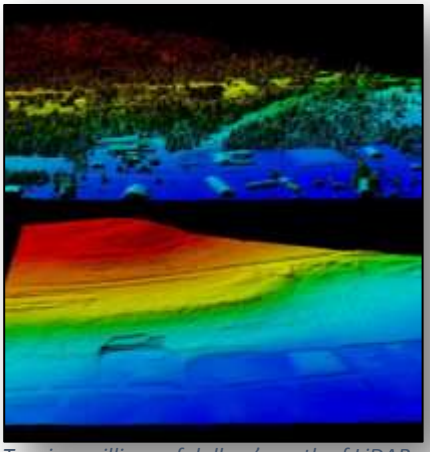
Benefits to Vermont

Remotely sensed data from satellites and aerial systems are an invaluable resource for Vermont; from helping communities understand what structures are vulnerable to flooding to estimating the health of our forest ecosystems. VermontView works throughout the state, helping people get the most of these data, educating our workforce on the applications of cutting-edge technology, and providing actionable information to state and local government.



Turning millions of dollars' worth of LiDAR data into actionable information for our state and local governments.

Educating professionals throughout the region on UAS applications at local conferences.

Helping farmers understand how UAS technology can improve agricultural practices during the July 2015 Crop and Field Day.

VermontView Consortium Membership

The VermontView consortium is dedicated to advancing remote sensing in Vermont through education, outreach, training, networking, and data distribution.

The University of Vermont
Middlebury
VTrans Working to Get You There
VCGI
Forest Service US Department of Agriculture
Green Mountain College Chartered 1834
Vermont Agency of Natural Resources
NRCS Natural Resources Conservation Service
USGS science for a changing world
University of Vermont SAL TRC Unmanned Aircraft Systems Team

Federal consortium members identified above do not receive funding from AmericaView.

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