VERMONTVIEW 2023 - 2024

AmericaView℠
Empowering Earth Observation Education
americaview.org

VERMONTVIEW 2023 - 2024 ACTIVITIES

Drones to Satellites: K-12 Educational Outreach

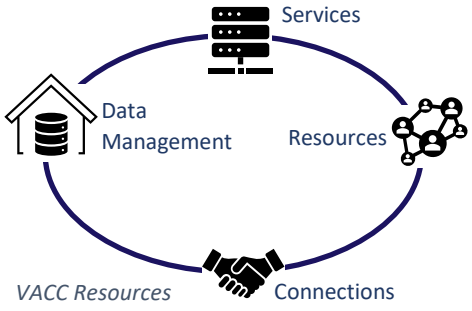
VermontView participated in this year's Year End Studies Program at Burlington High School to support remote sensing education. VermontView worked with high school students ranging from 9th to 12th grade exploring the possibilities of satellites, drones, and mapping. Drones pose a new and exciting piece of technology that all students in the program were familiar with therefore proved to be a natural hook for excitement in the program. Students participated in short educational presentations from staff and faculty associated with VermontView, scavenger hunts exploring campus and the basics of mapping, hands-on experience operating multiple drone platforms, and various software platforms to process imagery and create maps. All students from this program successfully passed the TRUST exam (The Recreational UAS Safety Test) before operating drones to ensure all students were aware of the protocols surrounding drone use and operation. Throughout this program students excelled in learning how to use drones for multiple purposes (emergency response and recreational use) and learning new platforms to look at the data. Utilizing feedback from this session, further curriculum development is planned for next year's (2025) program that will incorporate more hands-on experience and focusing on use-cases of the advantages of drones and satellite data.

UAS Technician (Lauren Cresanti) explaining drone components to BHS-YES students.

High-Performance Computing: Vermont Advanced Computing Center (VACC)

VermontView has joined the network of organizations and university departments who are utilizing the higher-performance computing clusters that support large scale computation, beyond the capabilities previously needed or available. This network has allowed for VermontView to process geospatial data with higher efficiency while exploring the use of both machine learning and artificial intelligence workflows on current processes. VermontView has also sponsored the Vermont Center for Geographic Information (state government agency) inclusion into this center to conduct quality assurance and control workflows on the Q1 LiDAR (elevation) data collected by Vermont in 2023. The resources provided by this center include 1) data management, 2) services such as technology consultations and programming assistance, 3) research storage and resources through Enterprise Technology Services, and 4) connections beyond current VermontView networks. The VACC has improved VermontView's capabilities to process remote sensing data for both educational and research purposes.

BHS Students piloting a drone to collect imagery.



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. AmericaView is funded by USGS grant agreement G23AP00683.

AmericaView℠
Empowering Earth Observation Education
americaview.org

AmericaView Website:
www.AmericaView.org
Christopher McGinty, Executive Director:
chris.mcginty@americaview.org
Lisa Wirth, Program Director:
lisa.wirth@americaview.org
Lindi Quackenbush, Board Chair:
ljquack@esf.edu

Benefits to Vermont

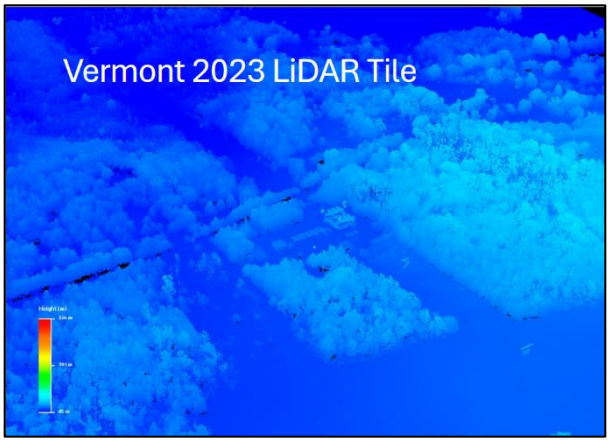
Educational Outreach
Introduced high school students to the many uses of drone and satellite data, mapping, and regulations. Students completed the TRUST exam and got hands-on experience flying.

Curriculum Development
Developed an inclusive and accessible 2-week course. These modules will be the basis for further development of professional development and continuing education around drones and GIS including a 3-credit UVM course.

Improved Processing Efficiency
Increased processing power of large remote sensing datasets for research and practical purposes with the VACC including updating infrastructure inventory across Vermont.

Increased Capacity for AI
VermontView collaboration with state agencies has increased capacity for integrating machine learning and AI into state projects associated with infrastructure resilience, damage assessments due to flooding, etc.

Web map showcasing the difference between aerial and UAS imagery collected by BHS students.



Q1 LiDAR Tile processed on the VACC.

VermontView Consortium Membership

VermontView Principal Investigator:
Paige Brochu
University of Vermont
802.656.3224
pbrochu@uvm.edu

http://www.uvm.edu/rsenr/sal/vermontview
@paigebrochu
http://letters-sal.blogspot.com/
www.linkedin.com/in/brochupaige