CONNECTICUTVIEW 2019 - 2020

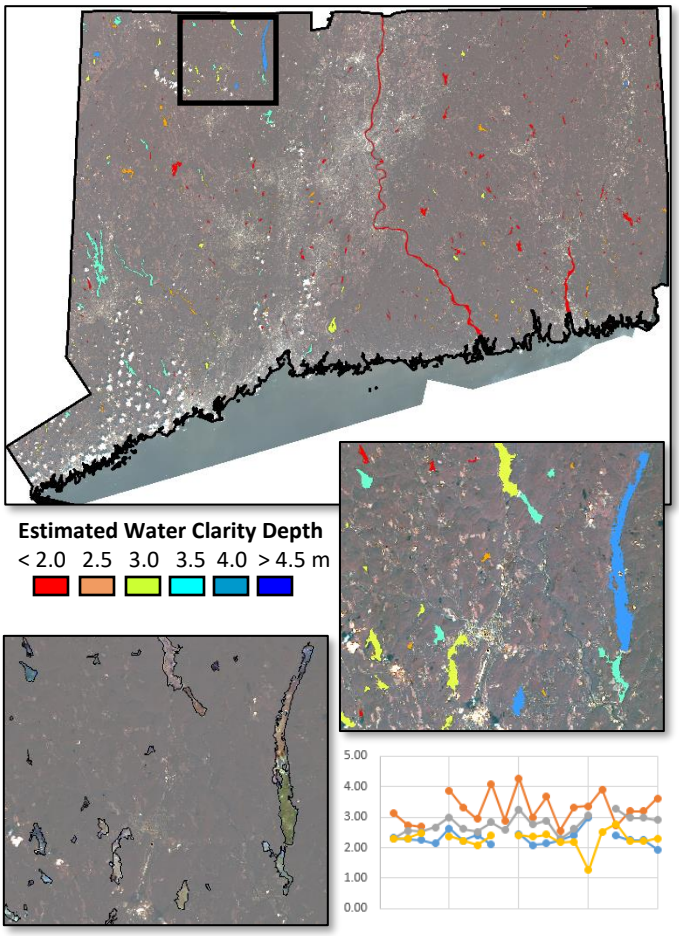
CONNECTICUTVIEW 2019 - 2020 ACTIVITIES

The goals of ConnecticutView are to further the awareness and promote the use of remote sensing technology, from space borne sensors to ground based systems, within the state of Connecticut. To meet these goals, ConnecticutView engages in various activities targeted at the education of K - 12 students, undergraduate students, and the general public. In addition, remote sensing technology is used to develop data and information that address specific issues within Connecticut.

Water Clarity Estimation: This past year, ConnecticutView has focused on the development of multi-temporal (2015 – 2019) water clarity estimates based on Landsat satellite imagery reflectance characteristics of surface waters in the state. Water clarity is a measure of how far light can penetrate through the water column of a body of water, and is indicative of poor water *quality*. The causes of poor water quality are numerous, but generally related to high population density and associated development and other anthropogenic activities adjacent to water bodies.

Connecticut is a water rich state with over 5,000 lakes, ponds and reservoirs with surface areas over five acres in size. Although Connecticut governmental agencies, non-profit organizations, and citizens monitoring groups regularly measure water clarity on select lakes, most lakes and ponds remain unmonitored resulting in the inability of these agencies and groups to identify potential problems and act on them. Analysis of satellite imagery provides the ability to systematically estimate water clarity of all sizable surface water bodies throughout the state to provide a means to track changes in water quality over time and identify potential problems that can become the focus of remediation efforts. Results of the multi-date analysis will be shared via an ESRI Story Map Journal accessible through the ConnecticutView website.

4H STEM Day UAV Demonstration: ConnecticutView shared UAV technology with a group of middle school students during the annual 4H STEM Day held at the University of Connecticut.



Example of water clarity estimate for Connecticut from September 2019. This image is part of a multi-temporal dataset of water clarity estimates for the state analyzing surface waters for the summer months of June – September over the years 2015-2019. These data will allow for the monitoring of changes in water clarity and highlight lakes and ponds that might require further investigation.

Demonstrating UAV technology at 4H STEM Day.

ConnecticutView 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 G18AP00077.

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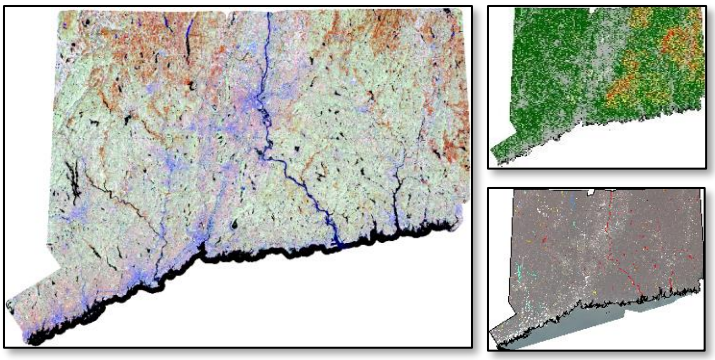
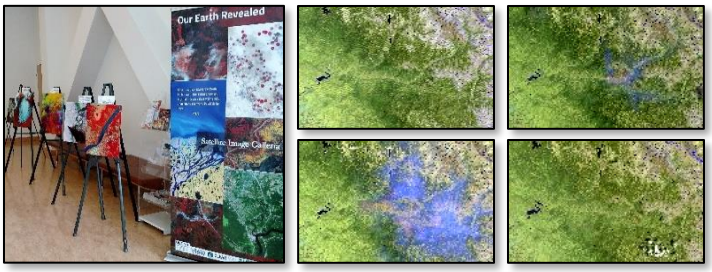
Benefits to Connecticut

While small in area, Connecticut is a diverse state. Connecticut has an abundance of forest, numerous water bodies, and the state borders the Long Island Sound, an ecologically important estuary into which a majority of Connecticut watersheds drain. Connecticut also has a high population density with its associated urban and suburban development, road networks, and golf courses. As such, remote sensing technology can serve as a valuable tool to assist in the monitoring and management of the diverse Connecticut landscape and help educate the citizens on the impacts of human activities on the earth, both locally and globally. Imagery can also serve to highlight the beauty of the planet on which we live.

- Provide remote sensing based informational and data products that address issues specific to Connecticut to improve monitoring and management of the landscape.
- Expose K-12 students to remote sensing technology and provide educational outreach programs and materials.
- Provide quality imagery through "Our Earth Revealed" satellite image exhibit to expose the public to local and global landscapes.



Landsat 8 OLI image of Connecticut captured in April 2014 (left), and derived data products showing gypsy moth defoliation from 2017 (top right), and water clarity estimates from September 2019 (lower right).



Our Earth Revealed satellite image exhibit displayed during Connecticut GIS Day, November 2019 (top). New imagery that highlights CA 2015 wildfires (top right four images), and Long Island Sound (right).

ConnecticutView Consortium Membership

ConnecticutView collaborates with various partners on a per-project basis. Current partners include:

UCONN Natural Resources and the Environment

CLEAR Center for Land Use Education & Research

UCONN University Libraries Hartford

Yale

CTIWR Institute of Water Resources

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