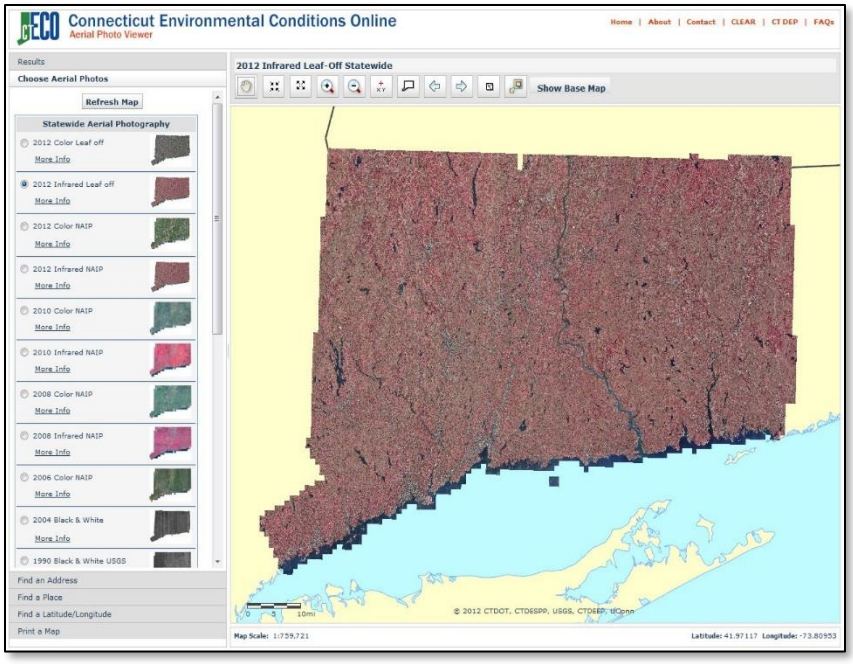
CONNECTICUTVIEW REMOTE SENSING ACTIVITIES 2015 - 2016

CONNECTICUTVIEW LANDSAT VIEWER AND IMAGE SERVICES

In an effort to encourage and expand the use of Landsat imagery in Connecticut, ConnecticutView is working to develop an online Landsat image viewer and corresponding image services that can be utilized by researchers and educators in the state. Landsat imagery is collected over Connecticut every 16 days, and there has not been a portal from which users can easily view or obtain Landsat coverage specific to just Connecticut without additional image processing that many users may not have the capability to perform. In addition to providing easy access to usable Landsat imagery, the Landsat image viewer serves as a complementary data source in conjunction with geospatial data already being served through Connecticut's Environmental Conditions Online (CTECO) website (http://cteco.uconn.edu).

ConnecticutView is working on an image viewer to serve Landsat (MSS, TM, ETM+, OLI) decadal imagery spanning the period from the 1970's to 2010's, and contain leaf-on and leaf-off Landsat scenes acquired from the USGS Landsat archive that cover the state of Connecticut. Students are hired to search and evaluate the quality of each appropriate scene and perform image processing and mosaicking techniques, which has provided them with the opportunity to further their remote sensing skills. Connecticut is contained almost entirely within a single Landsat scene (WRS Path 13 Row 31), but also requires portions of two other scenes (Path 13 Row 32 and Path 12 Row 31). Suitable scenes of imagery (i.e., mostly cloud-free) are mosaicked to create a near seamless Landsat image clipped to the boundary of Connecticut for each of the time periods. All data will be viewable and downloadable through the ConnecticutView and CTECO websites in both UTM zone 18N and Connecticut State Plane coordinate systems.



Aerial image viewer from the Connecticut Environmental Conditions Online website that serves as the template for the design of the Landsat image viewer currently under development (http://ctecoapp1.uconn.edu/aerialviewer/viewer.htm).

Landsat 8 OLI image collected June 18, 2016 showing the confluence of the Connecticut River and Long Island Sound.

Until fully implemented, a few select image mosaics from 2014 and 2016 Landsat 8 OLI imagery have been created and are available for download on the ConnecticutView website (http://ctview.uconn.edu). We look forward to having the ConnecticutView Landsat image viewer operational during the next funding period.

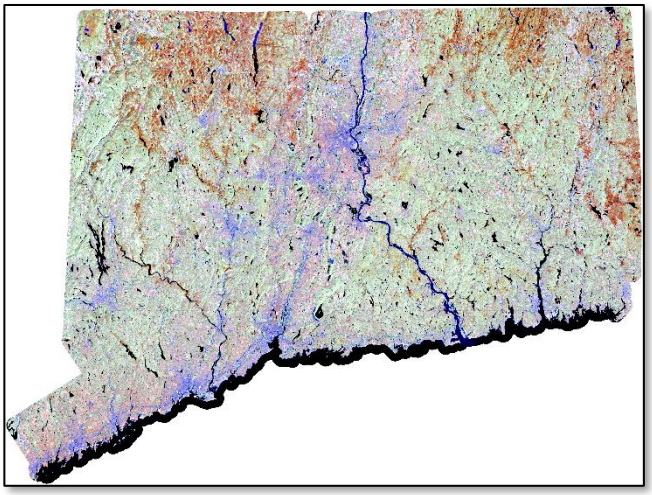
ConnecticutView is a member of the AmericaView Consortium, a nationally coordinated network of academic, agency, non-profit, and industry partners and cooperators that share the vision of promoting and supporting the use of remote sensing data and technology within each state.

AmericaView Website:
www.AmericaView.org
Roberta Lenczowski, Executive Director:
roberta.lenczowski@sbcglobal.net
Chris McGinty, Program Manager:
chris.mcginty@americaview.org
Jarlath O'Neil-Dunne, Board Chair:
Jarlath.ONeil-Dunne@uvm.edu

Benefits to Connecticut

Landsat is an important source of imagery in terms of its global coverage and more than 40-year history of image collection. It has served as the basis for creating the Connecticut's Changing Landscape (CCL) land cover dataset, a program of the Center for Landuse Education and Research (CLEAR), a ConnecticutView partner. Currently the CCL project provides consistent land cover for 1985, 1990, 1995, 2002, 2006, 2010, and 2015. It is only through the extensive archive of Landsat imagery that this land cover project has been possible, and is evidence of the importance of the Landsat earth observing system.

Benefits of the Landsat image viewer are that it provides an improved ability to view, compare, and download Landsat data that is specific to Connecticut, and provides a higher temporal frequency of image data beyond the higher spatial resolution datasets collected for Connecticut. The Landsat image viewer also provides a platform on which to better educate Connecticut users about Landsat and provides the ability to identify changes over time. Developing Landsat mosaics will also provide opportunities for students to improve geospatial processing skills through evaluation and implementation of image processing and mosaic techniques.



Landsat 8 OLI image mosaic of Connecticut displaying NIR, SWIR, and RED bands using three scenes (WRS path 13 row 31 and 32, and path 12 row 31) captured in April 2014.

ConnecticutView Consortium Membership

ConnecticutView is housed in the Department of Natural Resources and the Environment in the College of Agriculture, Health and Natural Resources at the University of Connecticut. The mission of ConnecticutView is to develop various educational, research, and outreach activities to promote awareness and the use of remote sensing technology, from space-borne sensors to ground-based systems, within the state of Connecticut. Current Consortium partners include:

UCONN Natural Resources and the Environment

Dr. Daniel Civco
James Hurd
http://nrme.uconn.edu

CLEAR

Emily Wilson
Center for Land Use
Education and Research
http://clear.uconn.edu

UCONN University Libraries Hartford

Michael Howser
Connecticut State Data Center
http://ctsdc.uconn.edu

Yale

Larry Bonneau
Center for Earth Observation
http://yceo.yale.edu

ConnecticutView Principal Investigator:
Dr. Daniel Civco
UNIVERSITY OF CONNECTICUT
860-486-0148
DANIEL.CIVCO@UCONN.EDU

ConnecticutView

http://ctview.uconn.edu

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