

ADS40 Airborne Imagery for Connecticut's Coastal Communities

The University of Connecticut and the Connecticut Department of Environmental Protection, through a project with the NOAA Coastal Services Center Coastal Remote Sensing Program, have received high-resolution digital airborne imagery for the state's 36 coastal towns. The imagery was acquired on September 20 and 22, 2004 by EarthData International, a company that specializes in aerial mapping and remote sensing. EarthData used a state-of-the-art ADS40 airborne sensor to capture true color (RGB) and false-color infrared (CIR) imagery with a ground resolution of 50 centimeters (0.5 meter).



Figure 1 Portion of a true-color image of tidal marsh and surrounding uplands in Old Saybrook.

Image data, initially acquired along a series of over twenty flight lines that covered the project area, were color balanced, orthorectified and mosaicked into a seamless dataset. The reported horizontal accuracy of the orthorectified images is 0.27 meters. RGB and CIR datasets were tiled into a set of 244 - 122 RGB and 122 CIR - quarter quadrangles (four quarter quads make up one standard 1:24,000 scale USGS topographic map). Each quarter quad is approximately 450 megabytes in size. The images are stored in a GeoTiff format referenced to a NAD83 UTM Zone 18N coordinate system.

RGB imagery was acquired on nadir which means the sensor was pointed straight down. With the CIR imagery, however, each of the colors comprising the image (green, red and near-infrared) was acquired off-nadir and at a

slightly different angle. This results in an image that exhibits some fuzziness due to the differences in the alignment of each color.



Figure 2 CIR image of the same area as figure 1.

Researchers at UConn's Center for Land Use Education and Research, working with colleagues at Wesleyan University, will use the imagery to classify and map tidal marsh plant communities with a special focus on the invasive *Phragmites australis*. DEP coastal resource managers will use the imagery to support coastal management and land preservation programs.

The ADS40 imagery is in the public domain and available for the following towns: Branford, Bridgeport, Chester, Clinton, Darien, Deep River, Derby, East Haven, East Lyme, Essex, Fairfield, Greenwich, Groton, Guilford, Hamden, Ledyard, Lyme, Madison, Milford, Montville, New Haven, New London, North Haven, Norwalk, Norwich, Old Lyme, Old Saybrook, Orange, Preston, Shelton, Stamford, Stonington, Stratford, Waterford, West Haven, Westbrook and Westport.

To learn how to acquire the ADS40 imagery or to obtain more information, please contact Sandy Prisloe, Geospatial Extension Specialist, UConn Cooperative Extension System, 1066 Saybrook Road, Haddam, Conn. 06438. (860)345-4511 sandy.prisloe@uconn.edu.

or visit

<http://clear.uconn.edu/geospatial/data.htm>