The Institute for the Application of Geospatial Technology

Project: Airborne LiDAR GIS Terrain and Hydrology Data Development
Client: New York City Department of Environmental Protection (NYCDEP)

Project Background

New York City is the largest metropolitan area in the US that does not filter its drinking water. This is made possible by the comprehensive Long-Term Watershed Protection Plan developed by the NYCDEP to protect and conserve the watershed lands that comprise the City’s water supply region. By ensuring the health of the watershed ecosystems and the quality of the water, construction of costly water filtration plants can be avoided.

The majority of New York City’s water originates from the Delaware, Catskill, and Croton watersheds - located up to 125 miles upstate of the city. Connected via three main aqueducts and three city water tunnels, 19 upstate reservoirs and three controlled lakes have a storage capacity of 580 billion gallons of water. Over one billion gallons of this water are delivered daily to more than nine million New Yorkers using little energy aside from gravity.


IAGT’s Role

To support NYCDEP’s mission of water quality and watershed protection, IAGT, a leader in geospatial technology services, is developing high resolution terrain and contour models of all the NYC watershed regions. In addition to these models, IAGT is also developing a comprehensive hydrology dataset that will provide NYCDEP staff with the most up-to-date and detailed information available on every body of water, large or small, contained within the watersheds.

All geospatial products developed by IAGT will be accompanied by thorough training on their maintenance and use so that NYC staff can fully and effectively utilize these powerful tools. IAGT is conducting this project as the on-campus programmatic affiliate of the Regional Application Center for the Northeast (RACNE) at Cayuga Community College. The RACNE was initially established with NASA funding to focus on state and local government geospatial applications research. This project supports and maintains that long-standing focus.

Visit www.iagt.org for more information.

Airborne LiDAR-derived image of a portion of the Ashokan Reservoir.

LiDAR

In order to assure the highest level of accuracy, IAGT utilized data collected via airborne LiDAR technology to derive the watershed surface models. Light Detection and Ranging (LiDAR) is an optical remote sensing technology that utilizes an airborne scanning laser rangefinder to produce highly accurate topographic data of unparalleled detail.