



The State of New York and the Digital Coast

The Digital Coast is a partnership effort and community resource for organizations that manage the nation's coastal resources.

Initiated and led by the National Oceanic and Atmospheric Administration (NOAA) Office for Coastal Management, the Digital Coast provides geospatial data and the tools and methods needed to turn these data into useful information. Digital Coast resources range from high-resolution data to on-site training opportunities. People use these resources to address timely coastal issues, including land use, coastal conservation, hazards, ocean planning, community resilience, and coastal economics, all of which are of critical importance to the state of New York. The site was launched in 2008.

New York Benefits

The numbers below are from fiscal year 2015.

DIGITAL COAST BY THE NUMBERS

20,311 New York visitors to the Digital Coast website

531 New York communities that used the Digital Coast

1,661 Gigabytes of high-resolution elevation data available for the state

456,615 Total visitors to the Digital Coast website

411% Return on investment*

*More information on the benefits and costs of the Digital Coast can be found here: <http://1.usa.gov/1O8fDa>

DATA

New York elevation, land cover, aerial imagery, and county-level socioeconomic data, provided by various trusted sources, are available through the Digital Coast's Data Access Viewer. Some of the most commonly accessed New York-based data sets are highlighted below.

Coastal Lidar

coast.noaa.gov/digitalcoast/data/coastallidar

Over 1,661 gigabytes of high-resolution elevation data covering New York's entire coastal zone are available. This type of data is critical to the development of models that examine potential local flooding impacts from coastal storms and sea level rise.

Land Cover

coast.noaa.gov/digitalcoast/data/ccapregional

Land cover data provide inventories of coastal intertidal areas, wetlands, and adjacent uplands for the coastal regions. These data are used to identify high-priority landscapes for New York's coastal protection and restoration efforts.

Economics: National Ocean Watch

coast.noaa.gov/digitalcoast/data/enow

This program provides time-series data on the ocean and Great Lakes economy, which includes six economic sectors dependent on the oceans and Great Lakes. New York's coastal counties can use this information to gain insight into their local coastal economies.

TOOLS

The Digital Coast website provides access to over 50 data analysis, visualization, and other decision-support tools that assist coastal managers in deriving critical information from coastal data sets. Many of these tools are web-based, which extends the reach of GIS functions to anyone with an Internet connection.

Coastal County Snapshots

coast.noaa.gov/digitalcoast/tools/snapshots

Complex local data sets are automatically formatted into easy-to-understand stories, complete with charts and graphs, with this web tool. Local officials use the snapshots as a planning tool, since the information helps them assess their county's resilience to flooding and understand the benefits provided by natural resources.

C-CAP Land Cover Atlas

coast.noaa.gov/digitalcoast/tools/lca

This tool from the Coastal Change Analysis Program (C-CAP) makes land cover data easier to access and understand by eliminating the need for desktop GIS software. General trends in land cover change (such as forest losses or new development) are summarized, and specific changes of interest (salt marsh losses to open water, for instance) can be highlighted. This type of information is useful for planning purposes. New York's officials have found it particularly helpful as they work to use green infrastructure (natural areas) to mitigate the impacts of flooding and climate change.

Economics: National Ocean Watch Explorer

coast.noaa.gov/digitalcoast/tools/enow

Making New York's economic data easier to use is the goal of this tool. The economic data provided by the Digital Coast focus on six sectors that depend on the oceans and Great Lakes: living resources, marine construction, marine transportation, offshore mineral resources, ship and boat building, and tourism and recreation. This tool helps users discover which sectors are the largest contributors to New York's coastal economy in various parts of the state, which sectors are growing and declining, and which account for the most jobs, wages, and gross domestic product.

CanVis

coast.noaa.gov/digitalcoast/tools/canvis

This visualization tool helps users "see" potential impacts from coastal development or water level change. Users can download background pictures and insert objects (hotels, houses, and other features) of their choosing. Managers in New York use this tool to help stakeholders visualize the effects of sea level rise.

OpenNSPECT

coast.noaa.gov/digitalcoast/tools/opennspect

This tool is being used to investigate potential water quality impacts from development, other land uses, and climate change. The tool simulates erosion, pollution, and their accumulation from overland flow. Uses include helping communities identify areas for restorable wetlands and riparian buffers to reduce pollution and flooding in watersheds.

VDatum

coast.noaa.gov/digitalcoast/tools/vdatum

This tool converts elevation data among tidal, orthometric, and ellipsoidal vertical datums, allowing users to establish a common reference system for all elevation data sets. VDatum is also used with other bathymetric data sets to address issues related to dredging.

TRAINING

In fiscal year 2015, 96 New York coastal professionals received training on a variety of technical and process-based topics through the Digital Coast (coast.noaa.gov/digitalcoast/training/list). Courses taught participants a variety of skills, such as an introduction to green infrastructure and planning and facilitating collaborative meetings.

GEOSPATIAL CONTRACTING

Through the Digital Coast, coastal organizations in need of geospatial data or services benefit from the use of the NOAA Office for Coastal Management's Coastal Geospatial Services Contract (coast.noaa.gov/idiq/geospatial.html). This contracting vehicle provides a way for local, state, and federal agencies to take advantage of a streamlined process to obtain services from the nation's top geospatial firms. In fiscal year 2015, over \$1.8 million was awarded to private geospatial firms to conduct mapping projects in the Northeast coastal zone, including the acquisition of imagery and GIS data.

DIGITAL COAST IN ACTION

The following stories illustrate how Digital Coast users are applying geospatial information resources to address coastal issues in New York.

Building Community Resilience on Long Island, New York

coast.noaa.gov/digitalcoast/stories/longisland

Like other coastal communities, Southold, New York, deals day-to-day with recurring coastal flood risks to its people, property, infrastructure, and natural resources. To address this critical coastal management issue, several Digital Coast partners came together to work with the community in a process that can be replicated in other coastal towns. The Nature Conservancy, the Association of State Floodplain Managers, and the NOAA Office for Coastal Management provided a one-day workshop to introduce a participatory process for assessing and planning for hazards and climate vulnerability, along with key data and information resources available through Digital Coast to help implement the process. This collaborative activity strengthened connections between Southold's comprehensive plan and the town's hazards and climate resilience strategy.

Conserving and Restoring New York's Estuarine Habitats

coast.noaa.gov/digitalcoast/stories/nyestuaries

The South Shore Estuary Reserve (SSER) was established to promote the future health of the bays and adjacent uplands of Long Island's south shore, one of the most highly urbanized areas of the country. One objective of the reserve's comprehensive management plan is to "protect and restore living resources of the reserve." Analog aerial photography and soft-copy photogrammetry were used to produce highly detailed shallow-water benthic habitat maps for the reserve. A variety of organizations are using the data to support conservation and restoration efforts, including hard-clam and eelgrass restoration planning. Future mapping efforts will allow comparison of existing and new data sets to establish trend information, helping resource managers assess the progress of existing conservation projects.

Exploring Water Level Scenarios to Inform Shoreline Management on Lake Ontario

coast.noaa.gov/digitalcoast/stories/waterlevels

Shoreline management is often a tricky balance of protecting important habitats and shoreline processes, while at the same time making regulations acceptable to shoreline property owners. To help the public and regulators visualize the effects of low and high water years on Lake Ontario, lake-level drop scenarios and digital elevation models were created for The Nature Conservancy by the NOAA Office for Coastal Management. The visualizations allow regulators to better understand the effects of varying water levels so that they can make informed shoreline management decisions. They are helping the New York State Department of Environmental Conservation and the New York Department of State make decisions about siting infrastructure and issuing permits while still protecting habitat and shoreline processes.

The Digital Coast Partnership

One of the goals of the Digital Coast is to unify groups that might not otherwise work together. As a result, the Digital Coast Partnership is building not only a website, but also a strong collaboration of coastal professionals intent on addressing common needs. Currently, the eight members of the Digital Coast Partnership include the American Planning Association, Association of State Floodplain Managers, Coastal States Organization, National Association of Counties, National Estuarine Research Reserve Association, National States Geographic Information Council, Nature Conservancy, and Urban Land Institute. The responsiveness of these organizations and the direct lines of communication fostered by the effort have proven essential for ensuring the success and continuing relevance of the Digital Coast, and for allowing the platform to evolve and adapt to changing needs and priorities.