



# The State of Rhode Island 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 Rhode Island. The site was launched in 2008.

## Rhode Island Benefits

The numbers below are from fiscal year 2015.

### DIGITAL COAST BY THE NUMBERS

**2,996** Rhode Island visitors to the Digital Coast website

**36** Rhode Island communities that used the Digital Coast

**386** 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

Rhode Island 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 Rhode Island-based data are highlighted below.

### Coastal Lidar

[coast.noaa.gov/digitalcoast/data/coastallidar](https://coast.noaa.gov/digitalcoast/data/coastallidar)

Over 386 gigabytes of high-resolution elevation data covering Rhode Island'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](https://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 Rhode Island's coastal protection and restoration efforts.

### Economics: National Ocean Watch

[coast.noaa.gov/digitalcoast/data/enow](https://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. Rhode Island'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](https://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](https://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. Rhode Island'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](http://coast.noaa.gov/digitalcoast/tools/enow)

Making Rhode Island's economic data easier to use is the goal of this tool. The economic data provided by the Digital Coast focuses 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 Rhode Island'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](http://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 Rhode Island use this tool to help stakeholders visualize the effects of sea level rise.

## OpenNSPECT

[coast.noaa.gov/digitalcoast/tools/opennspect](http://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](http://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, 22 Rhode Island coastal professionals received training on a variety of technical and process-based topics through the Digital Coast ([coast.noaa.gov/digitalcoast/training/list](http://coast.noaa.gov/digitalcoast/training/list)). Courses taught participants a variety of skills, such as planning and facilitating effective meetings and using flood exposure maps.

## 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](http://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 \$1.85 million was awarded to private geospatial firms to conduct mapping projects in the Northeast coastal zone, including the acquisition of land cover and imagery data.

## DIGITAL COAST IN ACTION

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

### Consolidating Data Sets to Simplify Climate Risk Communication

[coast.noaa.gov/digitalcoast/stories/vizonomy](https://coast.noaa.gov/digitalcoast/stories/vizonomy)

Climate change communication depends on powerful tools that are easy to use and understand. Using data from NOAA's Digital Coast, the company Vizonomy created a tool for the entire U.S. showing sea level rise scenarios combined with economic losses for infrastructure. Using the tool, stakeholders can assess building risks and potential economic losses from flooding or sea level rise; the amount of infrastructure such as roads, schools, and hospitals exposed to flooding risks; and the specific infrastructure assets at risk.

### Developing an Economic Baseline for Recreation and Tourism on the Atlantic Coast

[coast.noaa.gov/digitalcoast/stories/economic-baseline](https://coast.noaa.gov/digitalcoast/stories/economic-baseline)

The development of offshore wind farms in the U.S. has potential unknown effects on the recreation and tourism industries. To get a handle on this issue, the Bureau of Ocean Energy Management sponsored development of an economic baseline for these industries. By using Economics: National Ocean Watch data, researchers were able to develop a scorecard that is used to inform development along the East Coast.

### Communicating the Importance of Regional Marsh Systems in the Northeast

[coast.noaa.gov/digitalcoast/stories/regional-marsh-systems](https://coast.noaa.gov/digitalcoast/stories/regional-marsh-systems)

Marshes play a large role in protecting communities from storms and sea level rise. However, to protect these ecosystems, managers need to effectively communicate these benefits. The former New England Governor's Conference and the Northeast Regional Ocean Council worked with the NOAA Office for Coastal Management to create a custom Wetlands Benefit Snapshot, compiling four counties' data, for use in outreach to these communities.

## 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.