The State of Maine 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 Maine. The site was launched in 2008.

Maine Benefits

The numbers below are from fiscal year 2015.

DIGITAL COAST BY THE NUMBERS

3,178 Maine visitors to the Digital Coast website

152 Maine communities that used the Digital Coast

2,169 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/1O8fFDa*

DATA

Maine 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 Maine-based data are highlighted below.

Coastal Lidar

coast.noaa.gov/digitalcoast/data/coastallidar

Over 2,169 gigabytes of high-resolution elevation data covering Maine'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 Maine'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. Maine'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. Maine'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 Maine'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 Maine'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 tools 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 Maine 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, 60 Maine 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 climate adaptation for coastal communities.

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 land cover data.

DIGITAL COAST IN ACTION

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

Building Technical Capacity in Coastal Maine

coast.noaa.gov/digitalcoast/stories/techmaine

Geospatial skills and technology are often required for implementing effective conservation. Recognizing the need to collaborate to fulfill this need, the Maine Coast Protection Initiative, a coalition of 70 coastal organizations, banded together to increase the pace and quality of coastal land conservation. The group established GIS service centers that received baseline data for coastal Maine and whose personnel were trained in conservation data documentation and GIS. The service centers worked together to create a database of conservation lands. This database helped these organizations better address coastal conservation challenges.

Conserving Habitat for the New England Cottontail in Coastal Maine

coast.noaa.gov/digitalcoast/stories/cottontail

Biologists believe that habitat loss, forest degradation, wildfire, and invasive species are contributing to the declining populations of the New England cottontail. Coastal resource managers in southern Maine worked together to assess management and conservation options by using the Habitat Priority Planner and land cover data. The resulting habitats were monitored for cottontail presence and future conservation protection.

Establishing Conservation Goals in Southern Maine

coast.noaa.gov/digitalcoast/stories/hppmaine

The Great Works Regional Land Trust serves communities in southern Maine and sought to engage a larger group of stakeholders to develop a long-term protection strategy for the region's natural resources. After surveying stakeholders, the land trust used the Habitat Priority Planner to visualize where key resources were prevalent and focus in on areas for its strategic plan. This was the start of a larger plan to protect 10,000 acres of forest, agricultural lands, and wetlands in the land trust's service area by 2025.

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.