



# The State of Washington 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 Washington. The site was launched in 2008.

## Washington Benefits

The numbers below are from fiscal year 2015.

### DIGITAL COAST BY THE NUMBERS

**10,287** Washington visitors to the Digital Coast website

**184** Washington communities that used the Digital Coast

**6,705** 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

Washington 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 Washington-based data are highlighted below.

### Coastal Lidar

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

Over 6,705 gigabytes of high-resolution elevation data covering Washington'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 Washington'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. Washington'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. Washington's officials found it particularly helpful as they work on monitoring coastal water quality and seek lands for the Coastal and Estuarine Land Conservation Program.

## Economics: National Ocean Watch Explorer

[coast.noaa.gov/digitalcoast/tools/enow](http://coast.noaa.gov/digitalcoast/tools/enow)

Making Washington'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 Washington'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. This tool helped Washington to visualize sea level rise and green infrastructure techniques.

## 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.

## TRAINING

In fiscal year 2015, 109 Washington 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 project design and evaluation and best practices for risk communication.

## 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 \$1.5 million was awarded to private geospatial firms to conduct mapping projects in the Pacific Islands coastal zone, including facilitation of climate adaptation data.

## DIGITAL COAST IN ACTION

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

### Comparing Differences to Tsunami Sensitivity along the Washington Coast

[coast.noaa.gov/digitalcoast/stories/tsunami-wa](https://coast.noaa.gov/digitalcoast/stories/tsunami-wa)

The coast of Washington is vulnerable to high-magnitude tsunamis. To better prepare and plan for the future, state and local leaders sought input and guidance. The U.S. Geological Survey surveyed the coast for variations in community exposure hazards, while researchers looked at NOAA's Digital Coast C-CAP data for land use information. Using this information, the state was able to describe risks to public safety, the local and state economies, and infrastructure in predicted hazard zones. Local coastal managers also used this information to develop preparedness measures, response strategies, and other event-recovery plans.

### Partnering to Develop High Quality Land Cover Products in Washington

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

The Washington Department of Ecology required up-to-date land cover data to assess trends in wetland loss and deal with future scenarios. They worked with NOAA's Digital Coast to gather 2010 land cover data quickly by combining a variety of sources and then used 1992 land cover from NOAA for a longer period of trend analysis. All of these products were used to determine wetland migration, evaluate restoration sites, and assess areas as past or current wetlands.

### 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.

## 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.