



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

Alaska Benefits

The numbers below are from fiscal year 2015.

DIGITAL COAST BY THE NUMBERS

1,137 Alaska visitors to the Digital Coast website

30 Alaska communities that used the Digital Coast

1,976 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

Alaska elevation, aerial imagery, offshore energy, nautical, 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 Alaska-based data are highlighted below.

Coastal Lidar

coast.noaa.gov/digitalcoast/data/coastallidar

Over 1,976 gigabytes of high-resolution elevation data are available for Alaska's coastal zone. This type of data is critical to the development of models that examine potential local flooding impacts from coastal storms and sea level rise.

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. Alaska's coastal counties can use this information to gain insight into their local coastal economies.

Federal Offshore Energy Cadastral Areas

coast.noaa.gov/digitalcoast/data/offshorecadastral

Data in this collection support offshore federal land ownership, mineral resource management, and the Energy Policy Act of 2005. These data are important for Alaska's communities as they work to safely lease areas in the Arctic for offshore energy.

Nautical Chart Derived Data

coast.noaa.gov/digitalcoast/data/encderived

These data include objects like submarine cables and regulated or managed boundaries for areas such as shipping lanes, precautionary areas, anchorages, collision regulation boundaries, and areas to be avoided. Alaskan communities use this data to ensure there are no offshore planning conflicts with navigation needs.

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.

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. This tool helped Alaska officials visualize potential changes to waterfront areas.

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.

Economics: National Ocean Watch Explorer

coast.noaa.gov/digitalcoast/tools/enow

Making Alaska'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 Alaska'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.

Environmental Studies Program Information System

coast.noaa.gov/digitalcoast/tools/espis

This tool allows coastal managers in Alaska to search more than 40 years of Environmental Studies Program Ocean Science studies. These studies inform policy decisions related to Alaska's outer continental shelf resource development.

MarineCadastre.gov National Viewer

coast.noaa.gov/digitalcoast/tools/mmc

With this tool, Alaska's managers can either see the ocean data set they need before downloading it or view the data and begin their analysis. The national viewer has over 280 data sets that help ocean planners throughout Alaska's waters avoid conflicts before they become an issue.

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

TRAINING

In fiscal year 2015, 42 Alaska coastal professionals received training on a variety of technical and process-based topics through the Digital Coast (www.coast.noaa.gov/digitalcoast/training/list). Courses taught participants a variety of skills, such as 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 (www.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 million was awarded to private geospatial firms to conduct mapping projects in West Coast coastal zone, including the acquisition and processing of GIS data.

DIGITAL COAST IN ACTION

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

Analyzing Ocean Disposal Sites

marinecadastre.gov/uses

The Environmental Protection Agency's Alaska Operations Office is using the MarineCadastre.gov National Viewer to map ocean disposal sites used for dredged material management, fish dumping, vessel disposal, and burial at sea. Staff members can measure distances, estimate water depths, and display information on endangered species and fish habitat.

Establishing Baseline Habitat Conditions to Monitor Salmonid Fishery Restoration in Alaska

www.coast.noaa.gov/digitalcoast/stories/klawocklagoon

The Klawock River watershed and lagoon system is 132 miles of streams and rivers that serve as spawning habitat for a large portion of the viable commercial salmon and trout species. After a causeway blocked off the returning path for juveniles, population stocks declined. The Nature Conservancy worked to alleviate this issue and restore balance to the fish stocks. To assess the success of this project, The Nature Conservancy used aerial imagery and remote sensing data to find, monitor, and effectively sample juvenile salmon habitat.

Expanding Land Cover Change Visualization to the Entire Nation

coast.noaa.gov/digitalcoast/stories/usgs

NOAA's Digital Coast provides land cover data for the U.S. coastal zone while the U.S. Geological Survey (USGS) covers the remainder of the nation. The Digital Coast's Land Cover Atlas provides an easy way for users to view and obtain quick summaries of coastal change information without possessing additional software. USGS worked with NOAA's Digital Coast to create a similar atlas for the entire nation. The tool complements the Land Cover Atlas and summarizes general land change trends.

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.