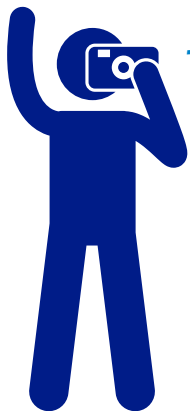


HAWAI'I RELIES ON THE DIGITAL COAST



5,823

Hawai'i visitors to the Digital Coast.
(560,176 nationwide)



That's because the Digital Coast has a lot to offer Hawai'i.

DATA

816 gigabytes of high-resolution elevation data available for Hawai'i.



TOOLS

50+ decision-support tools applicable for Hawai'i challenges.



TRAINING

120 leaders in the state used a Digital Coast training program.



GEOSPATIAL SERVICES

Over **\$590,000** in private-sector geospatial services awarded for the Pacific region.



INFORMATION

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- Nine percent of the population in Honolulu County lives in a floodplain.
- The state experienced 475.87 square miles of change from 1992 to 2010, mostly agricultural area.
- Tourism and recreation is the largest employer among the state's ocean-dependent economic sectors.

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SAVING TIME AND MONEY

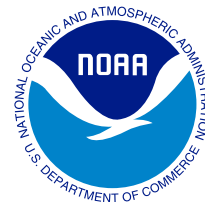
411% was the return on investment calculated for the Digital Coast.

IT'S A WEBSITE.

NOAA owns the Digital Coast, but the resources inside, while vetted by NOAA for applicability and quality, come from various organizations with one common but important thread: content is solely focused on coastal community needs. The site contains not only data, but also the tools, training, and information communities need to make data truly useful. Three out of four Digital Coast users surveyed say they couldn't do their jobs without this important resource!

The short report that follows highlights Digital Coast interactions with the State of Hawai'i.

Digital Coast
coast.noaa.gov/digitalcoast



Hawai'i Recap

NOAA and the Digital Coast are devoted to supplying Hawai'i with the data, tools, and information most needed by coastal communities. This report highlights the resources frequently used during this reporting period. Please visit the website (coast.noaa.gov) to learn more or contact NOAA (coastal.info@noaa.gov) with your questions or suggestions.

DATA

Data represent the core component of the Digital Coast. For Hawai'i, data holdings include elevation, land cover, aerial imagery, and county-level socioeconomic data. Examples are highlighted below.

Coastal Lidar

coast.noaa.gov/digitalcoast/data/coastallidar

Over 816 gigabytes of high-resolution elevation data covering Hawai'i's entire coastal zone are available. These types of data are critical for all types of modeling, including those that predict flooding potential.

Land Cover

coast.noaa.gov/digitalcoast/data/ccapregional

This satellite imagery is used to inventory and categorize the landscape—coastal intertidal areas, wetlands, adjacent uplands, development, agriculture use, etc. Nothing provides a big picture view of a region like land cover data. These data are used to identify high-priority landscapes for Hawai'i's coastal protection and tsunami evacuation efforts. Comparing one year to another is also a good way to spot and document trends.

Economics

coast.noaa.gov/digitalcoast/data/enow

Information about the ocean-dependent economy in Hawai'i helps people understand how the decisions that impact the coast can also impact the bottom line.

TOOLS

"Data alone is not enough" is a frequent Digital Coast refrain. Going the extra step and including the tools and training needed to make data truly useful is a hallmark of the Digital Coast website. Users have access to over 50 data analysis, visualization, and other decision-support tools. Examples are highlighted below.

Tsunami Information Service

coast.noaa.gov/digitalcoast/tools/tsunamimap

This tool provides tsunami evacuation maps and information for Hawai'i and Guam. Residents and visitors can interact with maps and find education and awareness information on the web or by downloading the app.

Coastal County Snapshots

coast.noaa.gov/digitalcoast/tools/snapshots

Pick a county and hit a button to generate easy-to-understand handouts. Behind the simple charts and graphs are complex county-level data about flooding, wetlands, and economics. Local officials use the snapshots as a planning and communication tool.

Sea Level Rise and Coastal Flooding Impacts Viewer

coast.noaa.gov/digitalcoast/tools/slr

This web-based data viewer provides coastal managers and scientists with a preliminary look at local sea level rise and coastal flooding impacts. The viewer is a screening-level tool that uses nationally consistent data sets and analyses. Data and maps provided can be used at several scales to help Hawai'i communities gauge trends, inform climate adaptation planning, and prioritize actions for different scenarios.

Land Cover Atlas

coast.noaa.gov/digitalcoast/tools/lca

This tool 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 (salt marsh losses to open water, for instance) can be documented. This type of information is useful for planning purposes. Hawai'i officials have found it particularly helpful in the identification and assessment of priority ecological areas for the conservation efforts of the state's Department of Land and Natural Resources.

Economics: National Ocean Watch Explorer

coast.noaa.gov/digitalcoast/tools/enow

This tool makes economic data easier to use. The economic data provided by the Digital Coast focus on six business sectors dependent 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 growing and declining, and which account for the most jobs, wages, and gross domestic product for coastal communities, the state, and the nation.

TRAINING

Coastal officials have to stay on top of their game, which is why the Digital Coast's "training academy" provides over 125 learning resources, from online courses to training brought to your location. A few examples are provided below. To see the full suite, visit coast.noaa.gov/digitalcoast/training/home.

Coastal Inundation Mapping

coast.noaa.gov/digitalcoast/training/inundationmap

This classroom course provides baseline information about the various types of flooding and teaches methods for mapping current and potential flooding scenarios. The course offers 16 hours of continuing education credits for the GIS Professional (GISP) and American Institute of Certified Planners (AICP), and Certified Floodplain Manager (CFM) professional certifications.

Green Infrastructure Practices and Benefits Matrix

coast.noaa.gov/digitalcoast/training/gi-practices-and-benefits

Green infrastructure (also called natural infrastructure) is the way to go for communities looking to reduce flooding. This quick handout provides important information about some of the most common techniques in use.

Seven Best Practices for Risk Communications

coast.noaa.gov/digitalcoast/training/risk-communication

The title alone speaks to most people—this is a skill everyone benefits from. The Digital Coast has many resources devoted to this topic, but this online training course is particularly popular.

GEOSPATIAL CONTRACTING

Through the Digital Coast, coastal organizations in need of geospatial data or services benefit from the use of the Coastal Geospatial Services Contract (coast.noaa.gov/idiq/geospatial.html). This contracting vehicle provides a way for local, state, and federal agencies to use a streamlined process to obtain services from the nation's top geospatial firms. In fiscal year 2016, over \$590,000 was awarded to private geospatial firms to conduct mapping projects in the Pacific region, 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 Hawai'i.

Compiling Natural Resource Data for Watershed Strategies in Hawai'i

coast.noaa.gov/digitalcoast/stories/hawaiiwatershed

The Hamakua region depends on streams for its geological and cultural identity; however, historical practices and invasive species have threatened water quality. The community wanted to better understand water quality practices in preparation for writing a management plan for the region. Utilizing a combination of the Digital Coast's Habitat Priority Planner and land cover data allowed the community to identify streams that already have protection, might need additional protection, or were prime candidates for restoration. The effort resulted in watershed strategy maps that were incorporated into a larger suite of community development plan maps. They also helped to start a dialogue with stakeholders about stream health as a way to invigorate rural economic development and retain community character.

Capturing Local Knowledge to Inform Coral Reef Management in Hawai'i

coast.noaa.gov/digitalcoast/stories/hicoralreef

The Hawai'i Coral Reef Strategy aims to "reduce key anthropogenic threats to two priority nearshore coral reef sites by 2015." This effort requires a full geospatial assessment of the sites and a survey of local stakeholders on how these areas are used. In August 2011, the NOAA Office for Coastal Management held three full-day workshops with 47 participants at the Lahaina Senior Center in Lahaina, Maui. These workshops used NOAA's Marine Protected Areas Center's participatory mapping process, which involved stakeholders and local experts mapping the human coastal uses of the region. Participants created geospatial maps quickly for 17 coastal uses. Hawai'i's Division of Aquatic Resources and the U.S. Army Corps of Engineers will use these maps for watershed and coastal resource management and protection.

Examining the Effects of Land Cover on Coral Reef Health in the Pacific Islands

coast.noaa.gov/digitalcoast/stories/hi-coral-reefs

Coral reefs are among the most vulnerable ecosystems in the world while being one that provides populations with a wide range of benefits. Human activities such as fishing and climate change threaten these reefs and the services they provide. NOAA's Pacific Islands Fisheries Science Center analyzed the amount of impervious surface, cultivated land, and pasture on each of the Pacific Islands using Digital Coast's land cover data. This information helped the science center get back to a ridge to reef form of management for watershed resources near coral reefs, thereby protecting local reefs and the services they provide.

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.