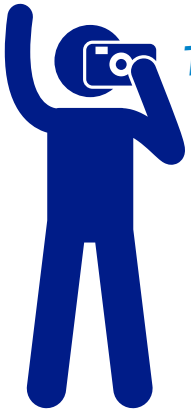
VIRGINIA RELIES ON THE DIGITAL COAST



*That's because the **Digital Coast** has a lot to offer **Virginia.***

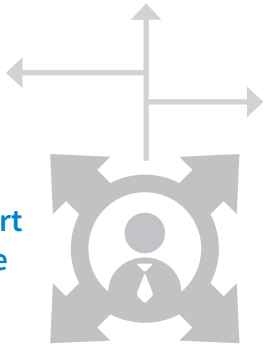
31,652
Virginia visitors to the Digital Coast.
(672,942 nationwide)

DATA

7,130 gigabytes of high-resolution elevation data available for Virginia.

TOOLS

50+ decision-support tools applicable for Virginia challenges.



TRAINING

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

GEOSPATIAL SERVICES

Over **$400,000** in private-sector geospatial services awarded for the Mid-Atlantic region.

INFORMATION

- Twenty-five percent of the population in Northampton County lives in a floodplain.
- The state added more than 212 square miles of developed area between 1996 and 2010.
- Tourism and recreation is the largest employer among the state's ocean-dependent economic sectors.

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 Virginia.

Digital Coast
coast.noaa.gov/digitalcoast

Virginia Recap

NOAA and the Digital Coast are devoted to supplying Virginia 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 Virginia, 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 7,130 gigabytes of high-resolution elevation data covering Virginia'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 Virginia's coastal protection and restoration 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 coastal economy in Virginia 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.

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.

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. Virginia's officials found it particularly helpful as they worked to assess water resource health and stability.

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.

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.

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 2018, over $400,00 was awarded to private geospatial firms to conduct mapping projects in the Mid-Atlantic region, including the acquisition and processing of imagery data.

DIGITAL COAST IN ACTION

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

Assessing the Vulnerability of Transportation Infrastructure on the Eastern Shore

coast.noaa.gov/digitalcoast/stories/eastern-shore

Studies suggest that relative sea-level rise is accelerating on the Eastern Shore of Virginia. Several areas are already experiencing road closures during storm and flooding events, and future elevated water levels will make things worse. To address long-range sea-level rise issues, a screening-level assessment was conducted using NOAA's Sea Level Rise Viewer to determine possible sea level rise impacts on transportation, infrastructure, and communities, and when these changes are projected to occur.

Providing Climate Education Aids for a Changing Chesapeake Bay

coast.noaa.gov/digitalcoast/stories/climate-education

Teachers face the challenge of effectively educating their students on climate change and its impacts. In Virginia's Middle Peninsula, teachers asked NOAA's Office for Coastal Management for data, tools, and resource recommendations for informing and educating local students. Students used NOAA's Sea Level Rise Viewer to assess how different rates of sea level rise would affect their counties. Then, they used NOAA's Coastal County Snapshots to view how wetlands contribute to their coastal communities. Using these tools allowed teachers a more age-appropriate way to use visualizations and data sets with their students and empowered teachers with the knowledge and confidence to teach about climate change and specific impacts.

Planning for Resilience in Communities with Water-Dependent Uses and Working Waterfronts

coast.noaa.gov/digitalcoast/stories/rutgers-va

Coastal waterways are a lifeblood for many businesses, from moving goods to offshore fishing. Yet some resilience plans fail to recognize the unique benefits and the risks facing these businesses. Rutgers University created a guide to help users identify a community's water-dependent businesses. Economic data from NOAA's Digital Coast were used, as well as a Digital Coast tool, the Coastal Flood Mapper, to assess vulnerability. These data and tools allowed a site-specific approach to these perplexing issues.

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.