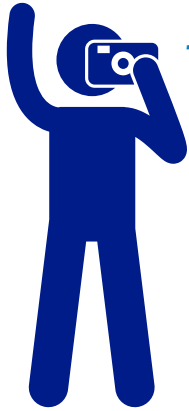


TEXAS RELIES ON THE DIGITAL COAST



30,122

Texas visitors to the Digital Coast. (560,176 nationwide)



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

DATA

1,289 gigabytes of high-resolution elevation data available for Texas.



TOOLS

50+ decision-support tools applicable for Texas challenges.



TRAINING

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



GEOSPATIAL SERVICES

Over **\$800,000** in private-sector geospatial services awarded for the Gulf region.



INFORMATION



- Twenty-five percent of the population in Galveston County lives in a floodplain.
- The state experienced 5,677 square miles of change between 1996 and 2010.
- Offshore mineral extraction 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 Texas.

Digital Coast
coast.noaa.gov/digitalcoast



Texas Recap

NOAA and the Digital Coast are devoted to supplying Texas 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 Texas, 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 1,289 gigabytes of high-resolution elevation data covering Texas'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 Texas'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 ocean-dependent economy in Texas 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. Texas officials found it particularly helpful as they worked on critical area enhancements and water quality issues.

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.

Sea Level Rise Viewer

coast.noaa.gov/digitalcoast/tools/slr

This web mapping tool visualizes community-level impacts from coastal flooding or sea level rise. Locals can see photo simulations of how future flooding might impact local landmarks, while GIS managers can download data related to water depth, connectivity, flood frequency, socioeconomic vulnerability, and more.

Coastal Flood Exposure Mapper

coast.noaa.gov/digitalcoast/tools/flood-exposure

Access coastal hazard risks and vulnerabilities with this tool, which creates a collection of user-defined maps that show the people, places, and natural resources exposed to coastal flooding. Coastal managers can save time and download the maps to share with stakeholders and communicate flood exposure impacts.

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 \$800,000 was awarded to private geospatial firms to conduct mapping projects in the Gulf region, 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 Texas.

Assessing and Managing Prop Scar Damage in Texas

coast.noaa.gov/digitalcoast/stories/prop scars

The State of Texas established the Redfish Bay Scientific Area with the goal of protecting and studying native seagrasses. Boating had already caused extensive damage in the area, so managers used remote sensing to finding scars from propellers, determine the extent of the damage, and support automated processes for mapping these scars. Managers are using these methods to update their methods of mapping prop scars and improve their estimates of actual prop scarring in the area.

Integrating Decision-Support Tools for Land Use Planning in Coastal Texas

coast.noaa.gov/digitalcoast/stories/crist

Recreation, tourism, and estuarine-dependent commercial and recreational fisheries play key economic roles in the region surrounding the Mission-Aransas National Estuarine Research Reserve. The area experienced rapid growth, which made it an ideal candidate to test out the use of decision-support tools for land use and resource management. The Nonpoint Source Pollution and Erosion Comparison Tool (NSPECT) was one of the tools in the study and helped predict sedimentation and pollution changes with different land use scenarios. By using these results in combination with two other tools, managers were able to have a better sense of the situations that would decrease the health and vitality of the estuary.

Mapping Flood Forecasts for Better Flood Planning in Texas Communities

coast.noaa.gov/digitalcoast/stories/txflood

Flood forecasts from the National Weather Service (NWS) are used by emergency managers and city officials to prepare for and respond to the nation's floods. Previously, the NWS published text-only alerts that left managers lacking the information they needed. Inundation maps with geospatial data were necessary for bridge and road closures, mandatory evacuations, and positioning of resources. Using high-resolution elevation data and reliable hydraulic models, state and federal partners mapped both the projected depth of floodwaters and the areas affected by inundation for several bayous near Houston, Texas. The maps allowed decision makers to safely position assets, determine who to evacuate, and identify safe routes for moving people out of harm's way during flooding events.

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.