

NOAA's Digital Coast: Tools for Coastal Communities

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NOAA Coastal Services Center

**River Rally Conference
Charleston, South Carolina
June 4, 2011**



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

Common Coastal Issues



Providing Solutions to Barriers

- Coastal data
- Data accessibility
- Improved intergovernmental coordination
- Techie and non-techie tools
- Training
- Outreach and awareness
- Contracting for geospatial services



More than just data...

The Digital Coast also provides the tools, training, and information needed to turn these data into the information most needed by coastal resource management professionals. [Read more...](#)

Welcome to the new Digital Coast. If you have questions or comments, please [take a video tour](#) or [contact us](#).

Data

Learn more about the kinds of data available and download data.

Tools

Use these tools to turn data into the useful information your organization needs.

Training

Update your skills by participating in one of these training programs.

In Action

See how data and tools are used to address coastal management issues.

Approaches

Coastal Inundation Toolkit

Understand the basics and get the tools that will help make your community more resilient.

Offshore Renewable Energy Planning

Get the data and tools needed to make siting decisions.

Conserving Coastal Wetlands for Sea Level Rise Adaptation

Learn spatial techniques and get resources to prioritize wetland conservation.

Featured Resources

State of the Coast

Get a state-level view of how coastal ecosystems, economies, and communities are connected.

Building Resilient Coastal Communities

See how coastal counties can use Digital Coast to build resilient communities.

Mississippi Geospatial Clearinghouse

A comprehensive spatial information warehouse for use by government, academia, and the private sector.

Recent Updates

[Sign up for updates](#) [Subscribe to RSS feed](#)

Tools



[Sea Level Rise Impacts Viewer](#)

Data



[Gross Domestic Product](#)

P>Data



[Aerial Photography](#)

Testimonials

“ I am amazed at all the information on Digital Coast that I didn't know was available. ”

County commissioner

Digital Coast Contributors

Mississippi State Coordinating Council for Remote Sensing and GIS	Management Association for Private Photogrammetric Surveyors
Northwest Florida Water Management District	Oregon Department of Geology and Mineral Industries
NOAA	Minnesota Department of Natural Resources
Southwest Florida Water Management District	Mississippi Department of Environmental Quality
Texas Natural Resources Information System	Scripps Institution of Oceanography
U.S. Army Corps of Engineers	Woolpert
U.S. Geological Survey	University of Texas
South Carolina Department of Natural Resources	Delaware Department of Natural Resources and Environmental Control
Federal Emergency Management Agency	Florida Division of Emergency Management
U.S. Department of Agriculture	Photo Science
Environmental Protection Agency	Maryland Department of Natural Resources
St. Johns River Water Management District	Dewberry
Fugro EarthData	Sanborn
Resources for the Future	



Digital Coast Partnership



NSGIC



*National States Geographic
Information Council*



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Digital Coast Partnership




The Digital Coast Partnership Group includes NOAA, the American Planning Association, the Association of State Floodplain Managers, the Coastal States Organization, the National Association of Counties, the National States Geographic Information Council, and The Nature Conservancy.



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Digital Coast Website



[Home](#) [Data](#) [Tools](#) [Training](#) [Approaches ▾](#) [In Action](#)

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County commissioner



Spatial Data Access

🔍Home Data Tools Training Approaches ▾ In Action

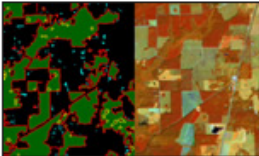
Data

Welcome to the Digital Coast. If you have questions or comments, please [take a video tour](#) or [contact us](#).

These data sets represent some of the coastal data most requested by Digital Coast partners. Access to data managed by the NOAA Coastal Services Center is provided through the [Data Access Viewer](#), which allows for user-specified geographies, formats, and resolutions. Other data sets are provided through various mechanisms maintained by their agencies of responsibility. Have an idea for a data set you would like to see in the Digital Coast? [Make a data suggestion to the Digital Coast](#).

Filter by Category:

Land Cover




C-CAP Forest Fragmentation Data

NOAA

Value-added maps of forest fragmentation derived from NOAA's land cover data using the University of Connecticut's Land Fragmentation Tool

[More Info](#) [Get It Now](#)



C-CAP High-Resolution Land Cover

NOAA

Land cover data for targeted areas, useful for site-specific analysis, and complementary to regional C-CAP land cover products

[More Info](#) [Get It Now](#)

Featured Resources

Mississippi Geospatial Clearinghouse

A comprehensive spatial information warehouse of geographic information system (GIS) resources for Mississippi for use by government, academia, and the private sector.

Great Lakes Information Network

A centralized location to discover, publish, and acquire geospatial data for areas within the Great Lakes region.

IOOS Data Catalog

Facilitates access to ocean observations from a



Spatial Data Access

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NOAA Coastal Services Center

Home Data Tools Training Approaches ▾ In Action

Data

C-CAP Forest Fragmentation Data

[NOAA Coastal Services Center](#)

Overview Details In Action Support **Get It Now**

Get It Now
NOAA Coastal Services Center Data Access Viewer

[Download Data](#)

- Data can be selected by a user-defined area of interest.
- Data are available in multiple projections, but only in GeoTIFF format. It should be noted that GeoTIFF format is not supported in many common geographic information system (GIS) tools.

Digital Coast Partnership Group [Contact the Digital Coast](#)



Data Access Viewer (DAV)

DIGITAL COAST Digital Coast : Data Access Viewer

Zoom In

Area Area

Location Search

Click and drag a box on the map to search for data.

Area

(Optional) Limit by keywords*:
forfrag

Match ANY Match ALL

State Search

Find data in: Select State/Territory

(Optional) Limit by keywords*:
forfrag

Match ANY Match ALL

Search

US DOC | NOAA | NOS
NOAA Coastal Services Center

Privacy policy
Questions or Comments? Contact CSC
Updated on June 1, 2009



Data Access Viewer (DAV)

DIGITAL COAST Digital Coast : Data Access Viewer

Zoom In Area Area

Location Search Results

[Display All Results](#)

Search Results: Available for download

Land Cover

- [2006 Forest Fragmentation Land Cover](#)
254 MB [Add to Cart](#)
- [2001 Forest Fragmentation Land Cover](#)
254 MB [Add to Cart](#)
- [1996 Forest Fragmentation Land Cover](#)
254 MB [Add to Cart](#)

Est. Data Size=0MB

[Data Checkout](#)

US DOC | NOAA | NOS
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Data Access Viewer (DAV)

The screenshot displays the Digital Coast Data Access Viewer (DAV) interface. At the top, the logo "DIGITAL COAST" is on the left, and "Digital Coast : Data Access Viewer" is on the right. Below the logo is a navigation toolbar with icons for "Zoom In", "Area", and "Area" (with a search icon), and a refresh icon. The main map area shows a satellite-style view of a coastal region with a red overlay representing forest fragmentation. A yellow rectangular box highlights a specific area on the map. To the right of the map is a metadata panel with tabs for "Data Search", "Results", and "Help". The "Results" tab is active, showing the title "2006 Forest Fragmentation Land Cover" and a "Back to results" link. Below the title, there is a table with the following information:

Product Description:	CCAP Forest Fragmentation
Cell Resolution:	30.0 meters

Below the table is a "View Metadata" link. At the bottom of the metadata panel, there is another "Back to results" link. Below the metadata panel, the text "Est. Data Size=254MB" is displayed, followed by a "Data Checkout" button. At the bottom left of the interface, there are links for "US DOC | NOAA | NOS" and "NOAA Coastal Services Center". At the bottom right, there is a "Privacy policy" link, the text "Questions or Comments? Contact CSC", and "Updated on June 1, 2009".



Data Access Viewer (DAV)

DIGITAL COAST Digital Coast : Data Access Viewer

Zoom In Area Area

Data Search Results Help

Data Request Options

Contact Information (*required)

*Email:

*Retype Email:

Check here if you would like to receive an email confirming your order. You will automatically receive emails when your data is available.

CCAP Data Options

Use standard options

Projection Options

Projection:

Datum:

Provisioning Options

Output File Format: Land Cover will only be output as GeoTIFF.

US DOC | NOAA | NOS
NOAA Coastal Services Center

[Privacy policy](#)
Questions or Comments? [Contact CSC](#)
Updated on June 1, 2009



GIS Analysis Tools for Planning

Tools

Habitat Priority Planner

NOAA Coastal Services Center

Overview

Requirements

In Action

Training

Support

Get It Now

Overview

This tool aids in making decisions about habitat conservation, restoration, and land use planning. The Habitat Priority Planner takes away much of the subjective nature of the process by providing a means of obtaining critical habitat analyses that are consistent, repeatable, and transparent. The program allows users to easily test various ideas and "what if" scenarios on the fly, making it the perfect tool to use in a group setting.

Features

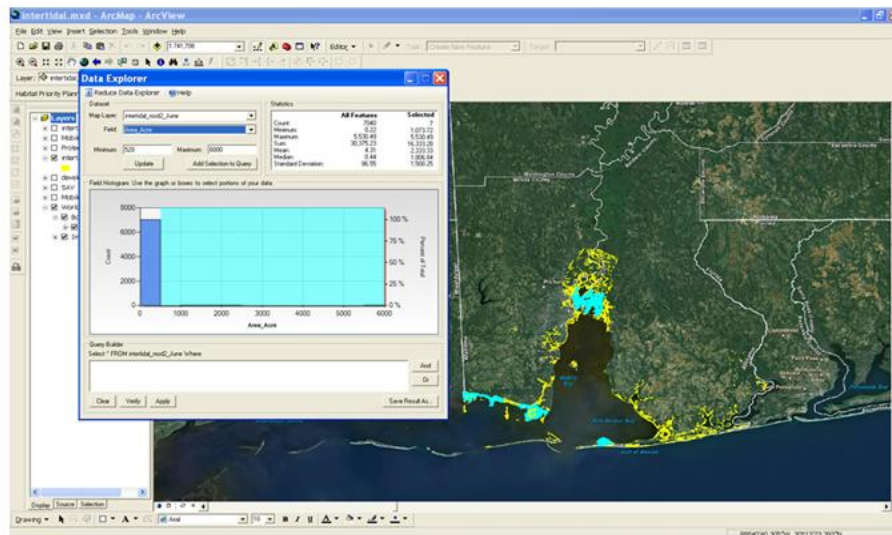
Inventories specific habitat or land-use types relevant to the site in question

Assesses target habitat or land-use type conditions with a process that automates the pre-packaged spatial analysis metrics

Analyzes "what if" scenarios such as the impact of new development or how restoration might change overall habitat function; participants can quickly and easily set the parameters—and change them as needed

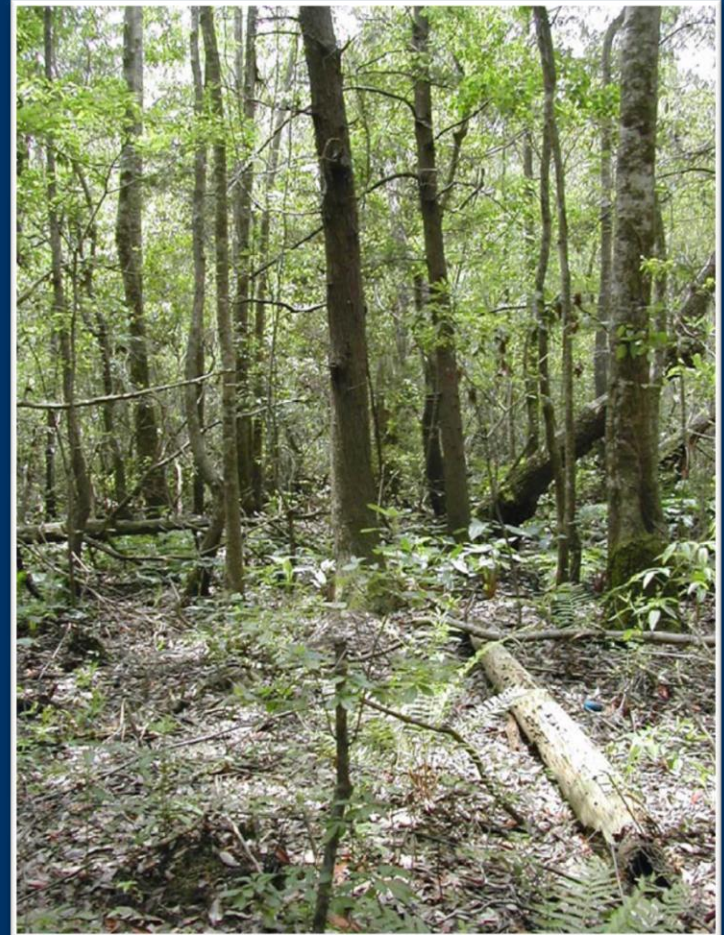
Gets people involved thanks to the fast, interactive environment this easy-to-use system provides

Creates maps, reports, and data tables to enhance communication and the decision-making process



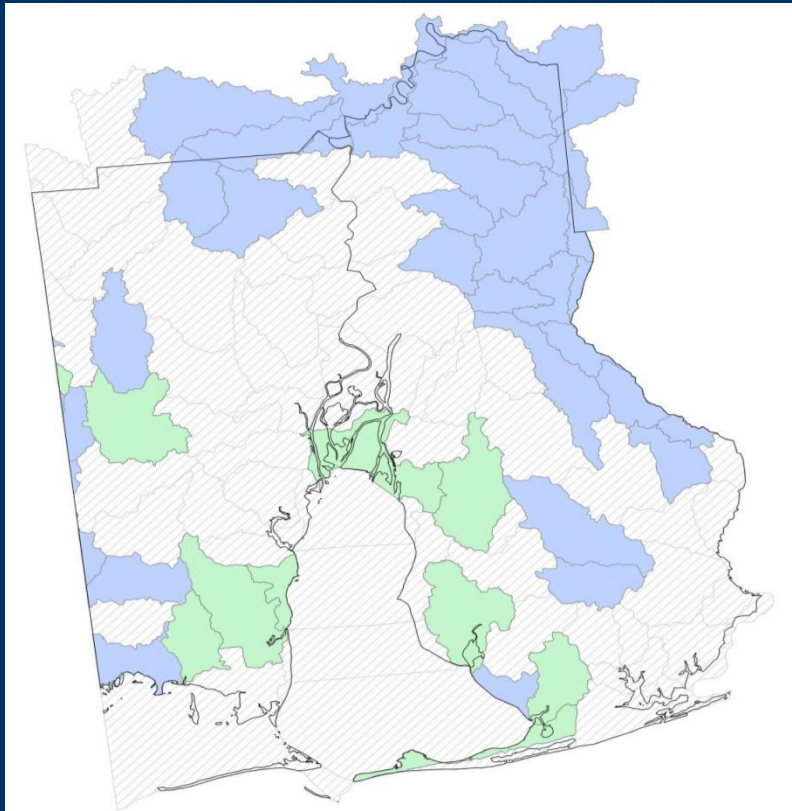
Habitat Priority Planner Use Case

- **Mobile Bay National Estuary Program**
- **Riparian buffers, river and stream habitat**
- **Identify priority areas for conservation and restoration action**

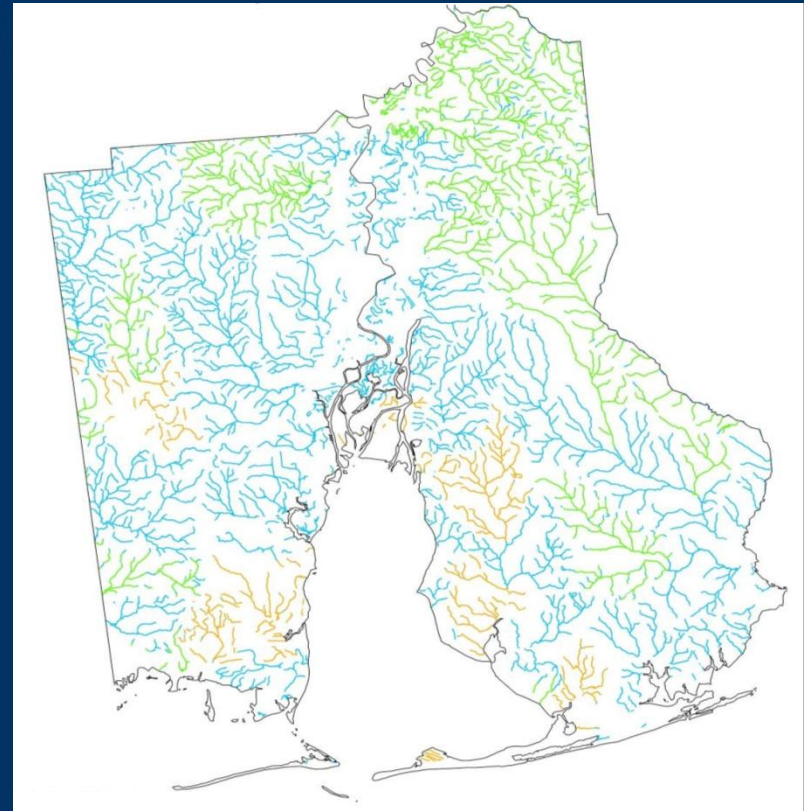


Habitat Priority Planner Results

Priority Watersheds

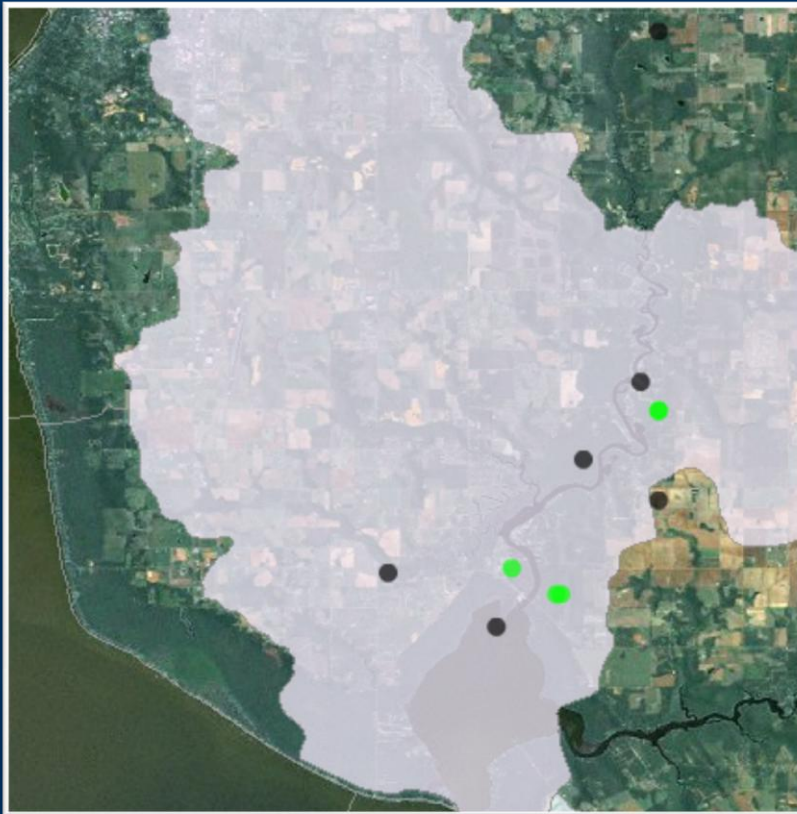


Priority Riparian Corridors

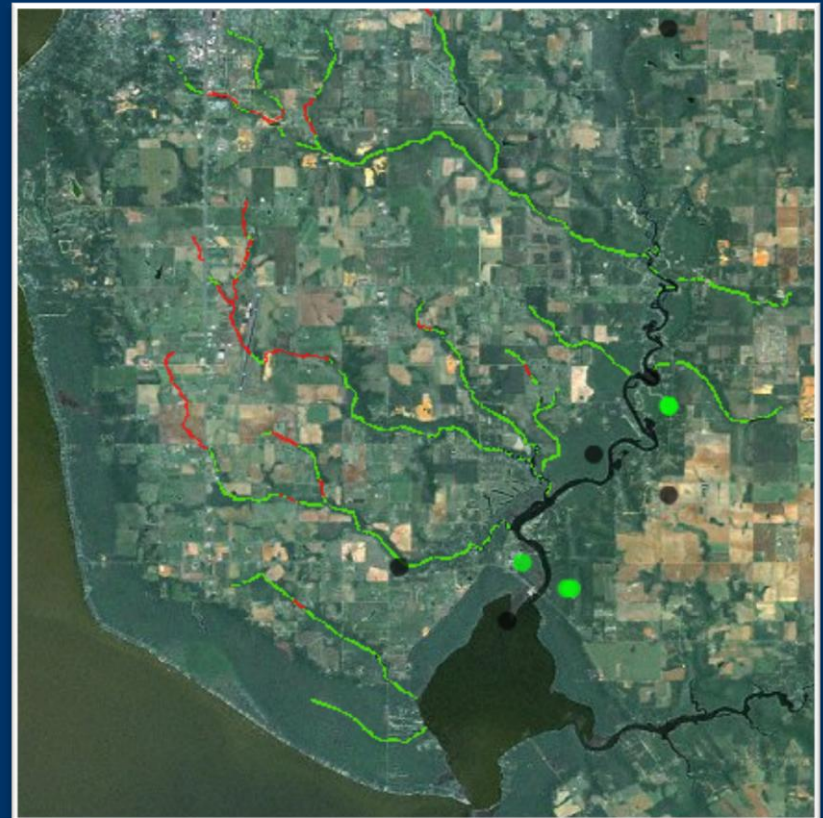


Habitat Priority Planner Results

Priority Watersheds



Priority Riparian Corridors



Simple Visualization Tools

Tools

CanVis

[USDA National Agroforestry Center](#) and [NOAA Coastal Services Center](#)

Visualize Options



Data Synthesis at Your Fingertips

Tools

Coastal County Snapshots

NOAA Coastal Services Center

Overview

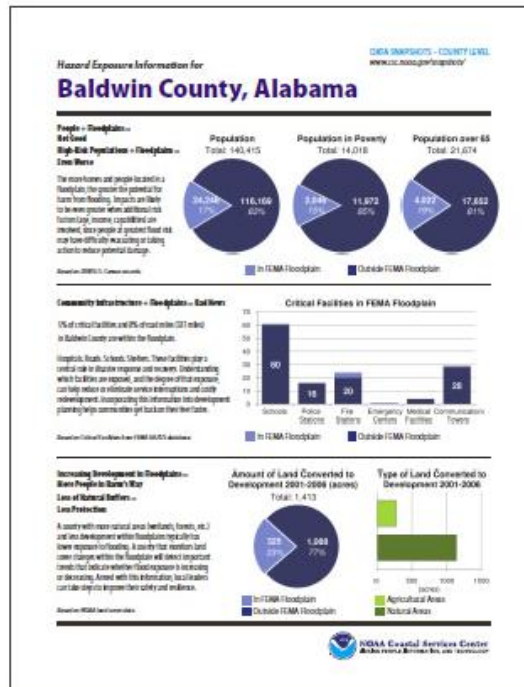
Coastal County Snapshots turn complex data into easy-to-understand stories, complete with charts and graphs. Users select a coastal county of interest and the website does the rest, providing information that can help communities become more resilient to coastal hazards.

Local officials use snapshot information to learn about their communities; handouts generated by the snapshots can be a helpful educational tool when working with governing bodies and citizen groups. Current snapshot data holdings focus on flood risks and the local economy.

Launch Now

In Action

[Illustrating the Importance of Critical Infrastructure Data for Louisiana Coastal Parishes](#)



Features

Assesses a county's exposure and resilience to flooding

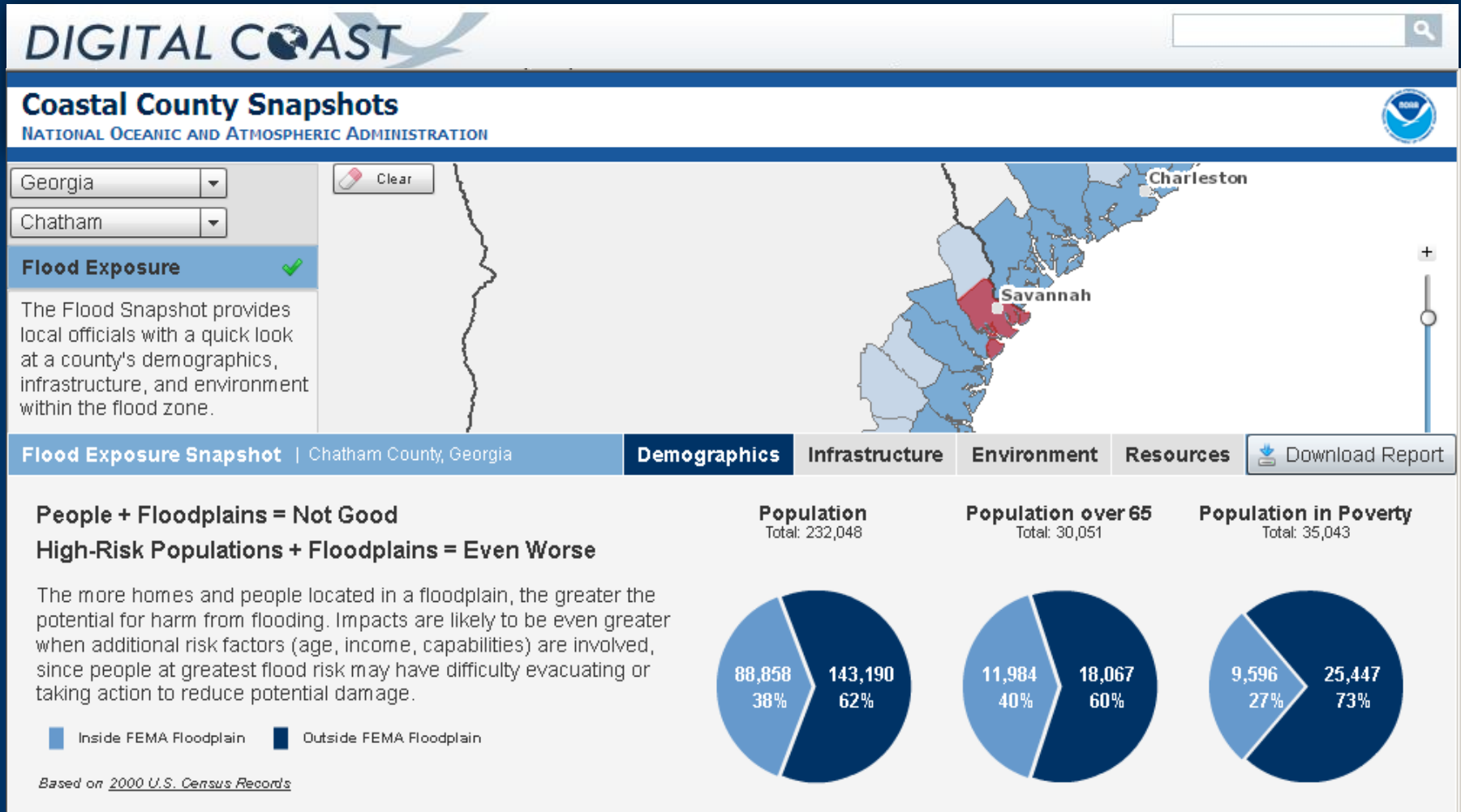
Analyzes a county's dependence on the ocean or Great Lakes for a healthy economy

Compares counties to each other or for regional analysis

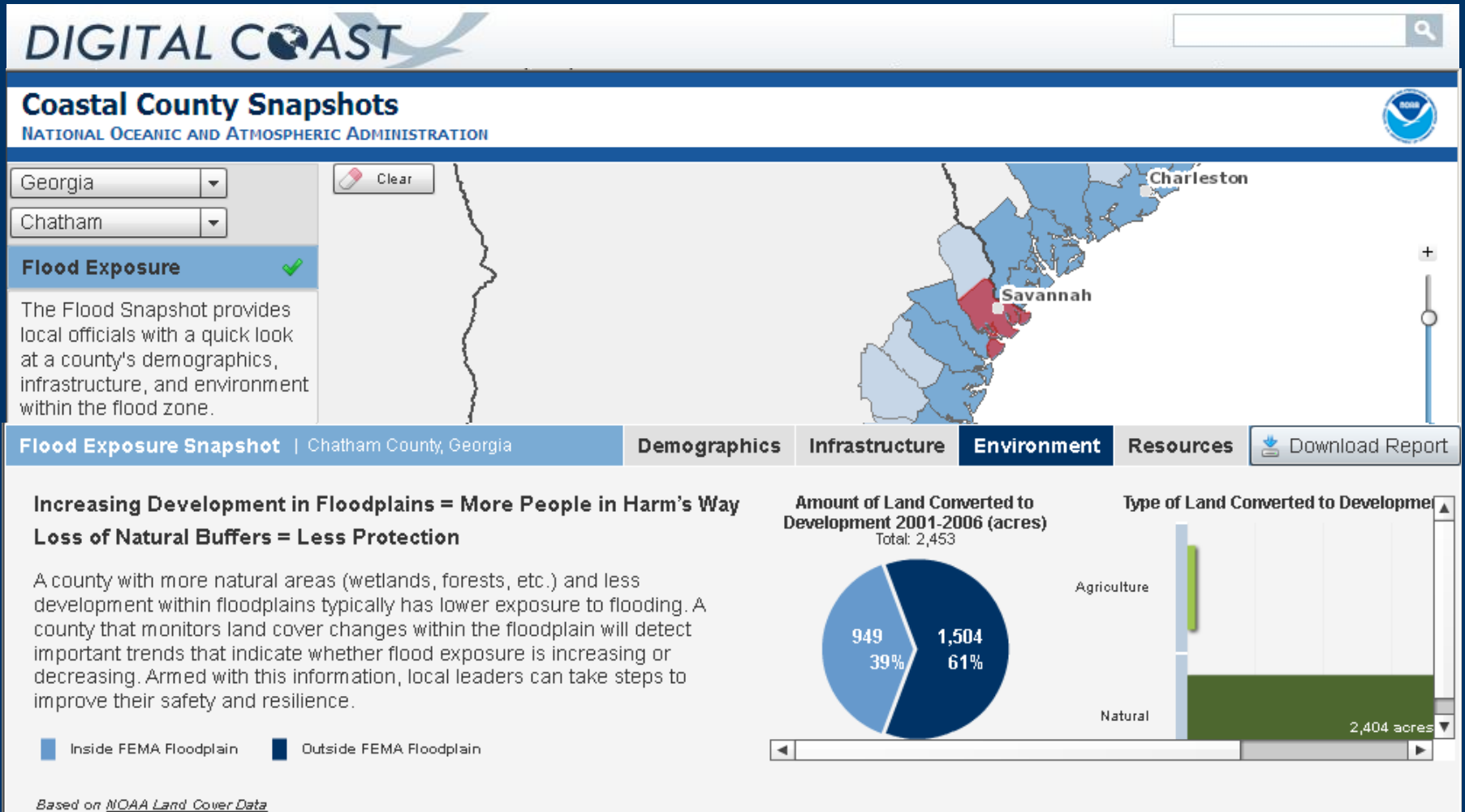
Allows users to download a PDF report for the snapshot of their choice



Chatham County, Georgia, Flood Exposure



Chatham County, Georgia, Flood Exposure



Portable Reports

Flood Exposure Snapshot

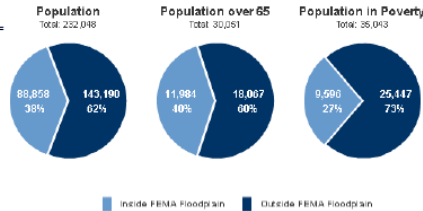
Chatham County, Georgia

Coastal County Snapshots
www.csc.noaa.gov/snapshots

People + Floodplains = Not Good

High-Risk Populations + Floodplains = Even Worse

The more homes and people located in a floodplain, the greater the potential for harm from flooding. Impacts are likely to be even greater when additional risk factors (age, income, capabilities) are involved, since people at greatest flood risk may have difficulty evacuating or taking action to reduce potential damage.

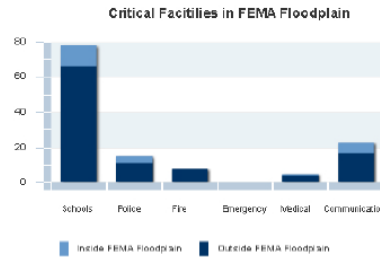


Based on 2000 U.S. Census records

Community Infrastructure + Floodplains = Bad News

17% of critical facilities and 33% of road miles (679 miles) in Chatham County, Georgia are within the floodplain.

Hospitals, Roads, Schools, Shelters. These facilities play a central role in disaster response and recovery. Understanding which facilities are exposed, and the degree of that exposure, can help reduce or eliminate service interruptions and costly redevelopment. Incorporating this information into development planning helps communities get back on their feet faster.

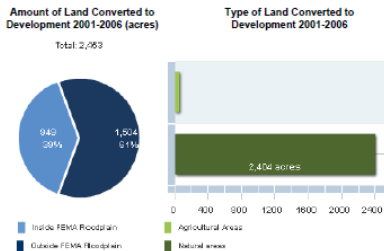


Based on Critical Facilities from FEMA HAZUS

Increasing Development in Floodplains = More People in Harm's Way

Loss of Natural Buffers = Less Protection

A county with more natural areas (wetlands, forests, etc.) and less development within floodplains typically has lower exposure to flooding. A county that monitors land cover changes within the floodplain will detect important trends that indicate whether flood exposure is increasing or decreasing. Armed with this information, local leaders can take steps to improve their safety and resilience.

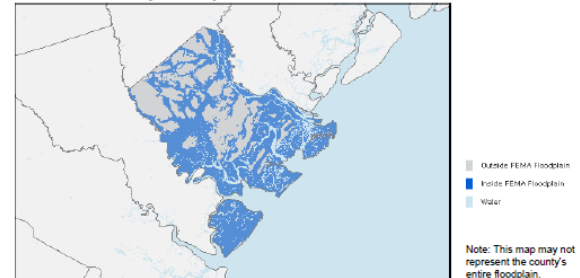


Based on NOAA Land Cover AAs

Date Printed: August 2011



Chatham County Floodplain



Next Steps

Through adaptation planning, all communities can be better prepared to face coastal hazards. While each community is different, there are some basic steps that all communities can follow to become more resilient.

Training that will lead your organization through this task can be brought to your office. Visit the Roadmap for Adapting to Coastal Risk Training (www.csc.noaa.gov/digitalcoast/training/roadmap/training.html) to learn more. Many of the components of this course (which are outlined below) can be found within the Digital Coast's Coastal Inundation Toolkit (www.csc.noaa.gov/inundation).

1. **Know your risks** – If your county has a hazard mitigation plan, get a copy of it from your county emergency management office or the Federal Emergency Management Agency (FEMA) (www.fema.gov/plan/mitplanning/status.shtml#f). Having county information about potential hazards, vulnerabilities, and priority hazard mitigation projects is important.
2. **Develop a team** – To see the issues and opportunities from as many perspectives as possible, engaging a diverse group of stakeholders is always a good idea. The County Snapshots (www.csc.noaa.gov/snapshots) are used to help people visualize the issues.
3. **Know what resources are available** – Federal and state agencies have funds available for risk reduction activities. See the funding opportunities listed below to learn more. There are also data and tools available to help people visualize the issues and solutions. For information on creating inundation maps for your community, visit the map section of the Coastal Inundation Toolkit. (www.csc.noaa.gov/inundation/map).
4. **Discover what others are doing** – See how other communities are addressing these issues. Visit the discover section of the Coastal Inundation Toolkit. (www.csc.noaa.gov/digitalcoast/inundation/discover.html). You may also contribute a story about your community efforts.

Data Sources

- Flood Zones – Based on FEMA 1% annual chance flood zones - <http://msc.fema.gov>
- Critical Facilities – FEMA HAZUS-MH data - www.fema.gov/plan/prevent/hazus/
- Roads – Based on ESRI 2005 streets data
- Demographic Data – NOAA – <http://dcos.noaa.gov>
- Land Cover Data – NOAA - www.csc.noaa.gov/digitalcoast/data/coaregional/index.html

Funding Opportunities

- FEMA – www.fema.gov/government/grant/hmcp/
- NOAA Coastal Management Program – <http://coastalmanagement.noaa.gov/mystate/>



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And Much More

Visit

www.csc.noaa.gov/digitalcoast/

Or Contact the NOAA Coastal Services Center

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