

THE WORLD AND DATA ARE NOT ENOUGH

Double Agents:

**Stephanie Beard
Danielle Bamford**

THE COUNTDOWN
HAS BEGUN

007



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

MISSION

COVERT ACTION: Bring the geospatial and coastal resource management communities together



ASSIGNMENT: A constituent-driven, integrated, enabling platform



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

NOAA CSC - Digital Coast Initiative



DIGITAL COAST



phase two and all future expansion efforts.

[Learn more...](#)

[Download Data](#)



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

[Privacy Policy](#)
[Link Disclaimer](#)
[USA.gov](#)

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

In this section, Digital Coast resources are packaged in a way that best assists coastal communities working to address a specific issue.

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.

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](#)

Data



[Community Resource Inventory \(South Carolina\)](#)

Provides an online mapping atlas of the natural and cultural resources in a

Data



[C-CAP Forest Fragmentation Data](#)

Value-added maps of forest fragmentation derived from NOAA's land cover data using

Tools



[Landscape Fragmentation Tool](#)

Maps the type of fragmentation present in a specified land cover feature and produces a data set containing

Testimonials

“What a great resource! And the way you've reached out to such diverse organizations to develop this resource is unique and commendable.”

Participant, South Carolina geographic information system conference

If you have content to submit to the Digital Coast, [let us know](#).

Approaches

Coastal Inundation Toolkit

[Home](#) [About](#) [Glossary](#) [Resources](#)

Understand

What is coastal inundation, its causes, and impacts?

Identify

How do I recognize community risks?

Map

How can inundation maps help?

Communicate

What are the best ways to communicate risk and vulnerability information?

Discover

What are others doing to address coastal inundation?

About The Toolkit

Provides the tools and information communities need to understand and address coastal flooding.

Highlighted Resources



Building Resilient Coastal Communities: Counties and the Digital Coast

This publication by the National Association of Counties highlights many of the Digital Coast resources that county officials can use to address coastal flooding, habitat conservation, and land use issues.

1 2 3



COASTAL INTELLIGENCE – CODE NAME “SNAPSHOT”

Hazard Exposure Information for

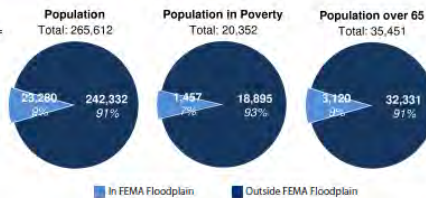
Cumberland County, Maine

DATA SNAPSHOTS – COUNTY LEVEL
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.

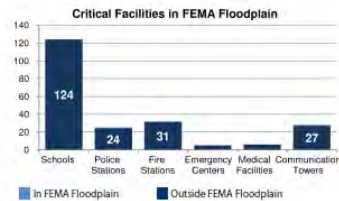


Community Infrastructure + Floodplains = Bad News

7% of critical facilities and 3% of road miles (106 miles) in Cumberland County 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 database.

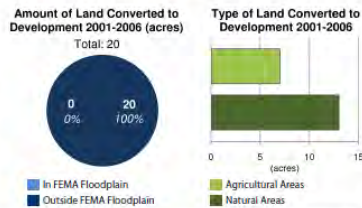


Increasing Development in Floodplains = More People in Harm's Way

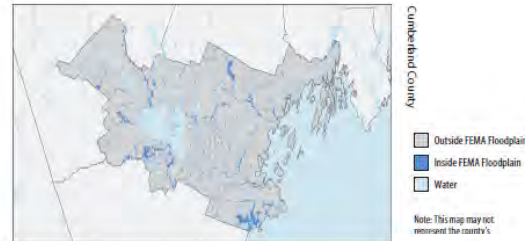
Loss of Natural Buffers = Less Protection

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 data.



PDF Downloads



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 can follow to become more resilient.

Training that will lead your organization through this task can be brought to your office. Visit Roadmap for Adapting to Coastal Risk Training (www.csc.noaa.gov/training/roadmap.html) to learn more. Many of the components of this course (which are outlined below) can be found within the Disaster 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 emergency management office or the Federal Emergency Management Agency (FEMA) (www.fema.gov/plan/mitplanning/status.shtml). 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 reduction activities. See the funding opportunities listed below to learn more. There are many tools available to help people visualize the issues and solutions. For information on inundation maps for your community, visit the map section of the Coastal Inundation Toolkit (www.csc.noaa.gov/inundation/maps).
- 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/inundation/discover). 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://stics.noaa.gov>
- Land Cover Data** – NOAA - www.csc.noaa.gov/digitalcoast/data/landcover.html

Funding Opportunities

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

Coastal County Snapshots: Cumberland County, Maine

Download Full Report

The screenshot shows a web interface with a navigation menu (Home, TAG, Demographics, Infrastructure, Environment) and a main content area. It features a map of Cumberland County, Maine, with a legend for FEMA floodplains and water. Below the map are three pie charts showing population distribution in floodplains, and a bar chart showing critical facilities. The interface includes search and filter options for counties.

Web Interface



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

Tools

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

The tools on this page support coastal decision-making by transforming Digital Coast data into information tailored for specific issues. Some tools are Web-based, providing direct online analysis and viewing, while others are downloadable extensions that provide new functionality for desktop geographic information systems. Have an idea for a tool you would like to see in the Digital Coast? [Make a tool suggestion to the Digital Coast](#).

Filter by Category: Filter by Issue:

Analysis Tools

Use data to produce value-added results based on application



Benthic Terrain Modeler

Oregon State University and NOAA

Derives benthic terrain classifications from input bathymetry

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



Digital Shoreline Analysis System

U.S. Geological Survey

Computes rate-of-change statistics from multiple historic shoreline positions

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

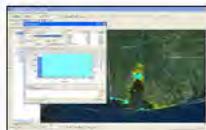


eCoastal Tools

U.S. Army Corps of Engineers

Provides data management and analysis solutions for coastal engineering projects

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



Habitat Priority Planner

NOAA

Helps to identify priority locations for conservation and restoration planning (extension to ArcGIS with Spatial Analyst)

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

Featured Tool

Multipurpose Marine Cadastre

Provides a framework for marine spatial planning efforts

Tool Resources

Ecosystem-Based Management Tools Network

Supports the implementation of ecosystem-based management tools in coastal and marine environments and the terrestrial environments that affect them

NEMO OPERATIVE: LANDSCAPE FRAGMENTATION TOOL

Tools

Landscape Fragmentation Tool (LFT)

University of Connecticut Center for Land Use Education and Research

Overview Requirements In Action Support Get It Now

Overview

The Landscape Fragmentation Tool maps four types of fragmentation present for a specified land cover (i.e. forest). These value-added map layers can be used to quantify and assess the amount of fragmentation present in a landscape and evaluate potential habitat impacts. "Core" regions are solid nondegraded areas of specified land cover, "edge" and "perforated" occur along the periphery of core areas, and "patch" regions make up small fragments that are completely isolated from core areas. Additionally, the core regions are split into three size classes.



Features

Analyzes types of fragmentation present in a land cover feature of interest

Quantifies the amount of each fragmentation category that can be related to the potential impacts of fragmentation on habitats

Creates value added data layers for fragmentation present in the geography of interest

Digital Coast Partnership Group

- [NOAA Coastal Services Center](#)
- [American Planning Association](#)
- [Association of State Floodplain Managers](#)
- [Coastal States Organization](#)
- [National Association of Counties](#)
- [National States Geographic Information Council](#)
- [The Nature Conservancy](#)

Contact the Digital Coast

[Privacy Policy](#) [National Ocean Service](#)
[Link Disclaimer](#) [National Oceanic and Atmospheric Administration](#)
[USA.gov](#) [United States Department of Commerce](#)



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

NEMO OPERATIVE: COMMUNITY RESOURCE INVENTORY

Tools

Community Resource Inventory (South Carolina)

[Clemson University, Baruch Institute](#)

Overview

A community resource inventory is an online mapping atlas of the natural and cultural resources in a community, along with human dimensions information. The human dimensions information includes land parcels, urban areas, and streets and highways. For South Carolina, the Community Resource Inventory-South Carolina (CRI-SC) tool presents these data in an online map for users without traditional geographic information system capabilities. Having a detailed set of inventory maps assists users in making educated decisions about land use to maintain environmental integrity. This initial version of the CRI-SC is a pilot program being tested for Georgetown County, with a goal for expansion to include all South Carolina coastal counties.



Features

Inventories important community data sets, including natural, demographic, and planning information

Prioritizes and analyzes specific actions for zoning, planning, and habitat assessment

Explores geospatial data specific to community land use planning needs

[Launch Now](#)

Support

[Community Resource Inventory \(CRI\) South Carolina User Guide](#)

Partners

- [Clemson University's Baruch Institute of Coastal Ecology and Forest Sciences](#)

DIGITAL
COAST



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

Tools

C-CAP Land Cover Atlas (Beta)

NOAA Coastal Services Center

Overview

Requirements

Support

Get It Now

Overview

This online data viewer provides user-friendly access to regional land cover and land cover change information developed through NOAA's [Coastal Change Analysis Program \(C-CAP\)](#). The Land Cover Atlas eliminates the need for desktop geographic information system software, or advanced technical expertise, by processing C-CAP data for the user and providing easy access to that distilled information. The tool summarizes general change trends (such as forest losses or new development) and can highlight specific changes of interest (salt marsh losses to open water, or evergreen forest losses to development, for instance).

[New PDF change summary reports now available!](#)

[Provide feedback on the Land Cover Atlas](#)



Features

Helps users to visually analyze and explore NOAA's geospatial land cover data by county for areas of user interest

Allows users to query specific types of land cover changes for specific date ranges and potentially evaluate their amount and location in relation to past management practices

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

Find Legend Help

Select an Area-of-Interest

Use the drop-down menus to zoom to a specific area-of-interest.

Select A State

Select Change Dates

Select from the drop-down menu below to analyze a specific time period of land cover change.

Select Dates

Select Change Classes

Select from the checkboxes below to analyze specific types of land cover change.


Select Change From Class:

- Uplands
 - Agricultural
 - Barren Land
 - Developed
 - Grassland-Herbaceous
 - Perennial Ice-Snow
 - Scrub-Shrub
 - Upland Forested
- Water
- Wetlands

Select Change To Class:

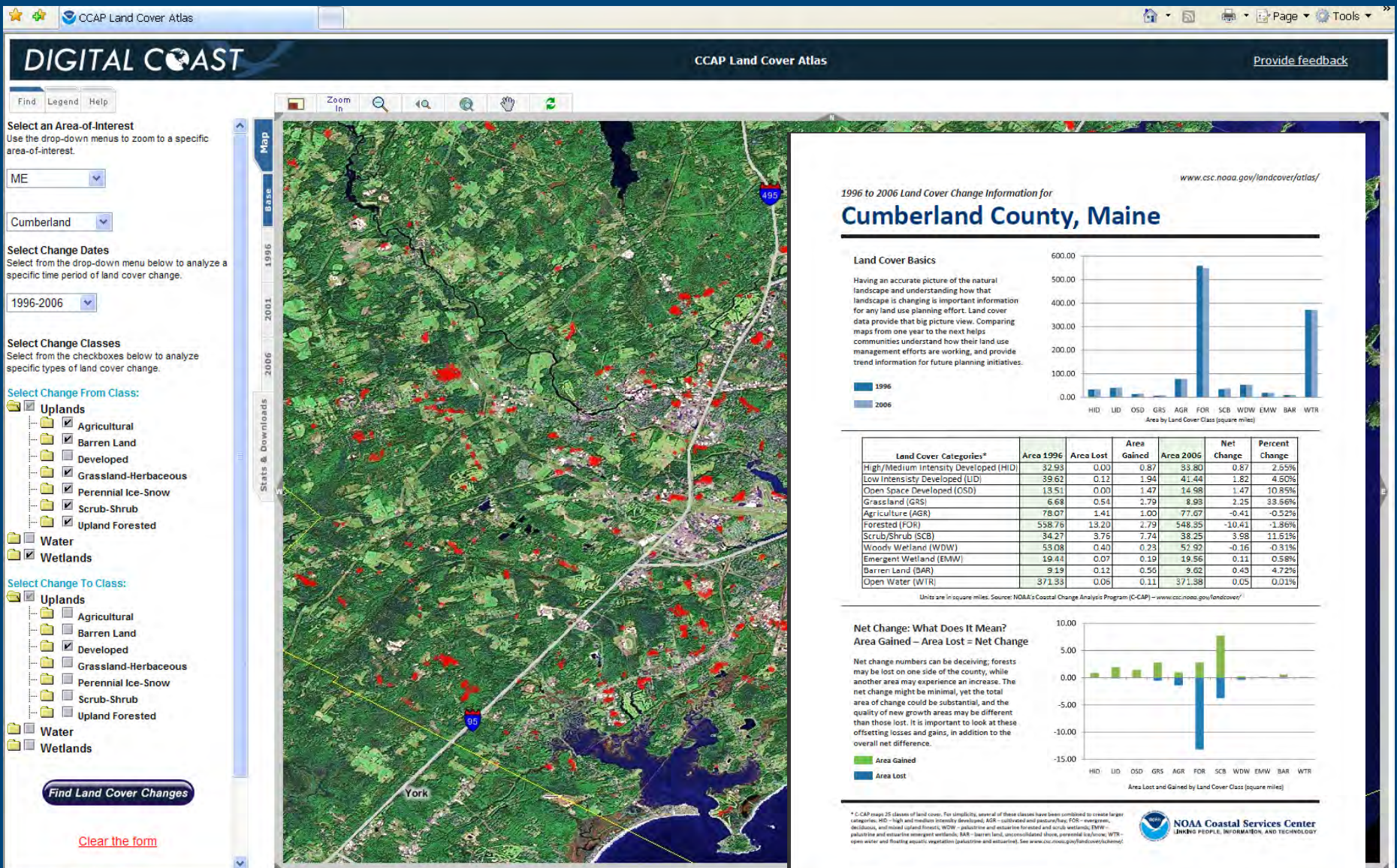
- Uplands
 - Agricultural
 - Barren Land
 - Developed
 - Grassland-Herbaceous
 - Perennial Ice-Snow
 - Scrub-Shrub
 - Upland Forested
- Water
- Wetlands

[Clear the form](#)

 A closed group, click to open.



CHANGE ANALYSIS RESULTS: ALL UPLAND CHANGE TO DEV



COASTAL INTELLIGENCE

Data

Welcome to the new 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:

Benthic



- All Categories
- All Categories
- Benthic
- Elevation
- Hydrography
- Land Cover
- Marine Boundaries
- Orthoimagery
- Socioeconomics

Benthic Data

Benthic habitat polygons derived from aerial optical or swath acoustic

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



Grab Sample Data

NOAA

Nearshore point observations of bottom type, derived from physical sediment grab samples

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



Sediment Profile Imaging Data

NOAA

Nearshore sediment point observations derived from the sediment profile imaging (SPI) camera system

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



Single-Beam Acoustic Data

NOAA

Nearshore point observations of bottom type, derived from single-beam, acoustic signal processing

[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.

The National Map

Multiple resources that provide Web-based geographic products and services as well as downloadable data from the U.S. Geological Survey and other federal, state, and local partners.

Additional Data Resources

Access more state, regional, and local data resources.

NEMO OPERATIVE: FOREST FRAGMENTATION DATA

DIGITAL COAST
NOAA Coastal Services Center

Home Data Tools Training Approaches In Action

Data

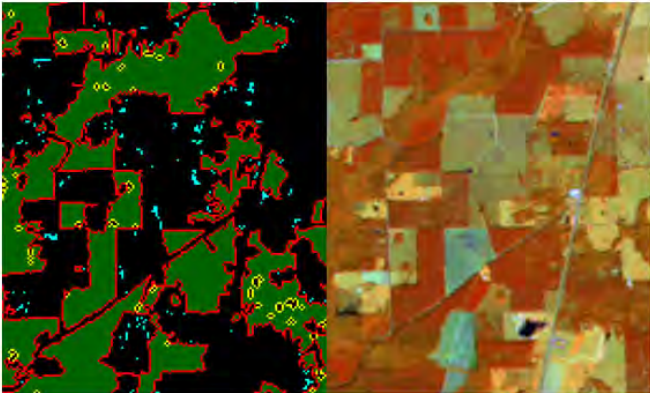
C-CAP Forest Fragmentation Data
NOAA Coastal Services Center

Overview Details In Action Support Get It Now

Overview

These value-added, raster-based maps of forest fragmentation were produced using [Coastal Change Analysis Program \(C-CAP\) regional land cover data](#). The analysis was performed using the [Land Fragmentation Tool](#) from the University of Connecticut's Center for Land Use Education and Research (CLEAR).

Intact forests are ecologically important but are becoming increasingly susceptible to development pressures and conversion. Forest fragmentation is the breaking up of large contiguous forest tracts into smaller, or less contiguous, areas. It is important to look at not only the net change in forest area, but also the spatial pattern of the observed changes. In these data, forest fragmentation is classified into four categories: *patch*, *edge*, *perforated*, and *core*. These categories have been identified as indicators of forest ecosystem quality and can be used to assess the amount of fragmentation present in a landscape and potential habitat impacts.



Data Specifications

Area of Coverage: Coastal intertidal areas, wetlands, and adjacent uplands of the contiguous U.S.

Dates Available: 1996, 2001, and 2006

Format: IMG, GeoTIFF

Resolution/Scale: 30 meter pixels (1:100,000)

Minimal Mapping Unit: 30 meter pixels (1/4 acres)

Accuracy: Developed to meet an 85 percent overall target accuracy specification but can vary by geography and date.

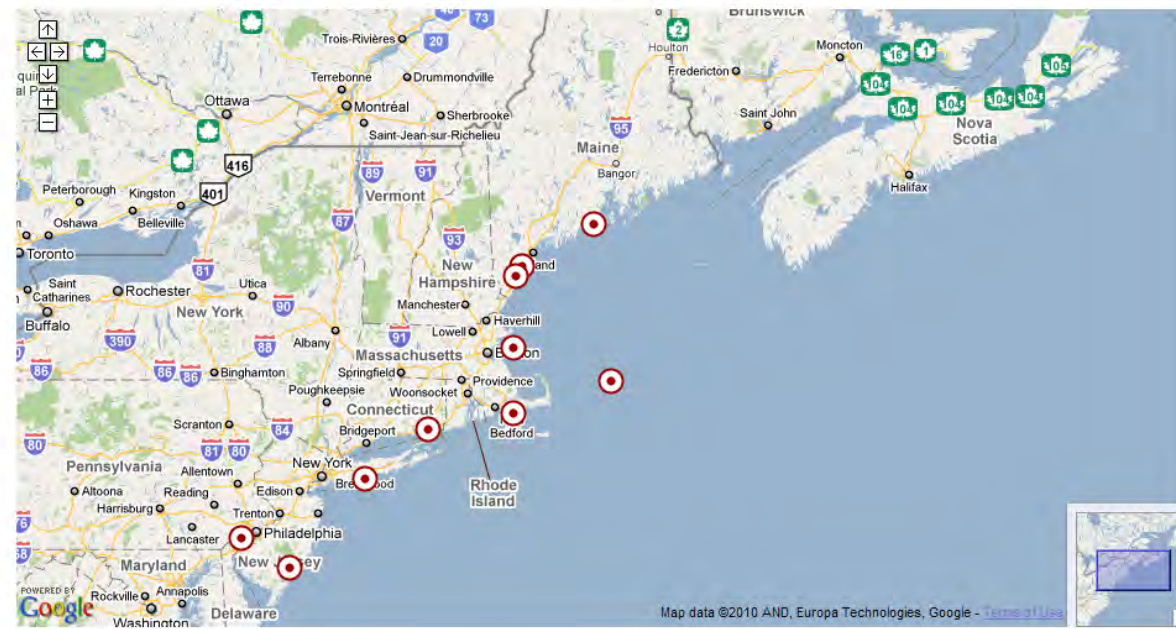
COASTAL INTELLIGENCE

In Action

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

This map links to examples of how communities are using Digital Coast resources to address coastal issues. Use the pull-down menus and map tags to locate stories for particular regions or issues.

Zoom to Area: Filter by Issue:



TRAINING OUR LEGIONS . . .

In Action

Building Technical Capacity in Coastal Maine

Overview

Increasing stressors in coastal areas make it difficult for individual organizations to reach their conservation goals. Recognizing the need to collaborate and build the technical capacity of coastal land trusts, the Maine Coast Protection Initiative (MCPI), a coalition of over 70 coastal organizations, banded together to increase the pace and quality of coastal land conservation. The group established three geographic information system (GIS) service centers in coastal Maine, and coordinated with the U.S. Fish and Wildlife Service Gulf of Maine Coastal Program, which also acts as a GIS service center for the area.

The Process

The GIS service centers received baseline data bundles for coastal Maine, including land cover and shoreline data. The MCPI service centers were also trained in conservation data documentation and GIS. Data produced by the State of Maine's [Beginning with Habitat program](#), which identifies ecologically important habitat, were added to the baseline data to create information maps that help guide local conservation efforts.

The service centers provide mapping services, data, and various levels of training to coastal land trusts, giving these organizations the necessary information and skills in geospatial technology to successfully conserve coastal resources. The four centers are also working together to produce a database of conservation lands within each center's area of interest, an initiative that has improved local and statewide communication among conservation-minded stakeholders. Equipping land trusts with GIS tools and training allows these organizations to better address coastal conservation challenges by supporting smarter, more effective decision-making in the coastal zone.

Related Data

- [Land Cover](#)
- [Shoreline](#)

Related Training

- [Introduction to ArcGIS](#)

Partners in This Effort

- [Land Trust Alliance](#)
- [Maine Coast Heritage Trust](#)
- [Maine State Planning Office](#)
- [NOAA Coastal Services Center](#)
- [U.S. Fish and Wildlife Service, Gulf of Maine Coastal Program](#)



DIGITAL
COAST



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

Training

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

These training opportunities help users address coastal issues and make the most of the data and tools found on Digital Coast. Trainings are offered in a variety of formats, from traditional classroom-based trainings to self-guided, Web-based instruction. Want your training offering included on this website? [Make a training suggestion to the Digital Coast](#).

Filter by Category: Filter by Delivery Type:

Geospatial Training

Classroom-based instruction for core geospatial skills



Assessing GIS for your Organization

Assists organizations in understanding the components needed to establish and use GIS



GIS for Managers

Provides an overview of the basic principles and functionality of ArcGIS



Introduction to Coastal GIS

Provides the fundamentals of ArcGIS software, framed within a coastal management context



Remote Sensing for Spatial Analysts

Offers an application-focused approach to remote sensing technologies and image analysis techniques

Featured Resource

Center for Land Use Education and Research

Provides training and resources for GIS, GPS, and online mapping

Upcoming Training Opportunities

CanVis

Web-based Training
September 15, 2010
1:00 p.m. to 4:00 p.m. (EST)

Habitat Priority Planner

Tool Demonstration
September 27, 2010
2:00 p.m. to 3:00 p.m. (EST)

[See all Coastal Services Center Training](#)

COME ROLL IN OUR DISCUSSION



FOR NEMO EYES ONLY . . .

- How can the Digital Coast potentially assist planners?
- What are the primary issues faced by this audience? Where can we help?
- What components of the Digital Coast should we consider for expansion? Are there gaps?
- Are there case studies or content that we should consider highlighting?
- How can we best access this audience to keep them updated and to provide technical support?

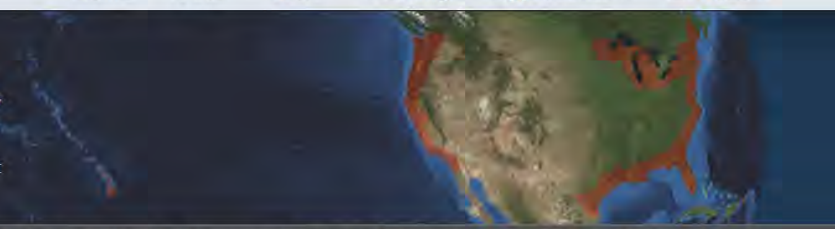


NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY



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

In this section, Digital Coast resources are packaged in a way that best assists coastal communities working to address a specific issue.

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.

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](#)

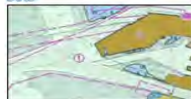
Data



Raster Navigational Charts

Full-color digital images of NOAA's entire suite of paper navigational charts

Data



Electronic Navigational Charts

Vector data sets developed to support safe navigation in U.S. waters

Data



NLCD Percent Developed Impervious Surface

Nationally consistent estimates of the amount of man-made impervious surfaces

Testimonials

“The tools on this website provide us with incredible opportunities for training department heads, elected and appointed officials, and the general public.”

Planner, South Carolina

If you have content to submit to the Digital Coast, [let us know](#).