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NOAA Services to You** **PAGE 5**

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Invest in Training** **PAGE 13**

PRODUCTS & SERVICES CATALOG

NOAA COASTAL SERVICES CENTER

Volume One • www.csc.noaa.gov

Partnership Building

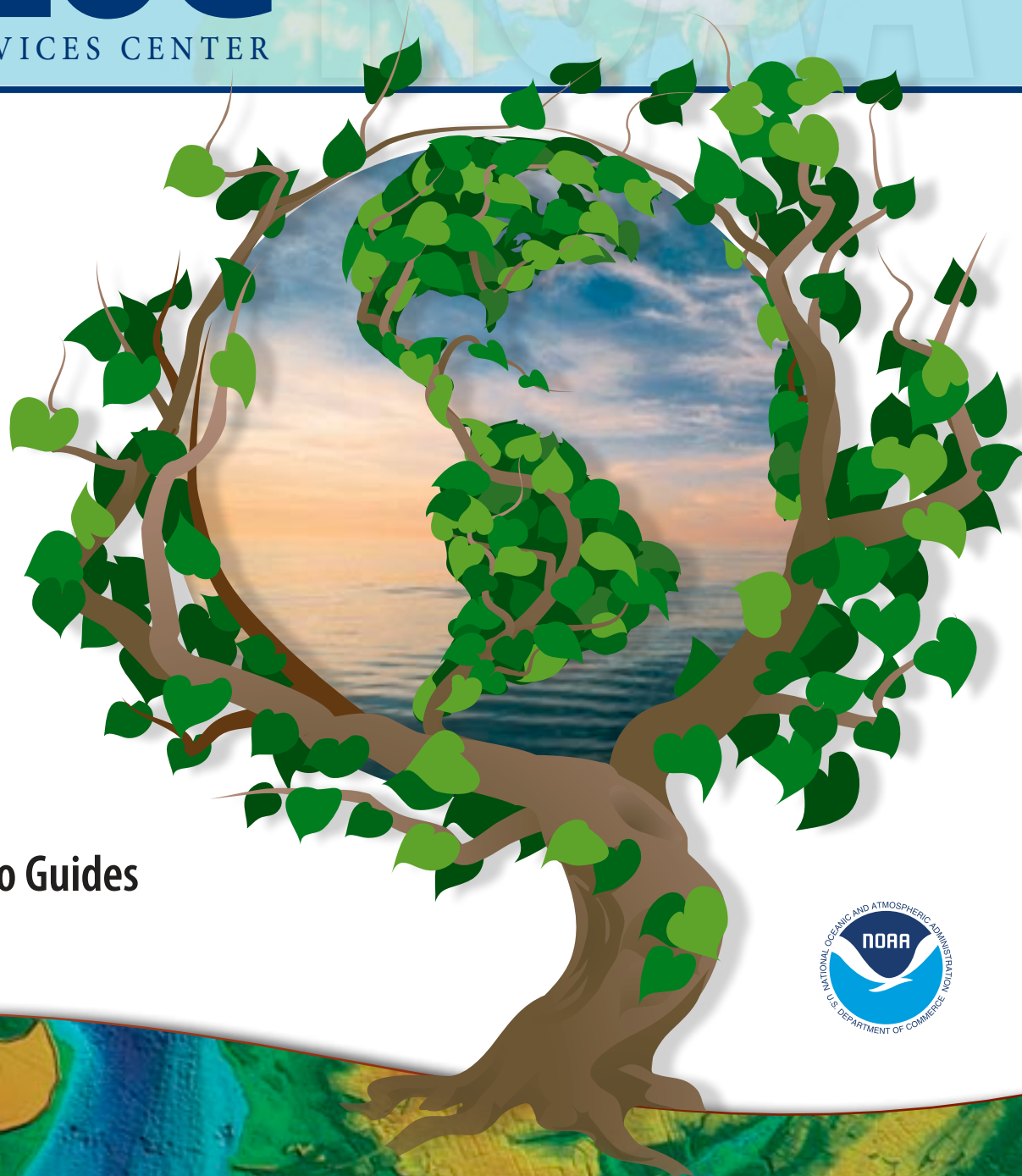
Data

Tools

Training

Technical Assistance

Publications and How-To Guides



PRODUCTS AND SERVICES FOR THOSE WHO MANAGE THE NATION'S COASTS

IT'S BEAUTIFUL. BUT WHAT DOES IT MEAN?

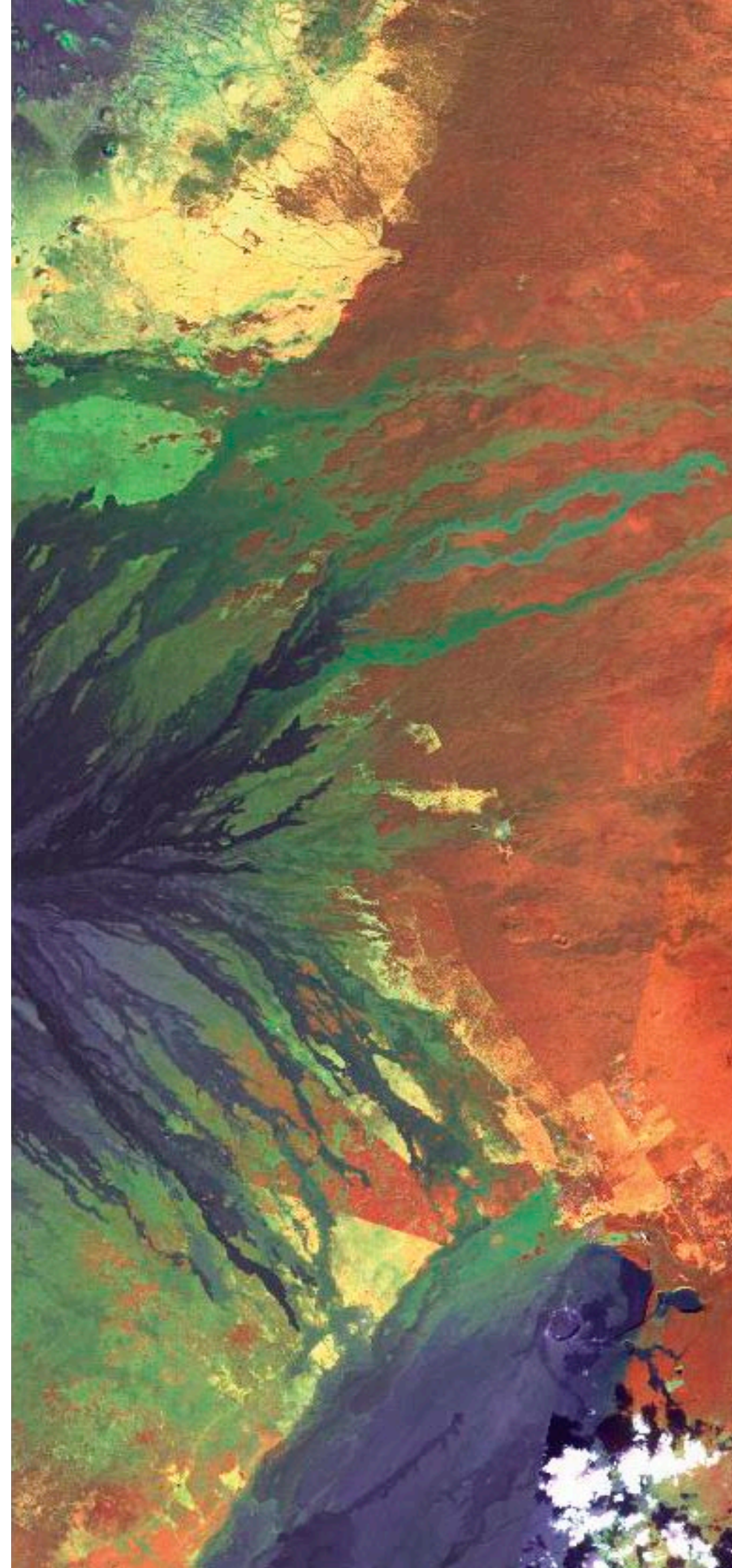
Remotely sensed data, including both satellite and aerial imagery, are used to create land cover maps. No other technology provides a better big picture view of a region. The maps depict where and how much of a region is covered by forests, wetlands, development, and other natural and man-made features. Creating maps from different years is a good way to document changes and alert communities to emerging trends.

The National Oceanic and Atmospheric Administration (NOAA) produces land cover maps for the nation's developed coastal zone. These maps are available free of charge, along with the tools and training needed to turn the data into information that coastal programs can use.

Visit the Digital Coast website to get the entire package: data, tools, and training.

DIGITAL COAST: MORE THAN JUST DATA

www.csc.noaa.gov/digitalcoast/



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Partnership Building	Data	Tools	Training	Technical Assistance	Publications & How-To Guides	Regional & State Projects

Working Smarter to Deliver More

There are four primary product lines found at the NOAA Coastal Services Center.

National products represent broadly applicable tools, data, and services. **Regional products** are efforts directed at regional issues and usually involve coalitions that cross geographic and organizational boundaries. **State products** occur when the Center's team addresses a site-specific issue; the resulting tools or models often are the basis for a national product. **Collaborative partnerships** represent an important component evident in almost everything attempted by the NOAA Coastal Services Center.

This catalog covers all four categories of products and services. Please contact the organization to learn more.

There is no denying the tough times before us. But sometimes things have to get tough before real change happens. This is true not only on a personal level, but it is also true for our communities and the world.



We've got the "tough times" part down pretty well: changing weather patterns with predicted dire consequences; budgets stretched to the breaking point; coastal populations that continue to swell; and a collective psyche being taxed as we jump from one crisis to another.

But the really important news lies deep within our nation's DNA. This country's resilient ingenuity is enabling us to find creative answers to today's challenges, innovations that will make the future even better than today. We will not give up, nor will we turn our backs on those qualities we deem important, including clean water, pristine beaches, livable coastal communities, and robust coastal economies.

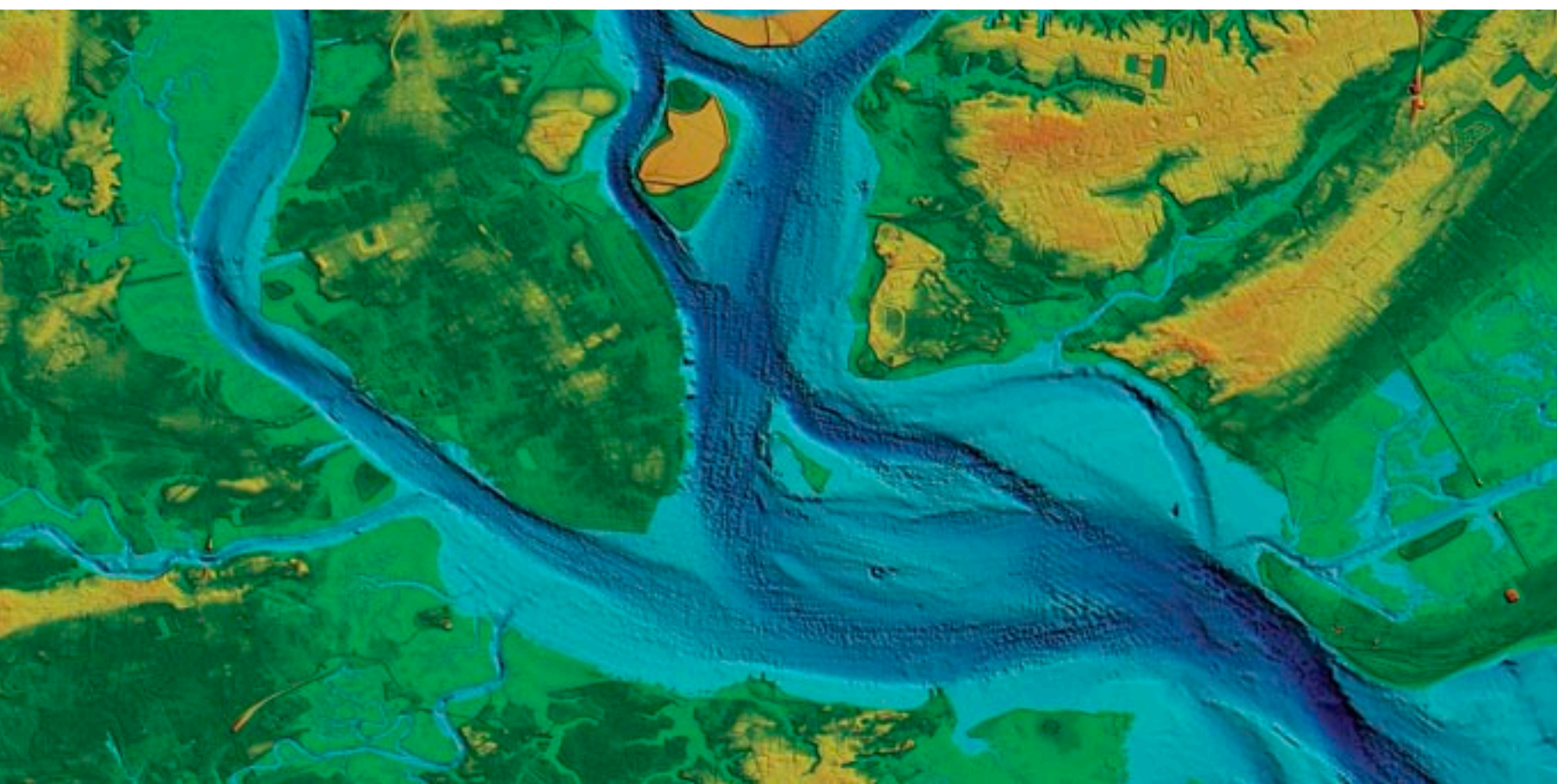
The National Oceanic and Atmospheric Administration developed the Coastal Services Center to be the glue that brings together those organizations that manage coastal resources.

This catalog showcases many of the products and services provided by the Center, along with information about the regional and state projects we've undertaken in the past few years. Hopefully, you will look through these pages and find the assistance your program has been dreaming about. If so, give us a call. We look forward to facing tomorrow with you.

Margaret A. Davidson, Director
NOAA Coastal Services Center



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY



At a Glance

The Mission

To support the environmental, social, and economic well-being of the coast by linking people, information, and technology.

The National Oceanic and Atmospheric Administration (NOAA) is a world leader in coastal science and management. NOAA's Coastal Services Center provides the up-to-date technology, information, and management strategies needed to address complex coastal issues.

NOAA is part of the U.S. Department of Commerce. The Center is housed within NOAA's National Ocean Service and has offices and staff members throughout the coastal zone.

The NOAA Coastal Services Center's constituents include local and state governments, coastal regulatory programs, land trusts, Sea Grant, floodplain managers, research reserves, and emergency managers.

Expertise

- ♦ Geographic Information Systems
- ♦ Data and Information
- ♦ Training
- ♦ Remote Sensing
- ♦ Social Sciences

Focus Areas

- ♦ Conservation
- ♦ Coastal and Ocean Planning
- ♦ Hazard Resilience

Products and Services

Categories

- ♦ Partnership Building
- ♦ Data
- ♦ Tools
- ♦ Training
- ♦ Technical Assistance
- ♦ Publications and How-To Guides

Sample Products and Services NOAA Coastal Services Center

Partnership Building

- Coastal Zone Conference
- GeoTools Conference
- Regional Ocean Governance
- Coastal Storms Program
- Risk-Wise
- Pacific Risk Management (PRiMO)
- Marine Boundary Working Group
- Regional Collaboration

Data

- Digital Coast
- Land Cover
- Elevation Data
- Benthic Habitat
- Shoreline Data

Tools

- Hazard Assessment Tool
- Impervious Surface Analysis Tool
- Habitat Priority Planner
- Visualizations
- Hurricane Evacuation Zones Map
- Risk and Vulnerability Assessment Tool
- Legislative Atlas
- Historical Hurricane Tracks
- Benthic Terrain Modeler

Training

- Geospatial Technology
- Process Skills
- Coastal Issues

Technical Assistance

- Center Tools and Data
- Survey Design
- Stakeholder Engagement
- Facilitation
- Fellowship Program
- Needs Assessments

Publications and How-To Guides

- Marine Boundary Series
- "Introduction to Stakeholder Participation"
- "Introduction to Survey Design and Delivery"
- Social Science Methodologies
- Storm Mapping Tutorial
- Coastal Community Resilience Guide
- Beach Nourishment Guide for Local Officials
- Coastal Services Magazine
- Coastal Connections Newsletter

To Access the Products and Services

Visit the website or e-mail the Center at csc@csc.noaa.gov to learn more.

www.csc.noaa.gov

PARTNERSHIP BUILDING

“Collaboration” and “partnership” are two long-standing, cornerstone operating principles of the NOAA Coastal Services Center. The Center works through partnerships to enhance effectiveness and efficiency and accomplish goals.

No duplication! Concerted efforts! Making a difference! This is the power of partnerships. Join the NOAA Coastal Services Center to contribute to and benefit from these networks. Visit www.csc.noaa.gov/partnerships.html to learn more.

Several examples follow.

Between Governmental Agencies

Regional Ocean Governance

The U.S. Commission on Ocean Policy recommended the development of regional ocean councils to provide the collaborative mechanism for local, state, and federal agencies to address coastal challenges. The NOAA Coastal Services Center provides federal leadership, participation, and support for regional ocean governance efforts at all levels. Contact the Center to learn more.

- Gulf of Mexico Alliance
- Northeast Regional Ocean Council
- West Coast Governors’ Agreement on Ocean Health
- Great Lakes Regional Collaboration
- Chesapeake Bay Program
- Gulf of Maine Council on the Marine Environment
- South Atlantic Alliance

Between Peer Groups

Premier Coastal Management Conference

The Coastal Zone conference series, held every two years in a different coastal city, is the largest international gathering of coastal resource management professionals. Around 1,000 people from the private sector, nonprofits, academia, and all levels of government come together at Coastal Zone to learn from each other the new and improved ways to address coastal issues.

Coastal Zone Conference Series
www.csc.noaa.gov/cz/

Coastal Technology Conference

This conference appeals to those who use technology to address coastal resource management issues. Participants learn from their peers, as well as technology firms, about what is new in this

field and how technology can make coastal programs more effective.

Coastal GeoTools
www.csc.noaa.gov/geotools/

To Address Coastal Issues

Bringing Focus to Local Hazards Issues

This program focuses national resources on specific communities and regions, with the goal of lessening impacts from coastal storms. Local, state, and federal organizations come together to develop a large suite of new and improved tools, information, and forecast models. The results range from improved commercial shipping routes to better local weather forecasting.

Coastal Storms Program
www.csc.noaa.gov/csp/

Increasing the Pace of Coastal Conservation

To increase opportunities for coastal conservation, the NOAA Coastal Services Center works with groups such as the Land Trust Alliance and The Nature Conservancy to foster interest in collaboration among diverse, nontraditional partner groups. In addition to supporting collaborative efforts, the Center also provides data and technical expertise.

Coastal Conservation Products and Services
www.csc.noaa.gov/conservation/

Better Risk Communications

Risk-Wise is a new initiative that is giving organizations a common playbook to use when communicating weather and climate-related risk information. Participants range from Sea Grant to the American Meteorological Society and the National Association of Counties. By communicating a similar message, the messaging is stronger, the delivery is enhanced and broadened, and American citizens will have the information needed to better protect themselves and their communities.

Risk-Wise
<http://resilientamerica.us>

Land Use Planning for the Ocean

“As far as the cannonball flies” is how some legal documents still define a marine boundary. The NOAA Coastal Services Center led several organizations in working together to standardize the way marine boundaries are measured and defined. A handbook of best practices, a compilation of related legal decisions, and the beginnings of a marine cadastre (land use planning for the ocean) have been accomplished thus far.

Marine Boundary Working Group
www.csc.noaa.gov/mbwg/

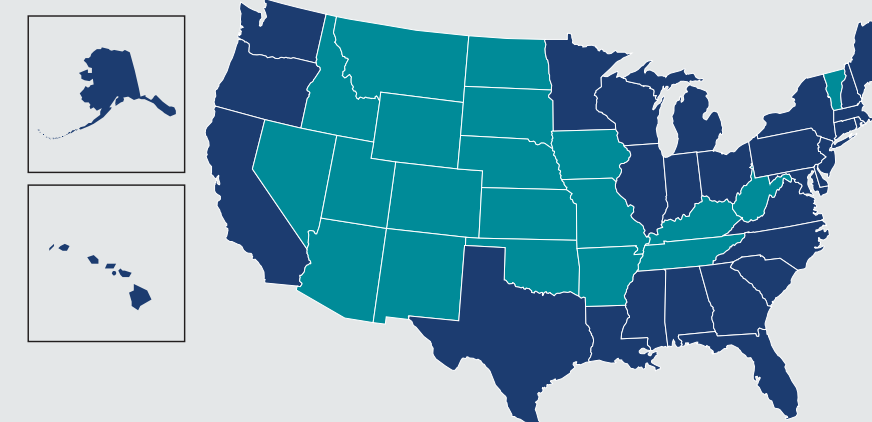
Pacific Risk Management

The Pacific Risk Management ‘Ohana, or PRiMO, is a network of partners and stakeholders involved in the development and delivery of risk management-related information, products, and services in the Pacific. A variety of organizations participate. The goal is to improve Pacific Island resilience by enhancing communication, coordination, and collaboration.

PRiMO
www.csc.noaa.gov/psc/primo/

“Gone are the days when we would rub two nickels together for funding. Most of us are having a tough time getting that first nickel. Being creative, innovative, and bold in our partnerships is now more than just a good idea. It is a requirement. Anything less than that is stupid.”

— Margaret Davidson, Director
NOAA Coastal Services Center



REGIONAL SERVICES BRING NOAA SERVICES TO YOU

“In the regions, our presence ranges from a couple of people to entire offices, but the focus is the same—we are the connection to our constituents,” says Becky Smyth, director of the Center’s regional efforts. “We work closely with local and state organizations to better understand the issues. At the same time, we work across NOAA and other federal agencies to deliver to these communities all that the federal government has to offer.”

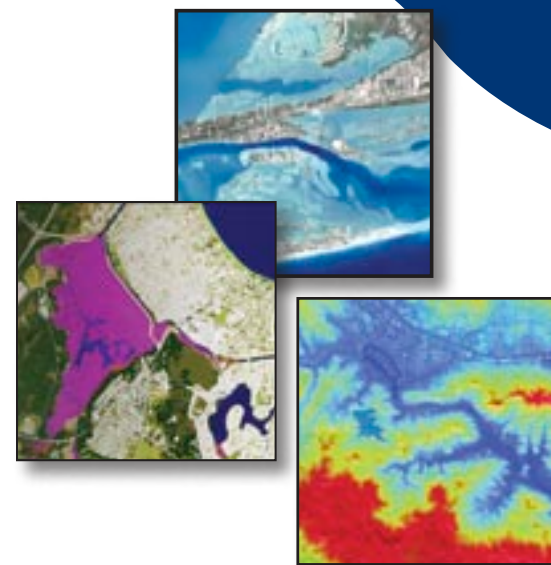
- Northeast
- Mid-Atlantic
- Gulf of Mexico
- Southeast and Caribbean
- West Coast
- Pacific Islands
- Great Lakes



Data are an important element of decision-making, but not just any data. They have to be the right data, in the right format, at the right scale, and covering the right areas.

The NOAA Coastal Services Center is dedicated to working with state and local coastal programs to determine data needs and deliver not only the data, but also the tools and training needed to turn these data into useful information.

All data and the related tools, training, and examples can be found on the Center's Digital Coast website: www.csc.noaa.gov/digitalcoast/.



Imagery

Remote sensing is the science of gathering information at a distance and is unsurpassed when it comes to getting data sets for a large area in a short amount of time. Remote sensing technologies are usually the most cost-effective means of getting information for areas that are inaccessible, far away, difficult to traverse, require a broad view, or are too large to effectively manage or assess with traditional surveying methods.

Land Cover

Land cover maps document how much of a region is covered by forests, wetlands, impervious surfaces, agriculture, and other land and water types. By comparing land cover maps over a period of time, users can also document land use trends and changes. The data are derived from remotely sensed imagery, which is the most efficient means of getting land cover data for a large region. The Coastal Change Analysis Program (C-CAP) has developed a baseline of land cover, or C-CAP data, for the nation's coastal zone. NOAA works

with the U.S. Geological Survey and other federal programs to produce a consistent, comprehensive land cover database for the nation.

Elevation Data

■ **Lidar (Light Detection and Ranging)**
Lidar is a remote sensing technology used to collect topographic and bathymetric data. Lidar sensors are typically mounted on aircraft and measure the time it takes for an emitted laser pulse to strike an object below and return to the receiver. The resulting data product is a dense "cloud" of georeferenced elevation points that can be used to model the Earth's surface and its features. Similarly, bathymetric lidar can be used to model the seafloor in areas with sufficiently clear water. Through partnerships, the NOAA Coastal Services Center has gathered significant coastal coverage for the lower 48 states and Hawaii.

■ **IFSAR (Interferometric Synthetic Aperture Radar)**
IFSAR is a remote sensing technology used to collect elevation data, employing radar energy instead of the laser used by

lidar sensors. The resulting data products include a radar image and elevation grids derived from the differences in the radar return signals. The use of radar allows day and night collections under most conditions, including clouds and light rain. The NOAA Coastal Services Center has gathered, through partnerships, significant coastal coverage for California, the Gulf of Mexico, and Hawaii. Data for Southern California can be accessed through the Digital Coast Data Access Viewer.

Benthic Habitat

Spatial data for intertidal or subtidal nearshore habitats and biological communities are available. The data are almost exclusively in vector format (polygon or point), primarily developed using aerial photography or multispectral imagery. Collection technologies include side-scan sonar, single-beam sonar, sediment grabs, and sediment profile imaging, and data collection occurred during environmental conditions needed for accurate mapping.

NOAA Shoreline Data

The NOAA Shoreline website is a comprehensive guide to national shoreline data and terms. The site provides information about and access to seven vector shorelines that are generated by NOAA and other federal agencies. Supporting context is available in the frequently asked questions, common uses of shoreline data, shoreline terms, and references sections.

Data Acquisition

Through established contracting vehicles with geospatial industry leaders, state and local agencies can work with Center staff members to contract for coastal data collection and other geographic information system services. Fund transfers are coordinated through an established memorandum of understanding (MOU) process. The Center does not charge overhead; therefore, 100% of state and local dollars applied to the contracts goes to the service requested. For more information, e-mail the Center at csc@csc.noaa.gov.

DIGITAL COAST:

MORE THAN JUST DATA

It started with a vision. Wouldn't it be great if coastal data were accessible from one website? And the site could also include the training and tools needed to turn these data into useful information. And examples—the site should provide examples so others could learn.

And since we're dreaming—couldn't we come a bit closer to changing the world if the site were used not only by the federal government, but also the private sector and nonprofits, county governments, state programs, and anyone else interested in the wise management of coastal resources? What would happen if these groups started working together?

The Digital Coast was developed in response to this vision. Users can download data and easily access the associated training, tools, and application examples needed to turn the data into relevant information. Visit the site to see this new reality.

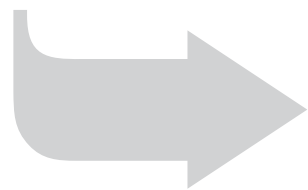
www.csc.noaa.gov/digitalcoast/

While getting the right data is necessary, people often need tools to turn these data into useful information.

The NOAA Coastal Services Center understands data, coastal management issues, and technology. Putting these three bases of knowledge together has resulted in a strong suite of helpful tools that are available through the Internet, free of charge.

Visit www.csc.noaa.gov/tools.html to learn more.

- Data-Manipulation Tools
- Decision-Support Tools



Data-Manipulation Tools

■ Lidar Data Handler

This tool helps users manipulate lidar data using a geographic information system (GIS).
www.csc.noaa.gov/lidar/datahandler.html

■ Chart Viewer

This software allows users to display a BSB format raster nautical chart in a GIS environment.
www.csc.noaa.gov/chartview/

■ NOAA Nautical Chart Reprojector

This stand-alone application is a companion to the Chart Viewer and is used to read the nautical chart's BSB format file and reproject it to the user's specifications, outputting in either BSB or TIFF format.
www.csc.noaa.gov/chartreproject.html

■ Electronic Navigational Chart Tools

Electronic navigational charts (ENCs) contain many useful data layers for ocean and coastal planning but are contained in a complex international format. The Center has developed tools that help simplify the conversion and visualization of ENCs in a GIS environment.
www.csc.noaa.gov/enc_tools/

■ Mapping Storm Surge Zones

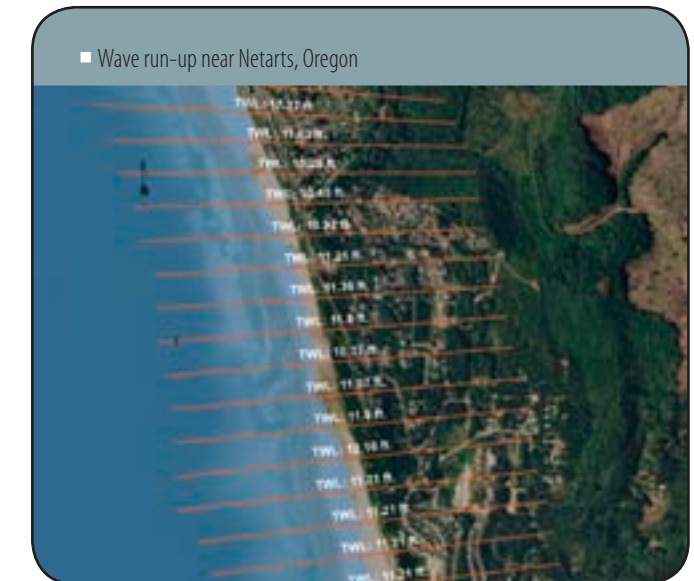
A mapping application is being developed that allows users to see how potential storm surge might impact critical facilities, infrastructure, vulnerable populations, etc. Shallow coastal flooding advisories are being coupled with storm surge zones and hazards planning data.

■ Community Resilience and Vulnerability Assessment Tool

This product, in the final stages of development, will help communities assess their vulnerability and resilience to weather and climate hazards and develop strategies for mitigation and adaptation. Case studies will provide examples of how risk, vulnerability, and resilience data can be used for multiple planning purposes.

Continued on Page 10

New Tools Available to Meet New Demands



Visualizing Inundation Possibilities

Increasing threats of sea level rise, storm surge, and shallow coastal flooding have coastal communities wanting to "see" potential flooding scenarios. Most visualizations use lidar as the base data set, but there are many ways to generate the visualizations. The NOAA Coastal Services Center works with organizations to help them find the tools and methods that will create the visualization product best tailored to their community's needs.

Decision-Support Tools

■ Hazard Assessment Tool

This easy-to-use tool provides instructions on a map that citizens use to download information about the various hazards that might impact a location.

www.csc.noaa.gov/bat/

■ Hurricane Evacuation Zones Map Tool

Use this template to develop a mapping application that citizens can use to find their hurricane evacuation zones.

www.csc.noaa.gov/bez_tool/

■ Nonpoint Source Pollution and Erosion Comparison Tool

This complex yet user-friendly geographic information system (GIS) extension, N-SPECT, is used to predict water-quality impacts from nonpoint pollution and erosion. Information about land cover and topography is used to estimate water quality impacts from various scenarios created by the user.

www.csc.noaa.gov/nspect/

■ CanVis

Use this visualization tool to add docks, buildings, and other structures to the background picture of your choosing to “see” potential impacts from a proposed development. The Center has a library of coastal objects (docks, piers, etc.) available for download and often works with constituents to add to this library. CanVis is also used to visualize sea level rise.

www.csc.noaa.gov/canvis/

■ Impervious Surface Analysis Tool

This tool is used to calculate the percentage of impervious surface in a user-selected geographic area and to estimate how change in land use management will affect imperviousness.

www.csc.noaa.gov/isat/

■ Risk and Vulnerability Assessment Tool

Use this website to help communities assess and prioritize the precautionary measures that make a community more resilient.

www.csc.noaa.gov/rvat/

■ Habitat Priority Planner

This software allows users to develop maps of their area and add whatever components they deem important (fishing areas, places of historical significance, etc.). A strength of this software is the ability to change these components very quickly and easily, making this a helpful tool in group decision-making.

www.csc.noaa.gov/hpp/

■ Historical Hurricane Tracks

Input a zip code or other location information and access past tropical cyclone tracks and information.

<http://maps.csc.noaa.gov/hurricanes/>

■ Multipurpose Marine Cadastre

The Multipurpose Marine Cadastre project is building a marine information system for the outer continental shelf and state waters. The data and information contained in this system are used to address a range of issues, including the demand for alternative energy.

www.csc.noaa.gov/mbwg/htm/multipurpose.html

■ Legislative Atlas

Pinpoint a place of interest and use this program to download information about the various ocean-related laws, policies, and jurisdictions.

www.csc.noaa.gov/legislativeatlas/

■ Benthic Terrain Modeler

The Benthic Terrain Modeler is a collection of GIS-based tools that coastal and marine resource managers use, with bathymetric data sets, to map the deepwater benthic environment.

www.csc.noaa.gov/benthic_terrain/

Geospatial Technology Courses

■ GIS for Managers

Through this short course, participants will gain a better understanding of the power and limitations of geographic information system (GIS) technology.

■ Assessing GIS for Your Organization

Not for the technologist, this lecture-driven course is for the coastal manager interested in an overview of GIS fundamentals, including software, hardware, data, required expertise, and applied uses.

■ Conservation Data Documentation

This hands-on workshop gives conservation practitioners the information and tools they need to document spatial data in a GIS environment.

■ Introduction to ArcGIS I

This two-day ESRI-authorized course provides a broad overview of basic GIS tools and methods.

■ Coastal Applications Using ArcGIS

Usually scheduled as a follow-up to Introduction to ArcGIS I, this two-day course provides students with opportunities to address a variety of coastal issues using ArcView 9.2 technology.

■ Remote Sensing for Spatial Analysts

This two-day course covers remote sensing basics through hands-on computer training in a GIS environment. Remote sensing data are used to investigate issues such as land use, topographic change, and fisheries and benthic habitat assessment.

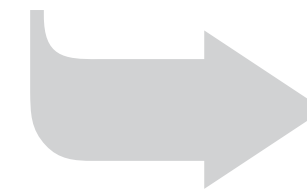
■ GIS Tools for Strategic Conservation Planning

This course teaches students how to apply GIS tools, methodologies, and analyses to strategic conservation planning using a green infrastructure approach.

The NOAA Coastal Services Center's strong training curriculum was developed to keep coastal programs on top of their game. Training can be brought to an organization (see the website for hosting information), some courses are available on-line, or the course can be taught at the Center's training facility in Charleston, South Carolina.

Details about each course and hosting information can be found at www.csc.noaa.gov/training/.

- Geospatial Technology Courses
- Learning Process Skills
- Courses That Address Coastal Issues



TRAINING

■ Coastal Inundation Mapping

This course teaches students how to integrate topographic and water-level data with inundation modeling to create maps that can be used to support state and local planning efforts.

Learning Process Skills

■ Project and Program Design and Evaluation

This course provides participants with the knowledge, skills, and tools they need to design and implement programs that promote organizational goals and have measurable impacts on the intended audiences.

■ Planning for Meaningful Evaluation

This course addresses the increasing demand for accountability by providing detailed information about program and project evaluation.

■ Public Issues and Conflict Management

Participants will learn the importance of preparation and planning in managing collaborative process meetings. They will also learn and practice facilitation skills, as well as how to address conflict and work with the media.

■ Negotiating for Coastal Resources

This course teaches people who protect coastal resources the “when, what, and how” of negotiating interagency relationships and coastal land use issues.

■ Needs Assessment Training (Web-based)

This on-line course familiarizes participants with needs assessment terminology, tools, and methods, as well as how and when to conduct a needs assessment.

■ Web Content Design and Evaluation (Web-based)

Coastal professionals in charge of Web content will be interested in the topics covered in this course—from instruction on how users interact with the Web to a detailed perspective on what the target audience expects to gain from the site.

Courses That Address Coastal Issues

■ Managing Visitor Use in Coastal and Marine Protected Areas

This two-day course introduces participants to a step-by-step process for characterizing and addressing visitor-use impacts and includes hands-on elements that participants can apply to their sites of interest.

■ Coastal Community Planning and Development

Instruction in alternative development principles and their implementation is the focus of this course, which was designed to help community leaders mitigate the negative impacts of growth.

■ Public Trust Doctrine (Web-based)

This on-line course offers a basic overview of the Public Trust Doctrine, outlining the responsibilities of the states and explaining the doctrine’s legal origins and geographic scope.

■ Survival Skills for Coastal Resource Managers (Web-based)

Three on-line modules provide information on the different responsibilities involved in coastal resource management, techniques for designing productive stakeholder meetings, and methods for finding, assessing, and managing information.

“By the end of this two-day course, I had learned more—and was able to take far more information with me—than I had after many whole-semester course experiences. The incredible high quality of the program, the activities, and the opportunities presented during class to assimilate and integrate the lessons learned were extremely valuable to me.”

— Jolanda Jansen
Hudson Valley Smart Growth Alliance



93%
*said their time
was well spent*



photo credit: Augusto Meneses

TAKE YOUR PROGRAM TO THE NEXT LEVEL.

INVEST IN TRAINING.

While on-the-job experience is invaluable, targeted training helps coastal professionals advance the skills they need for their jobs.

Classes provided by the NOAA Coastal Services Center are taught by professionals certified in instructional design. New courses are frequently introduced as requested by class attendees. A recent survey found that 93% said their time was well spent and 94% said they achieved their learning objective.

Many organizations appreciate the fact that training can be brought to their facility, since it often helps when staff members and partners can learn new things at the same time.

So what are you waiting for? Help your program take a big step forward. Invest in training.

Training from the NOAA Coastal Services Center

www.csc.noaa.gov/training/

TECHNICAL ASSISTANCE

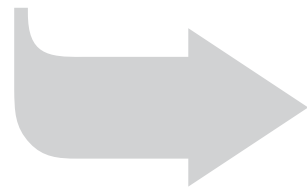
TECHNICAL ASSISTANCE

Organizations can't house all the expertise needed for every task. When new or out-of-the-ordinary jobs arise, getting some extra help can save a lot of time and frustration.

The NOAA Coastal Services Center's technical assistance ranges from phone calls that answer questions about data tools to an extra pair of hands dedicated to your program through the Coastal Management Fellowship Program.

Visit www.csc.noaa.gov/techassist.html to learn more.

- Technology
- Data
- Social Science and Process Assistance
- Fellowship Program



Technology

■ **Remote Sensing and Geographic Information Systems**
In addition to offering formal training classes, Center staff members are often available to answer questions about incorporating the Center's data into a geographic information system (GIS) or provide information about the use of remotely sensed data.

■ **Center Tools**
The Center has developed many tools designed to help constituents turn data into helpful information. Center staff members help people learn how to use these tools. This assistance ranges from responding to e-mail inquiries to offering mini how-to classes for groups.

■ **Conservation Technology Clinic**
The Center provides a technology help clinic annually at the National Land Conservation Conference. One-on-one GIS consultations are provided to conference participants, where specific GIS questions are answered and information is shared on how GIS tools can help organizations become more effective.

Data

■ **Determining Data Standards and Data Sharing Methods**
There are many data "standards" available. Deciding which are most appropriate for making data available to the widest possible audience can greatly extend the data's usefulness. The Center helps organizations determine which data standards or data-sharing techniques are best for the task at hand and for future data use.

■ **Data Assistance**
Staff members are available to answer questions about the various data available from the Center's website.

■ **Benthic Habitat Mapping**
A wide variety of technologies can be used for benthic mapping. Center staff members work with coastal managers and data providers to develop project requirements and identify mapping methods appropriate for a given project.

Social Science and Process Assistance

■ **Needs Assessments**
Fully understanding a constituent's needs (as opposed to wants) is what a needs assessment is all about. The NOAA Coastal Services Center offers consulting services and on-line training. The consulting services range from helping an organization determine how to hire an outside firm to conduct a needs assessment to partnering with an organization to undertake the actual assessment.

■ **Survey Design**
Designing a successful survey is art and science. Services provided include a publication designed to help organizations understand what they should consider before undertaking a survey and assistance with actual survey design.

■ **Economic Impact Analysis**
Economic impact analysis calculates jobs, income, and output generated by an institution, industry, or activity (such as tourism) in a specific area. This information can help coastal managers understand the effects of possible management actions. The Center provides guidance and model output-data analysis using data supplied by constituents.

■ **Stakeholder Engagement**
Even when the issue is important, it is often difficult to get the right parties involved in the decision-making process. The Center offers a publication with tips on increasing stakeholder engagement and is often called upon to help organizations design a process to increase public participation.

■ **Facilitation and Process Design Assistance**
What is the best way to get the desired outcomes from a meeting? The Center works with constituents to design the processes that help participants have meaningful discussions that produce agreed-upon results.

Continued on Page 16

**FELLOWSHIPS OFFER
"WIN-WIN"
OPPORTUNITIES**

"Mentoring each fellow has truly been a delight, and I am constantly amazed at the dedication and skill they bring to their projects. What's more, the fellowships are an extremely cost-efficient use of taxpayer dollars—in terms of positive results, the fellows give us the ability to squeeze a dollar out of every dime we spend!"

Andrea Cooper, the shoreline and floodplain management coordinator for the Massachusetts Office of Coastal Zone Management, has mentored several coastal fellows placed with the agency over the past decade.



Andrea Cooper with Wes Shaw, Massachusetts' coastal management fellow.

TECHNICAL ASSISTANCE

CENTER'S SOCIAL SCIENCE EXPERTISE HELPS RESERVE TAP COMMUNITY SUPPORT

“The Center’s Human Dimensions Program recently helped me and my colleagues at Old Woman Creek National Estuarine Research Reserve gain a satellite view of the region’s social dynamics. First, the Center completed a regional social assessment of our area and then conducted stakeholder focus groups. In addition, the Center provided us with demographic data and maps—the demographic data helped to paint a social ‘picture’ of the community for us.”

— Frank Lopez
Manager, Old Woman Creek
National Estuarine Research Reserve
Ohio Department of Natural Resources
Division of Wildlife



TECHNICAL ASSISTANCE

■ Social Assessments

The Center offers assistance with demographic data and mapping, and with engaging stakeholders in a process that characterizes communities and their unique features in terms of the social, cultural, and economic makeup of an area.

■ Evaluation

By developing meaningful, objective measures that link activities to outcomes, progress toward goals can be seen. The Center offers two related courses (Project and Program Design and Evaluation, and Planning for Meaningful Evaluation) and follow-up consultations to assist with the development of logic models and performance measures.

■ Strategic Planning

Center staff members are often available to assist strategic planning efforts of partner organizations that have completed the on-line strategic planning course.

Fellowship Program

■ Coastal Management Fellowship Program

This program matches postgraduate students with state coastal zone programs to work on projects proposed by the states and selected by the NOAA Coastal Services Center.

www.csc.noaa.gov/fellowship/

VISUALIZATION SOFTWARE FOR THE COAST

CanVis



Use CanVis to visualize the possibilities.

Computer-generated simulations or visualizations are helpful to “see” the potential impacts of climate change and development alternatives.

- Software is free and easy-to-use
- Your digital photos or imagery provide the backdrop
- Docks, piers, buildings, and other images can be added as desired
- Helpful for on-the-fly illustrations of cumulative impacts or sea level rise

To learn more, visit www.csc.noaa.gov/canvis/.

PUBLICATIONS AND HOW-TO GUIDES



Despite technological advances, the written word continues to be an effective means of communication. The NOAA Coastal Services Center provides many publications and websites that relay information about how to best approach a variety of coastal management issues.

To order any of these publications or access their websites, visit www.csc.noaa.gov/publications/.

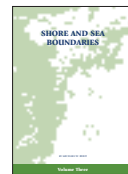
How-To Guides

■ MARINE BOUNDARY SERIES



Marine Managed Areas: Best Practices for Boundary Making

This manual provides step-by-step best practices and tips for those charged with developing and mapping marine boundaries. www.csc.noaa.gov/mb_handbook/



Shore and Sea Boundaries, Volume Three

This reference is an analysis of precedent-setting legal cases written by Michael Reed, an expert attorney involved in maritime delimitation for almost four decades. www.csc.noaa.gov/shoreandsea/

■ SOCIAL SCIENCE SERIES



“Introduction to Stakeholder Participation”

Coastal managers can use this publication to learn important principles and commonly used techniques for engaging stakeholders in coastal resource management. www.csc.noaa.gov/publications/stakeholder_participation.pdf



“Introduction to Survey Design and Delivery”

This document provides insight into the various types of survey methods and techniques used by coastal resource managers. www.csc.noaa.gov/publications/surveydesign_delivery.pdf



HD.Gov

Natural resource management agencies contributed the content in HumanDimensions.gov, an Internet-based guide to using social science to address coastal resource management issues. www.hd.gov



Social Science Methods for Marine Areas

This site provides managers of marine protected areas with basic information about social science methods and ways to use social science to meet their goals. www.csc.noaa.gov/mpass/



Social Science Wheel

This innovative tool introduces coastal professionals to social science basics and directs users to places where they can learn more. http://maps.csc.noaa.gov/socialscience_2/



Applying Social Science to Coastal Management

Links to social science tools, methods, and training opportunities of interest to those who manage the nation's coastal resources can be found at this site. http://maps.csc.noaa.gov/socialscience_2/

■ REMOTE SENSING SERIES



Coastal Remote Sensing

This publication provides basic information about remote sensing technology and illustrates how it is used to address coastal issues. www.csc.noaa.gov/remotesensing/info/



Roadmap to a Seamless Topobathy Surface

This electronic resource is a series of documents and maps that aid in the effective development of seamless topobathy digital elevation models. www.csc.noaa.gov/topobathy/



Guidance for Benthic Habitat Mapping

This publication includes resources and procedures used to develop reliable benthic habitat information. www.csc.noaa.gov/publications/benthic_guide.pdf



Remote Sensing for Coastal Management

Managers will find guidance on this website on selecting, obtaining, and using remotely sensed data. www.csc.noaa.gov/remotesensing/apps/

■ HAZARDS SERIES



“HURREVAC: A Quick Reference Guide”

This brochure provides instructions on how to use HURREVAC, a tool used by emergency managers to map predicted inland flooding. www.csc.noaa.gov/publications/hurrevac.pdf



Storm Mapping Tutorial

This website explains the best way to access and use NOAA-produced storm-related data and information. www.csc.noaa.gov/storm_info/tutorial.html



Coastal Community Resilience Guide

Coastal managers in the Pacific have learned a lot about tsunamis and hazards planning and have put this information into a guidebook for local officials. www.iotws.org/ev_en.php?ID=2897_201&ID2=DO_TOPIC



Storm Data Resource Guide

This website points users to the time-sensitive, accurate information needed before, during, and after a storm. www.csc.noaa.gov/storm_info/guide.html



■ COASTAL ISSUES

Alternatives for Coastal Development

This website uses a site in coastal Georgia to examine the pros and cons of various development options in terms of cost and environmental and social impacts. www.csc.noaa.gov/alternatives/



Beach Nourishment: A Guide for Local Officials

The website provides information on all aspects of the nourishment process, and the focus is on the beaches of the Atlantic and the Gulf of Mexico. www.csc.noaa.gov/beachnourishment/



Coastal Ecosystem Restoration

A systematic approach to restoration, featuring five basic components, is offered through this website. www.csc.noaa.gov/restoration/



Coastal Geospatial Information: Examples of Internet Resources

This website provides links to coast-related data, training resources, and metadata from a variety of sources. www.csc.noaa.gov/datasites/

PUBLICATIONS AND HOW-TO GUIDES

Publications

■ PERIODICALS

Visit www.csc.noaa.gov/publications.html to get on the mailing list for these publications.



Coastal Services Magazine

This bimonthly trade publication brings new ideas to coastal resource management programs by profiling the efforts of state, community, and nonprofit coastal programs.



Coastal Connections Newsletter

This bimonthly focuses on one topic per issue and gives readers basic information about how to improve their organization's performance. Topics range from remote sensing to tips for working with the media.



Products and Services Bulletin

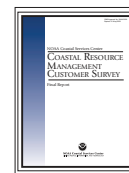
This quarterly e-mail bulletin highlights the newest offerings and initiatives from the NOAA Coastal Services Center.



Fellow News

This quarterly newsletter provides information about the Coastal Management Fellowship Program.

■ SURVEY RESULTS



"Coastal Resource Management Customer Survey"

Constituents of the NOAA Coastal Services Center are polled regarding their needs and capabilities.

www.csc.noaa.gov/survey/

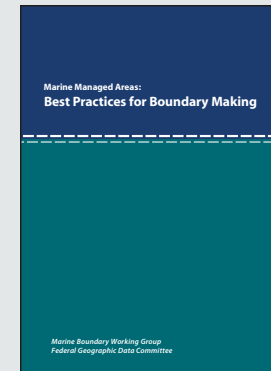


"Residential Docks and Piers: Inventory of Laws, Regulations, and Policies for the New England Region"

This information was compiled to help officials learn from other organizations in the difficult business of regulating docks and piers.

www.csc.noaa.gov/publications/newengland_inventory.pdf

FEATURED PUBLICATIONS

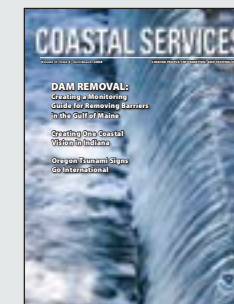


Marine Managed Areas: Best Practices for Boundary Making

This publication provides a short, useful guide—best practices—for writing boundary descriptions for federal, state, or local marine managed areas within U.S. waters.

This is a groundbreaking publication. Many organizations involved in marine boundary delimitation came together for the first time to develop the best practices that are on the way to becoming industry standards.

Order this publication free of charge from www.csc.noaa.gov/mb_handbook/.



Publications written with you in mind.

These bimonthly publications take a different approach but have the same goals in mind: providing the information needed to address today's coastal issues. Get a free subscription today!

Coastal Services magazine profiles the various initiatives undertaken by state programs and nonprofits to address coastal issues. The newsletter, *Coastal Connections*, takes on one topic per issue (remote sensing, working with the media, survey skills, etc.) and gives readers an overview of the topic and resources to find additional information.

Subscribe Today!
www.csc.noaa.gov/publications/





NOAA Coastal Services Center

Regional and State Projects

The first half of this catalog is devoted to those products and services provided by the NOAA Coastal Services Center that are applicable and available to all coastal organizations. The second half of the publication, the regional and state projects section, covers many of the organization's activities from the past five years that were focused on a specific state or region.

- Alaskan Region.....24**
- Great Lakes Region.....25**
 Illinois, Indiana, Michigan, Minnesota, New York,* Ohio, Pennsylvania, Wisconsin
- Gulf Coast Region30**
 Alabama, Florida, Louisiana, Mississippi, Texas
- Mid-Atlantic Region40**
 Delaware, Maryland, New Jersey, New York, Pennsylvania,* Virginia
- Northeast Region.....46**
 Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island
- Pacific Islands Region.....52**
 Hawaii, American Samoa, Commonwealth of the Northern Mariana Islands, Guam
- Southeast and Caribbean Region56**
 Florida, Georgia, North Carolina, South Carolina, Puerto Rico, U.S. Virgin Islands
- West Coast Region64**
 California, Oregon, Washington

*Find project listings for New York in the Mid-Atlantic Region and for Pennsylvania in the Great Lakes Region.

Alaskan Region

To learn more about products and services in Alaska, e-mail alaskan-region@csc.noaa.gov.

Coastal Elevation Mapping

The Center works with state and local officials and the private sector to collect and distribute high-resolution topographic and bathymetric data sets, including new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data. Data uses include the analysis of storm surge and storm inundation, and erosion and habitat mapping. In addition to data collection and distribution, the Center works with end users to expand the utility of these data. www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The Alaska Department of Fish and Game hosted one fellow:

- 1997 to 1999: To synthesize information detailing physical processes, biological systems, and human uses of the bay and its watershed to promote ecosystem-based land-use decisions and practices based on sound ecological information.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in Alaska include

- Size and Diversity Separate Pacific States – January/February 2000
- Alaska Finds Consistency Effective in Managing Oil and Gas Development – May/June 2000
- Cruise Ships: Testing the Waters in Alaska – July/August 2001
- Surviving Alaska's Outdoors with Sea Grant's Aid – March/April 2004

www.csc.noaa.gov/magazine/

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center's training facility for some courses but most often is taken to coastal managers in the field.

Recent courses delivered to programs in Alaska include

- Coastal Applications of ArcGIS
- Introduction to ArcGIS
- Project Design and Evaluation
- Public Issues and Conflict Management

www.csc.noaa.gov/training/

Great Lakes Region

Products and services in the Great Lakes often are coordinated through Coastal Services Center field staff members located in the region. For more information, e-mail greatlakes-region@csc.noaa.gov.

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring the Great Lakes include

- Collaboration Key to Great Lakes Managers' Past and Future – January/February 2000
- Students Escape Boredom with Great Lakes Exotic Species Lessons – July/August 2002
- Ordering Up Exotic Species Information in the Great Lakes – March/April 2003
- Demonstrating the Value of a Dollar in the Great Lakes – July/August 2003
- Identification Cards Put Invaders on the Great Lakes' Most Wanted List – March/April 2004

www.csc.noaa.gov/magazine/

Great Lakes Regional Support

A partnership between the Center and the Great Lakes Commission was created to deploy additional NOAA resources to the region. A work plan developed in response to a needs assessment emphasizes coastal community development, data and information integration and distribution, and ports and navigation. The plan includes developing coastal development case studies, updating the Great Lakes Information Network to include coastal management, and designing a data schema to standardize methods for collecting and sharing data. Ports and navigation issues include assessing impacts to infrastructure caused by climate change.

Illinois

Coastal Elevation Mapping

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www.csc.noaa.gov/crs/tcm/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. A recent article featuring programs in Illinois is

- High-Tech Monitoring Improves Timeliness of Illinois Beach Closures – January/February 2005

www.csc.noaa.gov/magazine/

Land Cover Mapping

Nothing provides a big picture view of land cover status better than these maps, which are developed using remote sensing technology. The Center has baseline land cover data for most of the coastal zone. The goal is to update the imagery every five years to also provide a means of detecting change or trends.

www.csc.noaa.gov/landcover/

Indiana

Coastal Elevation Mapping

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www.csc.noaa.gov/crs/tcm/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in Indiana include

- Study Connects Cultural Heritage to Indiana's Coast – September/October 2001
- Taking Out a Parking Lot to Improve Water Quality in Indiana – September/October 2007

www.csc.noaa.gov/magazine/

Land Cover Mapping

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www.csc.noaa.gov/landcover/

Training

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Recent courses delivered to programs in Indiana include

- Coastal Community Planning and Development
- Managing Visitor Use in Coastal and Marine Protected Areas
- Project Design and Evaluation
- Public Issues and Conflict Management

www.csc.noaa.gov/training/

Michigan

Application of Integrated Coastal Management (ICM) Tool

The ICM Tool is a GIS-based tool that, with a few basic data sets, can help inventory habitats, assess land and water habitat conditions, identify and rank potential restoration and conservation sites, and analyze "what if" scenarios for proposed changes in land cover. The tool is also capable of incorporating socioeconomic data and impervious surface analysis into the output. The Center is providing technical support to several states that are using the tool as an aid to watershed planning. (This tool is now called the Habitat Priority Planner.)

www.csc.noaa.gov/hpp/

Coastal Elevation Mapping

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www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. Michigan's Department of Environmental Quality, Land and Water Management Division, has hosted two fellows:

- 1997 to 1999: To conduct a project to develop a standardized procedure for making legally sound, consistent, and defensible decisions regarding Michigan's coastal wetlands resources.
- 2001 to 2003: To create a publication entitled "Environmental Protection for Coastal Communities: A Guide for Local Governments."

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in Michigan include

- Lighthouses: Michigan Managers Navigate the Challenges of Saving Their Maritime Monuments – May/June 2000
- Grassroots Effort Improves Farm Futures in Michigan – March/April 2001
- On the Trail of Michigan's Greenways – January/February 2003
- Michigan Alliance Supports Conserving Coastal Resources – March/April 2005
- Beach Walking: Court Affirms Public's Right to Walk Michigan's Shoreline – July/August 2006
- Ballast Water: Michigan Takes On the Law – July/August 2007

www.csc.noaa.gov/magazine/

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www.csc.noaa.gov/landcover/

Minnesota

Coastal Elevation Mapping

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www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. Minnesota's Lake Superior Coastal Program has hosted one fellow:

- 2003 to 2005: To develop a permit monitoring and compliance system to collect data for evaluation and better decision-making to ensure the proper protection of resources.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in Minnesota include

- Minnesota Uses Star Power to Help Stop Alien Invasion – September/October 2000
- Minnesota Managing Shoreland Using the Internet – November/December 2001
- Playing Games with the Environment in Minnesota – November/December 2004
- Giving Local Officials New Perspective in Minnesota and Wisconsin – November/December 2006

www.csc.noaa.gov/magazine/

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- Managing Visitor Use in Coastal and Marine Protected Areas
- Public Issues and Conflict Management

www.csc.noaa.gov/training/

Ohio

Coastal Elevation Mapping

The Center works with state and local officials and the private sector to collect and distribute high-resolution topographic and bathymetric data sets, including new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data. Data uses include the analysis of storm surge and storm inundation, and erosion and habitat mapping. In addition to data collection and distribution, the Center works with end users to expand the utility of these data.

www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. Ohio's Office of Coastal Management has hosted one fellow:

- 2006 to 2008: To develop the Lake Erie Shore Erosion Management Plan (LESEMP) by synthesizing data gathered from existing shore erosion plans, identifying information gaps, and incorporating new findings into the LESEMP.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in Ohio include

- Ohio Puts Right People in Right Place to Improve Urban Streams – July/August 2000
- Ohio Web Site Helps Managers Delve into the Past – November/December 2002

- Coastal Managers in Ohio and Belize Discover They're Birds of a Feather – May/June 2003
- Seeing the Writing on the Web in Ohio – November/December 2005
- Creating a Coastal Atlas in Ohio – March/April 2006
- Seeing Clean Water as a Home-Buying Amenity in Ohio – May/June 2007
- Recycling Shrink-Wrap from Boats in Ohio – January/February 2008
- Ohio's Nonpoint Source Program Statewide in Scope, Local in Approach – May/June 2008

www.csc.noaa.gov/magazine/

Land Cover Mapping

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www.csc.noaa.gov/landcover/

Training

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- Coastal Applications Using ArcGIS
- Coastal Community Planning and Development
- Introduction to ArcGIS
- Project Design and Evaluation

www.csc.noaa.gov/training/

Pennsylvania

Coastal Elevation Mapping

The Center works with state and local officials and the private sector to collect and distribute high-resolution topographic and bathymetric data sets, including new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data. Data uses include the analysis of storm surge and storm inundation, and erosion and habitat mapping. In addition to data collection and distribution, the Center works with end users to expand the utility of these data.

www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The Pennsylvania Department of Environmental Protection, Office for River Basin Cooperation, has hosted one fellow:

- 2001 to 2003: To develop a comprehensive exotic aquatic species program and fish consumption education initiative.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in Pennsylvania include

- Federal Consistency Helps Pennsylvania Restore Sand to the Shoreline – November/December 2000
- Coastal Management Money Helps Protect Farms, Prevent Sprawl in Pennsylvania – January/February 2002
- Pennsylvania Puts Eyes in the Sky to Detect Violations – September/October 2003
- Technically Perfect Project in Pennsylvania Challenged by Public Reaction – September/October 2005

www.csc.noaa.gov/magazine/

Land Cover Mapping

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Training

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- Project Design and Evaluation
- Public Issues and Conflict Management
- Remote Sensing for Spatial Analysts

www.csc.noaa.gov/training/

Wisconsin

Coastal Elevation Mapping

The Center works with state and local officials and the private sector to collect and distribute high-resolution topographic and bathymetric data sets, including new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data. Data uses include the analysis of storm surge and storm inundation, and erosion and habitat mapping. In addition to data collection and distribution, the Center works with end users to expand the utility of these data.

www.csc.noaa.gov/crs/tcm/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in Wisconsin include

- Beetles Help Wisconsin Battle against Invasive Weed – May/June 2001
- Isolated Wetlands: Wisconsin Steps In with Regulations after Supreme Court Decision – May/June 2002
- Children Get the Presents during Wisconsin's Anniversary Celebration – January/February 2004
- Giving Local Officials New Perspective in Minnesota and Wisconsin – November/December 2006
- Taking Canoeing Uptown in Milwaukee – March/April 2008

www.csc.noaa.gov/magazine/

Land Cover Mapping

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- Public Issues and Conflict Management

www.csc.noaa.gov/training/

Gulf Coast Region

Products and services for the Gulf Coast often originate through the new satellite office in the region, the NOAA Gulf Coast Services Center. For more information, e-mail gulf-region@csc.noaa.gov.

Climate and Weather Impacts on Society and the Environment 2 (CWISE2)

Organizations involved in this four-year cooperative agreement are studying the physical, socioeconomic, and ecosystem impacts of sea-level variability and change. These organizations are also developing decision-support resources to help communities from Texas to Maryland increase resilience to impacts of erosion and inundation in a scenario of sea-level change.

Coastal and Marine Habitat Classification and Assessment

This classification standard is an ecosystem-oriented framework for the identification, inventorying, and description of coastal and marine habitats and biodiversity. The structure provides a way to synthesize data so that habitats can be characterized and reported in a standard way, and data and information can be aggregated and evaluated across regions and the nation. The focus for 2008 included a habitat data inventory for the Gulf of Mexico, a seagrass status and trends report for Alabama, and additional sediment analyses data and classification within the Gulf of Mexico.

Community Assessment and Resilience Planning

Making communities more resilient in the face of hazards is an important goal of the Center. Initial efforts are focused in the Gulf of Mexico to better understand what makes communities resilient. Activities include the development of resilience measurement indicators, community-based self-assessment and resilience planning tools, educational and outreach materials, and partnership building and collaboration.

Geospatial Collaboration with the National Weather Service

The Center partners with the National Weather Service to improve the geospatial display and delivery of products and services related to weather, water, and climate. As part of this project, flood-severity-inundation map libraries will be implemented and available for 35 Gulf Coast regions and 17 locations in North Carolina, with additional pilot locations in development.

Gulf Coast Services Center Coordination

The NOAA Gulf Coast Services Center brings NOAA products and services to the Gulf region, including technical expertise, financial assistance, training, and capacity building. Efforts include implementation of the Gulf of Mexico Alliance's "Governors' Action Plan for Healthy and Resilient Coasts," providing support to the Gulf of Mexico Coastal Ocean Observing System, and collaborating closely on projects with the proposed Northern Gulf of Mexico Cooperative Institute. Priority areas include hazards and coastal storms, integrated ocean observing systems, mapping and change analysis, community resilience, and outreach, education, and training of coastal managers.

Gulf of Mexico Alliance Support

The Gulf of Mexico Alliance is a partnership of the states of Alabama, Florida, Louisiana, Mississippi, and Texas. The goal is to enhance the environmental and economic health of the Gulf of Mexico through regional collaboration. The Gulf states' "Governors' Action Plan for Healthy and Resilient Coasts" challenges the alliance to make tangible progress on targeted, regionally significant actions, setting the foundation for an effective long-term partnership that will culminate in a healthier Gulf of Mexico ecosystem and economy.

Handbook on Mitigating Coastal Hazards

The Association of State Floodplain Managers, with funding and assistance by the Center, has completed an on-line handbook, *Coastal No Adverse Impact*. The "no adverse impact" principle holds that the actions of a community or property owner should not adversely impact other people or the coastal resource. A final version of the handbook with photographs, case studies, and updated and new content is available. Trainings for No Adverse Impact have been offered many times in several of the Gulf states. www.floods.org/NoAdverseImpact/coastal.asp

Harmful Algal Blooms

The Harmful Algal Bloom Bulletin helps officials decide where to focus their sampling efforts and prepare for these blooms. The information is e-mailed twice a week to registered users, and a public advisory is posted on the website. Current activities are focused on updating the data display system to provide information on the location, extent, and potential impacts of blooms. (The Center works in partnership with many organizations to produce the bulletin.) The bulletin covers Alabama, Florida, Louisiana, Mississippi, and Texas. www.csc.noaa.gov/crs/habf/

HURREVAC Storm-Surge Guidance Aids Evacuation Plans

A software module enables emergency managers and other officials to view storm-surge guidance up to 24 hours before projected landfall of a tropical cyclone. An added option helps viewers consider hypothetical storm-surge scenarios. The Center and the National Weather Service collaborated with the Federal Emergency Management Agency on this module, which includes the five Gulf states. It is available on HURREVAC, a decision-support tool used by more than 6,000 government officials. www.hurrevac.com

Hurricane Evacuation Tool Template

This template makes it easy for emergency managers or other coastal officials to provide the public with hurricane evacuation zones of the five Gulf states. Coastal professionals can use the template with local data to develop a similar mapping application for their communities. www.csc.noaa.gov/hez_tool/

Legislative Atlas Features Georegulations for Five Gulf States

All five Gulf states now have legislative summaries and associated georegulations available on the Legislative Atlas website. The information is used by coastal officials to assess gaps and overlaps in the regulatory framework and support marine spatial planning decisions. The Center, in partnership with PhotoScience, Inc., has worked closely with state representatives to collect this information. www.csc.noaa.gov/legislativeatlas/

NOAA Regional Collaboration Support

NOAA is furthering its commitment to provide relevant products and services to the nation. The Center has one or more members on five of the eight regional teams (Gulf of Mexico, North Atlantic, Pacific, Western, and Southeast and Caribbean), developed to keep attuned to customer needs and deliver applicable NOAA products and services. The Center also serves on two of NOAA's four priority area task teams (hazard-resilient communities, and outreach and communications).

On-line Flood Inundation Maps

The Center is working with the National Weather Service and the Federal Emergency Management Agency to provide on-line access to flood severity maps for 20 locations in the Gulf of Mexico states. These maps, based on high-resolution digital elevation data and hydraulic modeling, contain visual and interactive information on the extent and severity of floods, thereby assisting local officials and emergency managers in making evacuation and road closure decisions.

Pre- and Post-Katrina Land Cover Data

Land cover and change information for portions of the Gulf of Mexico region before, and after, Hurricane Katrina are available. The data sets can serve as aids in assessing wetland recovery and other storm impacts. www.csc.noaa.gov/crs/lca/katrina/

"Roadmap" Highlights Resources for Seamless Elevation Models

Modeling sea level rise, hurricane flooding, and tsunami inundation requires an elevation surface map that combines land elevation with seafloor data. This on-line series of documents and maps streamlines the process of creating a highly accurate, seamless topobathy model of the coastal margin. The series provides an index to existing publicly available data, introduces options for data manipulation, and illustrates applications of a topobathy surface. Data for the Gulf of Mexico are now available. www.flmapr.org

Report on Gulf Region Economy

Two NOAA economists co-authored “Hurricane Damage to the Ocean Economy in the U.S. Gulf Region in 2005,” which received the Lawrence Klein Award recognizing the best articles in the Monthly Labor Review, published by the U.S. Bureau of Labor Statistics. www.bls.gov/opub/mlr/2006/08/contents.htm

Storm-Surge Grid Catalog for the Gulf of Mexico

Many comprehensive studies of storm surge are available that provide a wealth of unstructured storm surge grid products. The NOAA Coastal Storms Program is working with the Northern Gulf Institute to convene a group of surge modelers and managers to develop a unified surge grid catalog for the Gulf. Such a tool will result in more accurate, faster, and cheaper surge analyses in the future.

Alabama

Coastal and Marine Habitat Classification and Assessment

This classification standard is an ecosystem-oriented framework for the identification, inventorying, and description of coastal and marine habitats and biodiversity. The structure provides a way to synthesize data so that habitats can be characterized and reported in a standard way, and data and information can be aggregated and evaluated across regions and the nation. The focus for 2008 includes a habitat data inventory for the Gulf of Mexico, a seagrass status and trends report for Alabama, and additional sediment analyses data and classification within the Gulf of Mexico.

Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar data sets. www.csc.noaa.gov/crs/tcm/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs from Alabama include

- Alabama Watercraft Regulation Quieting User Conflicts – July/Aug 2000
- Recognizing Clean Water Guardians in Alabama – September/October 2002
- Forget Diamonds—Alabama Residents Say “I Love You” with a Tree – January/February 2005
- Habitat Restoration: The Silver Lining in Alabama’s Hurricane Recovery – July/August 2005
- Taking Grasses to Classes in Alabama – September/October 2005
- Special Hurricane Edition – May/June 2006

www.csc.noaa.gov/magazine/

Community Resilience Coordination

To increase the hazard resilience of coastal communities, the Center is implementing several initiatives, including coordinating resilience panels for major conferences with the Association of State Floodplain Managers, U.S. Chamber of Commerce, The Nature Conservancy, and the American Meteorological Society. Activities also include the funding and coordination of partner efforts, such as the Mobile Chamber of Commerce and resilience pilot projects in Texas and Louisiana. The Center is helping these communities develop resilience plans and resilience indices that will allow progress to be measured over time.

Forecasts Include *Karenia brevis* in Alabama

Information on the harmful algal bloom *Karenia brevis* in areas of Alabama has been added to regular bulletins of the NOAA Harmful Algal Bloom (HAB) Forecasting System. This information was obtained through samples collected by the Alabama Department of Public Health. The Center and other project partners worked with the State of Alabama to ensure that the data are provided in a usable format. www.csc.noaa.gov/crs/habf/

Habitat Planner Attracts Regional Interest

This GIS-based tool helps users prioritize areas for conservation, restoration, and planning actions. An upcoming regional developmental pilot and demonstration of the tool will be in the Mobile Bay region. www.csc.noaa.gov/hpp/

Land Cover Mapping

Nothing provides a big picture view of land cover status better than these maps, which are developed using remote sensing technology. The Center has baseline land cover data for most of the coastal zone. The goal is to update the imagery every five years to also provide a means of detecting change or trends. www.csc.noaa.gov/landcover/

Legislative Atlas

The Center—along with Photo Science, Inc., the National Sea Grant Law Center, and local partners—developed the Legislative Atlas. This Web-based tool allows users to visualize the location of selected coastal and ocean laws for the continental U.S. and state laws for the Gulf of Mexico region. The tool provides a foundation for coordinated ecosystem-based approaches to coastal management. www.csc.noaa.gov/legislativeatlas/

Mobile Regional and Resilience Planning

Public-sector stakeholders in Alabama are partnering to improve the future resilience of the environment, economy, transportation, and other factors. Partners include representatives of municipal and county government, the South Alabama Regional Planning Commission, the Alabama Emergency Management Agency, and the Alabama Department of Transportation. The Mobile Chamber of Commerce is the host for the project. Other key partners in addition to the Center are the Mississippi-Alabama Sea Grant Consortium, Sanborn Consulting, and Michael Gallis and Associates.

Partnerships for Habitat Conservation: Mobile Bay

A new pilot project under NOAA Fisheries’ Cooperative Habitat Protection Partnerships program in Mobile Bay, Alabama, is a joint effort of the Center, The Nature Conservancy, and the Mobile Bay National Estuary Program (NEP). The pilot project focuses on updating the Mobile Bay NEP’s local acquisition and restoration priorities plan by incorporating new habitat and land use data, information on long-term stressors, interactive GIS functionality, regional planning considerations, and a range of implementation strategies.

Planning Initiative for Dauphin Island, Alabama

The coastal town of Dauphin Island, Alabama, developed a strategic plan for sustaining economic and natural systems. Center personnel helped define policy needs, map desired land uses, and create drawings of potential mixed-use developments. Other entities contributing to the planning process included the Mississippi-Alabama Sea Grant Consortium and the Alabama Department of Conservation and Natural Resources.

Resilience Planning in the Gulf of Mexico

At workshops in Biloxi, Mississippi, Mobile, Alabama, and Panama City Beach and Tampa, Florida, the Center led a session soliciting feedback on potential revisions to the community resilience portion of the Gulf of Mexico Alliance (GOMA) Governors’ Action Plan. Other attendees included local leaders, planners, engineers, real estate professionals, community groups, and state and federal partners. The workshop is part of an ongoing effort to engage stakeholders in a unified fashion as recommended by the NOAA Science Advisory Board.

Topographic and Bathymetric Applications

The Center provides information about the availability of topographic and bathymetric data sets and assists coastal managers in working with these sets—particularly in relation to storm surge and inundation modeling. The current focus of this project is on developing a data inventory for Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, Maryland, North Carolina, South Carolina, and Virginia and guidance documents describing the coastal management applications of topography and bathymetry. www.csc.noaa.gov/topobathy/

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center’s training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Alabama include

- Coastal Applications of ArcGIS
- Introduction to ArcGIS
- Managing Visitor Use in Coastal and Marine Protected Areas

www.csc.noaa.gov/training/

Florida (See also Southeast and Caribbean Region, Page 56)

Apalachicola Oyster Habitat Mapping

Accurate, up-to-date maps of oyster distributions and bathymetry were developed for Apalachicola Bay. Data collection involved side-scan sonar, interferometric swath bathymetry, seismic profiling, underwater videography, and bottom sampling. The Apalachicola Bay National Estuarine Research Reserve, the U.S. Geological Survey, and the Center collaborated on this effort. www.csc.noaa.gov/benthic/funding/active.htm

Benthic Habitat Mapping and Classification

The Coastal and Marine Ecological Classification Standard (CMECS) provides a consistent and universally applicable coastal habitat inventory system. A demonstration mapping project was undertaken in Florida and Texas to test the system and provide maps to the region.

Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar data sets. www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The Florida Coastal Management Program has hosted two fellows:

- 1996 to 1998: To develop criteria for approval of local government hazard mitigation and redevelopment policies for the local comprehensive planning process.
- 2000 to 2002: To implement the second phase of Florida's BlueWays initiative, an effort to promote adaptive coastal management.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

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- Special Y2K Edition – January/February 2000
- Signs Improve Access to Florida Beaches – March/April 2000
- Coastal Catastrophes: What Managers are doing to Prepare for the Next Big Storm – September/October 2000
- Careless Drivers Damaging Marine Habitat in Florida Sanctuary – September/October 2001
- Special Edition – March/April 2002
- No-Take Zones: Balancing the Use of the Marine Environment in the Florida Keys – November/December 2002
- Tracking Down a Killer in Florida's Waters – March/April 2003
- Water Woes: Florida Tries Drinking from the Sea – May/June 2003
- Helping Indian River Citrus Growers Put the Squeeze on Runoff – March/April 2005
- Special Hurricane Edition – May/June 2006
- Coral Bleaching: The Impact of Rising Sea Temperatures on Florida Keys' Reefs – September/October 2007
- State Money Helping Homeowners Prepare for Hurricanes in Florida – January/February 2008
- Workshop Leads to Local Red Tide Data Collection in Florida – March/April 2008

www.csc.noaa.gov/magazine/

Forecasts Include *Karenia brevis* in Northwest Florida

Information on the harmful algal bloom *Karenia brevis* in areas of Northwest Florida was added to regular bulletins of the NOAA Harmful Algal Bloom (HAB) Forecasting System. The Center and other project partners worked together to ensure that the data are provided in a usable format. www.csc.noaa.gov/crs/habf/

Florida Manatee Protection Tool

The Manatee Awareness and Protection Resource (MAPR), a Web-based tool, features educational and geographic modules that delineate manatee protection zones in Florida. In addition, MAPR's GIS format enables users to view and overlay data concerning manatee-protection regulations, environmental factors, and human use of marine resources. Florida Sea Grant and the Center developed this tool. www.flmapr.org

Florida Topography/Bathymetry Data

Lidar-derived topography and bathymetry data covering a large section of Florida's western coast are available for download. This data set, collected in May and June 2006, spans Pasco County to Collier County and covers the immediate coastal and offshore area to a depth of approximately 30 feet. The data were collected by the Joint Airborne Lidar Bathymetry Technical Center of Expertise, which is a joint program of the U.S. Army Corps of Engineers, Naval Oceanographic Office, and NOAA. www.csc.noaa.gov/ldart/

Land Cover Mapping

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Lidar Data Accessible via Retrieval Tool

Expanded information on Florida can be obtained via the Lidar Data Retrieval Tool, a product of the Center. Data sets provided by the Southwest Florida Water Management District are now included. A separate 2006 lidar data set of Volusia County includes the famed Daytona Beach coastline and Daytona International Speedway, which was provided by the Volusia County Public Works Department. www.csc.noaa.gov/ldart/

Resilience Planning in the Gulf of Mexico

At workshops in Biloxi, Mississippi, Mobile, Alabama, and Panama City Beach and Tampa, Florida, the Center led a session soliciting feedback on potential revisions to the community resilience portion of the Gulf of Mexico Alliance (GOMA) Governors' Action Plan. Other attendees included local leaders,

planners, engineers, real estate professionals, community groups, and state and federal partners. The workshop is part of an ongoing effort to engage stakeholders in a unified fashion as recommended by the NOAA Science Advisory Board.

Risk and Vulnerability Assessment Tool

Using the Community Vulnerability Assessment Tool methodology and interactive mapping, this effort helped determine the locations of vulnerable people, property, and natural resources within Brevard and Volusia Counties, Florida, and provided information for increasing flood protection and reducing flood risk and insurance premiums. Storm surge animations depict projected inundation from hurricanes and tropical storms for popular locations within their communities. www.csc.noaa.gov/rvat/

Social Assessment Technical Assistance

This project documents cultural and historical sites and practices related to traditional lifestyles and identifies social and cultural factors that influence community support for coastal conservation. The project includes developing characterizations describing reciprocal relationships between communities and natural resources in Humboldt Bay, California, and Carabelle, Florida.

Socioeconomic Maps for Florida Report

The Center produced a series of maps for a report, "Florida Oceans and Coastal Economies," illustrating demographic and economic trends in the state since 1990. Maps can be viewed by selecting "Florida Economic Maps" under the "Quick Links" heading. www.floridaoceanscouncil.org

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Recent courses delivered to programs in Florida include

- Coastal Applications of ArcGIS
- Coastal Community Planning and Development
- Coastal Inundation Mapping
- Conservation Data Documentation
- Introduction to ArcGIS
- Project Design and Evaluation
- Public Issues and Conflict Management
- Remote Sensing for Spatial Analysts

www.csc.noaa.gov/training/

Louisiana

Coastal Elevation Mapping

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www.csc.noaa.gov/crs/tcm/

Community Resilience Coordination

To increase the hazard resilience of coastal communities, the Center is implementing several initiatives, including coordinating resilience panels for major conferences with the Association of State Floodplain Managers, U.S. Chamber of Commerce, The Nature Conservancy, and the American Meteorological Society. Activities also include the funding and coordination of partner efforts, such as the Mobile Chamber of Commerce and resilience pilot projects in Texas and Louisiana. The Center is helping these communities develop resilience plans and resilience indices that will allow progress to be measured over time.

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Recent articles featuring programs from Louisiana include

- Special Y2K Edition – January/February 2000
- Louisiana Program Works to Keep Oil Rigs as Reefs – January/February 2001
- Educating America about Louisiana's Wetlands – May/June 2003
- The Dead Zone: The Struggle to Breathe Life into the Gulf of Mexico – May/June 2005
- Special Hurricane Edition – May/June 2006

www.csc.noaa.gov/magazine/

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www.csc.noaa.gov/legislativeatlas/

Resilience Project in Grand Bayou, Louisiana

Center staff members worked with officials from Grand Bayou, Louisiana, an area hit hard by Hurricane Katrina, to learn about the community's history and culture and engage residents in a participatory mapping exercise. The resulting brochure tells the community's story and documents its physical and societal challenges. In addition, the Center is working with the University of New Orleans Center for Hazards Assessment Response and Technology on a post-disaster resilience case study of Grand Bayou.

"Saving Our Coast" Website

A website hosted by New Orleans TV station Fox 8 provides environmental information aimed at helping the Gulf region repair and restore coastal wetlands and barrier islands. Many NOAA products and services are featured on the site. The Center partnered with Storm Center Communications Inc. in this effort.

<http://www.iewatershed.com>

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www.csc.noaa.gov/topobathy/

Mississippi

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www.csc.noaa.gov/crs/tcm/

Coastal Services Magazine

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Recent articles featuring programs from Mississippi include

- Special Y2K Edition – January/February 2000
- Mississippi Brings Technology Tools to Coastal Planners – May/June 2001
- Special Edition – March/April 2002
- Power Tools: Racing to Manage Storm Water Runoff on Mississippi's Coast – March/April 2004
- Mississippi's "Nest in Peace" Interrupted by Katrina – November/December 2005
- Special Hurricane Edition – May/June 2006

- Coastal Managers Lay Foundation for Rebuilding Mississippi's Coast – July/Aug 2006
- Helping Oyster Harvesters While Collecting Data in Mississippi – January/February 2007

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www.csc.noaa.gov/legislativeatlas/

Maps Aid Mississippi Recovery Effort

A series of topographic maps helped property owners in Mississippi Gulf Coast counties rebuild to safer elevations. The new flood maps were created through a partnership between the Federal Emergency Management Agency and NOAA. NOAA provided the digital elevation models through lidar data collection. The Center partnered with private industry to acquire high-resolution topographic elevation data for portions of the Gulf Coast region.

Resilience Planning in the Gulf of Mexico

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Texas

Benthic Habitat Mapping and Classification

The Coastal and Marine Ecological Classification Standard (CMECS) provides a consistent and universally applicable coastal habitat inventory system. A demonstration mapping project was undertaken in Florida and Texas to test the system and provide maps to the region.

Coastal Elevation Mapping

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www.csc.noaa.gov/crs/tcm/

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- Special Y2K Edition – January/February 2000
- Visitors Flock to Great Texas Coastal Birding Trail – May/June 2000
- Texas Sanctuary Diving into Education Workshops – March/April 2001
- Volunteers Scour Texas' Coast for Abandoned Crab Traps – January/February 2003
- Keeping Oil and Water from Mixing in Texas – November/December 2004
- Treating Stormwater with an Inner-City Wetland in Texas – March/April 2006
- Special Hurricane Edition – May/June 2006
- Offshore Wind Energy: Texas and Massachusetts Rush to Be First – May/June 2007
- Public Use: Texas Works to Protect Rights and Beaches – November/December 2007

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Inundation Maps Now Available for Portions of Southeast Texas

The National Weather Service and the Center have added new inundation maps to the Advanced Hydrologic Prediction Service Web portal for five locations in the Houston and Galveston area of Southeast Texas. Inundation maps provide information on the spatial extent and depth of floodwaters in the vicinity of river forecast locations. These maps, when combined with river observations and weather forecasts, enhance communications, mitigate the impacts of flooding, and build more resilient communities.

www.nws.noaa.gov/ahps/inundation.php

Journal Article on Texas Mapping Project

A benthic habitat mapping project along the Texas portion of the Gulf Coast was the cover story in the August 2007 issue of the Photogrammetric Engineering & Remote Sensing journal. The article describes how the Texas Seagrass Monitoring Program is being used to locate and protect seagrass beds. To support this program, the Center collaborated with the Texas Parks and Wildlife Department and the Texas A&M University Center for Coastal Studies. www.asprs.org/publications/pers/

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Social Science Plan for Coastal Texas

The Mission-Aransas National Estuarine Research Reserve (NERR), with assistance from the Center and others, developed a social science plan of action for the Texas Coastal Bend region. Center staff members facilitated discussion during the planning process.

Texas Benthic Submerged Aquatic Vegetation (SAV) Mapping

The Texas benthic mapping project is a cooperative effort to map SAV and other habitats in the Coastal Bend region. This project is the first large-scale effort in which digital camera imagery and semi-automated image processing techniques are used. The primary application of the project is to support the newly adopted Texas Seagrass Monitoring Plan. www.csc.noaa.gov/benthic/funding/active.htm

Texas Forecasts of Harmful Algal Blooms

NOAA and partners from the Texas Parks and Wildlife Department are now providing twice-weekly forecasts on harmful algal blooms (HABs) along the coast of Texas. The HAB Forecasting System relies on satellite imagery, real-time and forecast winds, and field samples of the dinoflagellate *Karenia brevis* to provide information on the location, extent, and movement of HABs. www.csc.noaa.gov/crs/habf/

Texas Maps Assess Marine Health

Analyses of submerged aquatic vegetation (SAV) provide clues to the overall health of marine habitats. As part of Texas' Seagrass Monitoring Program, SAV and other shallow-water benthic habitats were recently mapped for portions of the Coastal Bend area. The Center worked with the Texas Parks and Wildlife Department, the Texas A&M University Center for Coastal Studies, and private-sector vendors to conduct mapping and to serve the data via the Center's website. www.csc.noaa.gov/benthic/data/gulf/bend.htm

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Mid-Atlantic Region

Products and services in the Mid-Atlantic often are coordinated through Coastal Services Center field staff members located in the region. For more information, e-mail midatlantic-region@csc.noaa.gov.

NOAA Regional Collaboration

NOAA initiated a regional collaboration effort to improve the delivery of NOAA products and services. The North Atlantic Regional Team (NART) is divided into two subregions, with the Mid-Atlantic region being led out of the NOAA Chesapeake Bay Office. NART efforts are focused on regionally distinct priorities and the national priorities of hazard-resilient communities, integrated ecosystem assessments, integrated water resource services, and outreach and communication. The Center provides significant support to the NART, including providing the subregional lead for New England and the NART regional coordinator.

Regional Coastal Water Quality

Coastal water quality and nonpoint-source pollution are priority watershed issues for coastal communities. The Center's regional staff plays an important role in many of these efforts. Staff members in the Mid-Atlantic support the Chesapeake Nonpoint Education for Municipal Officials (NEMO) program, provide water quality education expertise, and provide technical assistance for strategic planning efforts.

Remote Sensing Coordination for the Mid-Atlantic

The goal of this project is to ensure that the remote sensing needs for the Chesapeake Bay and Mid-Atlantic region are identified, gathered, communicated, and met. The project reviews regional remote-sensing product validation requirements and identifies development opportunities that integrate remote-sensing data with other data sets and decision-support tools in the Chesapeake region.

Delaware

Coastal Elevation Mapping

The Center works with state and local officials and the private sector to collect and distribute high-resolution topographic and bathymetric data sets, including new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data. Data uses include the analysis of storm surge and storm inundation, and erosion and habitat mapping. In

addition to data collection and distribution, the Center works with end users to expand the utility of these data. www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The Delaware Coastal Management Program has hosted four fellows:

- 1998 to 2000: To design a statewide dredging policy framework.
- 2001 to 2003: To create a tracking and monitoring system for a coastal nonpoint source pollution control program.
- 2003 to 2005: To develop an inventory and Special Area Management Plan for brownfields in South Wilmington.
- 2008 to 2010: To develop a sea level rise adaptation plan for the State of Delaware.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in Delaware include

- Accessing Delaware's Geographic Data Gets Easier – May/June 2003
- Delaware's Quest for Science-Based Management – May/June 2004
- Mosquito Control: Balancing Public Health and the Environment in Delaware – September/October 2005
- Restoring Urban Habitat in Delaware – July/August 2006

www.csc.noaa.gov/magazine/

Land Cover Mapping

Nothing provides a big picture view of land cover status better than these maps, which are developed using remote sensing technology. The Center has baseline land cover data for most of the coastal zone. The goal is to update the imagery every five years to provide a means of detecting change or trends. Land cover and land cover change data were produced for the U.S. Northeast region using 30-meter resolution imagery. Mapping is available for New York,

Virginia, New Jersey, Delaware, and Maryland for 1996, 2001, and 2005, and for Northern Pennsylvania for 1996 and 2001. www.csc.noaa.gov/landcover/

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center's training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Delaware include

- Managing Visitor Use in Coastal and Marine Protected Areas
- Public Issues and Conflict Management

www.csc.noaa.gov/training/

Maryland

Coastal Elevation Mapping

The Center works with state and local officials and the private sector to collect and distribute high-resolution topographic and bathymetric data sets, including new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data. Data uses include the analysis of storm surge and storm inundation, and erosion and habitat mapping. In addition to data collection and distribution, the Center works with end users to expand the utility of these data. www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The Maryland Coastal Zone Management Division has hosted three fellows:

- 1998 to 2000: To develop a sea level rise mitigation response strategy.
- 2000 to 2002: To develop a comprehensive erosion control plan.
- 2005 to 2007: To develop and distribute a watershed planning toolbox for local governments, watershed organizations, and others to assist them with their watershed planning efforts.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in Maryland include

- Rising Seas: Maryland Managers Pursue Higher Ground – March/April 2000
- Maryland Marinas Pledge to Be Clean – September/October 2000
- Car Games Get Coastal Treatment in Maryland – July/August 2001
- Documenting an Ecological Mystery in Maryland – March/April 2006
- Bringing Hazards Information Together in Maryland – July/August 2007

www.csc.noaa.gov/magazine/

Integrated Ocean Observing System Applications

The Center is working with data providers to ensure that ocean data are available and useful to the widest possible audience. For the Mid-Atlantic, the Center has developed the Chesapeake Bay Oyster Larvae Tracker (CBOLT) using ocean observing system data, which gives scientists the ability to predict larvae distribution for a user-specified period of time. This information helps users estimate and visualize location and mortality rate for a released larval stock. www.csc.noaa.gov/cbolt/

Land Cover Mapping

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NOAA Fisheries' Community-Based Restoration Program and Cooperative Habitat Protection Program

These two programs help practitioners and coastal managers implement ecosystem-based management practices to increase the number of habitat acres restored or conserved. The Center has particular expertise in the planning for habitat restoration and conservation. Current efforts for this project involve developing information resources and tools that improve and enhance shoreline restoration and protection in the Chesapeake Bay.

Topographic and Bathymetric Applications

The Center provides information about the availability of topographic and bathymetric data sets and assists coastal managers in working with these sets—particularly in relation to storm surge and inundation modeling. The current focus of this project is on developing a data inventory for Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, Maryland, North Carolina, South Carolina, and Virginia and guidance documents describing the coastal management applications of topography and bathymetry. www.csc.noaa.gov/topobathy/

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center's training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Maryland include

- Coastal Applications of ArcGIS
- Introduction to ArcGIS
- Managing Visitor Use in Coastal and Marine Protected Areas
- Negotiating for Coastal Resources
- Project Design and Evaluation
- Public Issues and Conflict Management
- Remote Sensing for Spatial Analysts

www.csc.noaa.gov/training/

New Jersey

Coastal Elevation Mapping

The Center works with state and local officials and the private sector to collect and distribute high-resolution topographic and bathymetric data sets, including new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data. Data uses include the analysis of storm surge

and storm inundation, and erosion and habitat mapping. In addition to data collection and distribution, the Center works with end users to expand the utility of these data.

www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The New Jersey Coastal Management Program has hosted two fellows:

- 2001 to 2003: To create an in-depth review and assessment of the state's coastal zone management program, including defining ocean governance as it applies specifically to New Jersey and developing an implementation strategy for the approved coastal zone management program.
- 2004 to 2006: To develop a tracking program for public access conditions in coastal permits, inspect public access sites, and develop a public access GIS database and map.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in New Jersey include

- New Jersey Monitors to Ensure Safe Beaches – September/October 2000
- New Jersey Observing System Helps Print Ocean's Picture – May/June 2002
- A Room with a View? Dunes vs. View in New Jersey – September/October 2003
- Linking Coastal Decision Makers with Information and Resources in New Jersey – May/June 2005
- StriperTracker: Using New Technology to Learn about Fish in New Jersey – November/December 2006
- Preparing for a Tsunami in New Jersey – March/April 2008

www.csc.noaa.gov/magazine/

Land Cover Mapping

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York, Virginia, New Jersey, Delaware, and Maryland for 1996, 2001, and 2005, and for Northern Pennsylvania for 1996 and 2001.

www.csc.noaa.gov/landcover/

Training

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- Managing Visitor Use in Coastal and Marine Protected Areas

www.csc.noaa.gov/training/

New York

Benthic Mapping

The Center's benthic mapping effort provides tools, technical guidance, and data to the coastal management community. In New York, the Center provides technical assistance and support for a privately funded and directed benthic change detection project for Long Island's South Shore.

Coastal Elevation Mapping

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www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The New York Division of Coastal Resources has hosted three fellows:

- 1997 to 1999: To conduct a project aimed at developing regional standards and protocols for coastal habitat restoration and management.
- 2004 to 2006: To create a guidance document for stream restoration for New York State's coastal nonpoint areas.

- 2008 to 2010: To develop New York State guidelines for post-storm redevelopment plans.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in New York include

- Brownfields to Working Waterfront: New York Helps Revitalize Community's Coast – July/August 2000
- Private Docks: Fighting for the Public's Rights in New York – November/December 2001
- New York Coastal Managers Feel Impact of Attack – March/April 2002
- Terrorist Attacks Hit Coastal Managers' Budgets – March/April 2002
- Beach Renourishment: The Lessons from One Long Island Community – July/August 2002
- Keeping Travelers on Schedule in New York – July/August 2004
- Finding Out How Big the Business of Recreational Boating Is in New York – January/February 2005

www.csc.noaa.gov/magazine/

Habitat Priority Planner

This GIS-based tool developed by the Center is used to test different alternatives for setting management priorities in a watershed, county, or small region by evaluating and comparing the effects of future land use, conservation scenarios, or proposed restoration projects on habitat quality. Currently, training and updated outreach materials are being developed to support and facilitate the use of the tool, and pilot application products are slated for Maine, New York, and South Carolina.

www.csc.noaa.gov/hpp/

Land Cover Mapping

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Scenario Planning Tool for Coastal Conservation and Hazard Mitigation

The Center is working with The Nature Conservancy to provide an interactive decision-support tool for local governments on Long Island, New York, that will enhance community resilience and meet management objectives for coastal hazard mitigation and biodiversity conservation. The tool will account for future sea level rise and storm scenarios to help communities visualize and understand their risks and vulnerabilities.

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center's training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in New York include

- Managing Visitor Use in Coastal and Marine Protected Areas
- Project Design and Evaluation
- Public Issues and Conflict Management

www.csc.noaa.gov/training/

Virginia

Coastal Elevation Mapping

The Center works with state and local officials and the private sector to collect and distribute high-resolution topographic and bathymetric data sets, including new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data. Data uses include the analysis of storm surge

and storm inundation, and erosion and habitat mapping. In addition to data collection and distribution, the Center works with end users to expand the utility of these data. www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The Virginia Coastal Program has hosted one fellow:

- 2006 to 2008: To create a searchable on-line resource to improve public access to coastal zone information and encourage nature-based tourism. www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in Virginia include

- Keeping the Faith: Using the Bible as the Basis for Environmental Stewardship in Virginia – November/December 2000
- Virginia Revives Its Heritage through Oysters – November/December 2001
- Virginia Research Project Takes Managers to the Source – July/August 2004
- Social Marketing: Selling Behavior Change around the Chesapeake Bay – March/April 2007

www.csc.noaa.gov/magazine/

Integrated Ocean Observing System Applications

The Center is working with data providers to ensure that ocean data are available and useful to the widest possible audience. For the Mid-Atlantic, the Center has developed the Chesapeake Bay Oyster Larvae Tracker (CBOLT) using ocean observing system data, which gives scientists the ability to predict larvae distribution for a user-specified period of time. This information helps users estimate and visualize location and mortality rate for a released larval stock. www.csc.noaa.gov/cbolt/

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NOAA Fisheries' Community-Based Restoration Program and Cooperative Habitat Protection Program

The common goal of these two programs is to help practitioners and coastal managers implement ecosystem-based management practices to increase the number of habitat acres restored or conserved. The Center has particular expertise in the planning aspects. Current efforts for this project involve developing information resources and tools that improve and enhance shoreline restoration and protection in the Chesapeake Bay.

Topographic and Bathymetric Applications

The Center provides information about the availability of topographic and bathymetric data sets and assists coastal managers in working with these sets—particularly in relation to storm surge and inundation modeling. The current focus of this project is on developing a data inventory for Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, Maryland, North Carolina, South Carolina, and Virginia and guidance documents describing the coastal management applications of topography and bathymetry. www.csc.noaa.gov/topobathy/

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center's training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Virginia include

- Coastal Applications of ArcGIS
- Introduction to ArcGIS
- Remote Sensing for Spatial Analysts

www.csc.noaa.gov/training/

Northeast Region

Products and services for the Northeast often originate at the regional office of the NOAA Coastal Services Center. To learn more about the following activities, e-mail northeast-region@csc.noaa.gov.

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring the Northeast region include

- Northeast Region Takes Different Approaches to Similar Issues – January/February 2000
- Talking about a Revolution: The Gulf of Maine Mapping Initiative – March/April 2004
- Research Using Two Heads Better than One in the Gulf of Maine – September/October 2004
- Getting GoMOOS into Shallow Water in the Gulf of Maine – May/June 2005
- Dam Removal: Creating a Monitoring Guide for Removing Barriers in the Gulf of Maine – July/August 2008

www.csc.noaa.gov/magazine/

Literature Review of the U.S. Northeast Coastal Community: Management of Coastal Ecosystems and Natural Hazards

This literature review focuses on needs in the Northeast region associated with ecosystem-based management, resilience to coastal hazards, and data and information access and usability.

The review is the foundation of a greater needs assessment effort within the region, which will confirm priority regional needs among the coastal resource management community. The Center is developing recommendations on how to better tailor services to meet these needs, as well as outlining the services and expertise available from other NOAA programs.

www.csc.noaa.gov/bins/regions/Northeast_Literature_Review.pdf

Regional Coastal Water Quality

Coastal water quality and nonpoint source pollution are high-priority watershed issues for coastal communities. A needs assessment in the Northeast region was conducted to determine how state coastal water quality data and protocols can be better coordinated, displayed, and used for management decision-making. Regional staff members are using the results to identify local partners that can benefit from the training programs and tools sponsored by the Center.

Regional Ocean Governance Support

Regional ocean governance is a strategy for managing ocean and coastal resources in a more holistic, ecosystem-based manner. The process operates across local, state, and federal jurisdictional boundaries and is coordinated by regional ocean governing bodies. The governing bodies provide the framework, mechanisms, and incentives that state and federal agencies need to coordinate management efforts. The Center supports three regional ocean governing bodies: the Northeast Regional Ocean Council, the Gulf of Mexico Alliance, and the West Coast Governors' Agreement on Ocean Health.

Connecticut

Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar and IfSAR data sets.

www.csc.noaa.gov/crs/tcm/

Coastal Inundation Visualizations

Inundation from tropical storms (nor'easters) poses a significant threat to coastal regions in the Northeast. High-resolution visualization tools designed to help identify areas at risk of flooding are being developed for pilot locations in Scituate, Massachusetts, and Saco, Maine. The NOAA North Atlantic Regional Team has partnered with the National Weather Service to create a series of inundation layers using a GIS, as well as Google Internet applications, to illustrate potential flood inundation for real-time, forecast, hindcast, and scenario-based water levels.

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The Connecticut Department of Environmental Protection Office of Long Island Sound Programs has hosted five fellows:

- 1996 to 1998: To conduct research to identify effective restoration strategies for brackish and tidal freshwater marshes.
- 1999 to 2001: To develop a decision tool for dredge material management in Long Island Sound.
- 2002 to 2004: To develop a comprehensive GIS database of shoreline property ownership classification that helped the state organize, analyze, and share information related to public access to coastal environments.
- 2005 to 2007: To develop techniques to assess the visual impact of proposed development on scenic resources and landscape qualities of Connecticut's coast.
- 2007 to 2009: To develop a coastal hazard plan for Connecticut.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in Connecticut include

- Connecticut Managers Tag Drivers to Help Preserve the Sound – May/June 2000
- Educating Local Land Use Decision Makers to Improve Water Quality in Connecticut – January/February 2001
- Successful Connecticut Flag Program Cut Short by Nature – March/April 2001
- Connecticut's Dedication to Wetland Restoration – March/April 2003
- Storm Water Management Putting Real Life to the Test in Connecticut – January/February 2004
- Using GIS to Improve the Big Picture in Connecticut – September/October 2005

- Website Helps Build Planning Capacity of Connecticut Communities – September/October 2007
- Endangered Species: How State Laws are Aiding Connecticut and Massachusetts – March/April 2008

www.csc.noaa.gov/magazine/

Land Cover Mapping

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www.csc.noaa.gov/landcover/

Legislative Atlas

This Web-based legislative mapping tool provides coastal resource managers with easy access to coastal legislative data and information. In 2008 the Legislative Atlas team added additional legislative information for the three regions represented in the atlas—Hawaii, West Coast, and the Gulf of Maine. This added information included both federal and state regulations. The legislative query tool is also being redesigned according to user input.

www.csc.noaa.gov/legislativeatlas/

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center's training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Connecticut include

- Coastal Applications of ArcGIS
- Remote Sensing for Spatial Analysts

www.csc.noaa.gov/training/

Maine

Coastal Elevation Mapping

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Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. Coastal management agencies in Maine have hosted four fellows:

- 1997 to 1999: To design and implement a functional assessment methodology to improve coastal marine habitat protection.
- 2001 to 2003: To develop beach nourishment policy recommendations for the state and create a hazard mitigation plan.
- 2004 to 2006: To identify opportunities to institutionalize new approaches for management of Maine's embayments that were feasible, cost-effective, and supported by stakeholders.
- 2008 to 2010: To apply an ecosystem-based management framework to Maine's coastal waters.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in Maine include

- Are We Paving Over Paradise? Maine's Efforts at Directing Development – March/April 2001
- Talking about a Revolution: The Gulf of Maine Mapping Initiative – March/April 2004
- Research Using Two Heads Better than One in the Gulf of Maine – September/October 2004
- Getting GoMOOS into Shallow Water in the Gulf of Maine – May/June 2005
- Conserving Working Waterfronts in Maine – September/October 2006

www.csc.noaa.gov/magazine/

Community-Based Habitat Restoration

NOAA's community-based restoration program helps groups restore marine and estuarine habitat by providing funds and technical expertise. NOAA Fisheries leads the program. The Center has co-funded several projects, including the Drakes Island Marsh project in the Gulf of Maine region. www.csc.noaa.gov/ea/habitat.html

Habitat Priority Planner

This GIS-based tool developed by the Center is for conservation and habitat restoration planners and practitioners to test different alternatives for setting management priorities within a watershed, county, or small region. The tool can be used to evaluate and compare the effects of future land use, conservation scenarios, or proposed restoration projects on habitat quality. Training and updated outreach materials are being developed and pilot application products are planned for Maine and two other states. www.csc.noaa.gov/hpp/

Land Cover Mapping

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Legislative Atlas

This Web-based legislative mapping tool provides coastal resource managers with easy access to coastal legislative data and information. In 2008 the Legislative Atlas team added additional legislative information for the three regions represented in the atlas—Hawaii, West Coast, and the Gulf of Maine. This added information included both federal and state regulations. The legislative query tool is also being redesigned according to user input. www.csc.noaa.gov/legislativeatlas/

Maine Coast Protection Initiative

Over 70 organizations are working together to preserve the unique character of Maine's coast. As a core partner in the Maine Coast Protection Initiative (MCPI), the Center supported the strategic conservation planning process, provided funding, and provided technical support to increase the geospatial capacity of the local land trusts. The Center also played a key role in establishing GIS resource centers designed to equip land trusts with the tools and training needed to better address coastal conservation challenges. www.csc.noaa.gov/conservation/mcpi.html

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center's training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Maine include

- Coastal Applications of ArcGIS
- Coastal Community Planning and Development
- Conservation Data Documentation
- Introduction to ArcGIS
- Public Issues and Conflict Management

www.csc.noaa.gov/training/

Massachusetts

Coastal Elevation Mapping

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new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar and IfSAR data sets. www.csc.noaa.gov/crs/tcm/

Coastal Inundation Visualizations

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Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The Massachusetts Office of Coastal Zone Management has hosted six fellows:

- 1996 to 1998: To perform an analysis of the effectiveness of coastal habitat restoration programs in the Gulf of Maine.
- 1998 to 2000: To develop an adaptive special area management plan for the Parker River/Essex Bay area on the north shore of Boston.
- 2000 to 2002: To create a personal watercraft impact assessment manual, *Personal Watercraft (PWC) Management Guide: a Comprehensive Reference Handbook*, that could be used as a reference for anyone involved in PWC management.
- 2002 to 2004: To create a marine habitat strategic plan and connect coastal managers with marine habitat data.
- 2006 to 2008: To develop and implement planning, policy, regulatory, and technical assistance tools to improve coastal floodplain management.
- 2008 to 2010: To lead a project striving to make storm-resilient communities a reality in Massachusetts.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in Massachusetts include

- Aquaculture: Reaping the Benefits in Massachusetts – September/October 2001
- Massachusetts Helps Boaters Put a Sock in It – November/December 2002
- The Invisible Enemy: Reducing Nitrogen in Massachusetts’ Atmosphere – July/August 2003
- Liquefied Natural Gas: Rising Demand Heats Up Coastal Management Role – November/December 2004
- Massachusetts Puts Beachcombing in the Bag – July/August 2005
- Construction in Coastal Floodplains? The Possible Reverberations from a Massachusetts Court Ruling – January/February 2006
- Planning for Open Space in Massachusetts – March/April 2006
- Offshore Wind Energy: Texas and Massachusetts Rush to Be First – May/June 2007
- Endangered Species: How State Laws are Aiding Connecticut and Massachusetts – March/April 2008

www.csc.noaa.gov/magazine/

Coastal Zone Conference

Coastal Zone 09, to be held July 2009 in Boston, Massachusetts, will be the 16th installment of the biennial conference. Since 2000, the Center has served as the conference executive secretariat, coordinating the conference logistics, technical program, federal sponsors, and local planning. Input and participation from the local and national coastal resource management community help in shaping overall conference themes and issue areas.

www.csc.noaa.gov/cz/

Land Cover Mapping

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This Web-based legislative mapping tool provides coastal resource managers with easy access to coastal legislative

data and information. In 2008 the Legislative Atlas team added additional legislative information for the three regions represented in the atlas—Hawaii, West Coast, and the Gulf of Maine. This added information included both federal and state regulations. The legislative query tool is also being redesigned according to user input.

www.csc.noaa.gov/legislativeatlas/

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center’s training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Massachusetts include

- Negotiating for Coastal Resources
- Public Issues and Conflict Management

www.csc.noaa.gov/training/

New Hampshire Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar and IfSAR data sets.

www.csc.noaa.gov/crs/tcm/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in New Hampshire include

- New Hampshire Drivers Tune In to Great Bay Radio – May/June 2000
- Population Boom Brings Volunteers to New Hampshire – May/June 2001
- Finding the Culture in New Hampshire’s Natural Resources – March/April 2005

www.csc.noaa.gov/magazine/

Land Cover Mapping

Nothing provides a big-picture view of land cover status better than these maps, which are developed using remote sensing technology. The Center has baseline land cover data for most of the coastal zone. The goal is to update the imagery every five years to also provide a means of detecting change or trends.

www.csc.noaa.gov/landcover/

Legislative Atlas

This Web-based legislative mapping tool provides coastal resource managers with easy access to coastal legislative data and information. In 2008 the Legislative Atlas team added additional legislative information for the three regions represented in the atlas—Hawaii, West Coast, and the Gulf of Maine. This added information included both federal and state regulations. The legislative query tool is also being redesigned according to user input.

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Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center’s training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in New Hampshire include

- Coastal Inundation Mapping
- Introduction to ArcGIS
- Planning for Meaningful Evaluation
- Project Design and Evaluation
- Public Issues and Conflict Management
- Remote Sensing for Spatial Analysts

www.csc.noaa.gov/training/

Rhode Island

Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar and IfSAR data sets.

www.csc.noaa.gov/crs/tcm/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in Rhode Island include

- Takings: Determining the Impact of a U.S. Supreme Court Decision – January/February 2002
- Planning for No Adverse Impacts on the Coast – January/February 2006
- The Rising Tide: How Rhode Island Is Addressing Sea Level Rise – May/June 2008

www.csc.noaa.gov/magazine/

Land Cover Mapping

Nothing provides a big picture view of land cover status better than these maps, which are developed using remote sensing technology. The Center has baseline land cover data for most of the coastal zone. The goal is to update the imagery every five years to also provide a means of detecting change or trends.

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Legislative Atlas

This Web-based legislative mapping tool provides coastal resource managers with easy access to coastal legislative data and information. In 2008 the Legislative Atlas team added additional legislative information for the three regions represented in the atlas—Hawaii, West Coast, and the Gulf of Maine. This added information included both federal and state regulations. The legislative query tool is also being redesigned according to user input.

www.csc.noaa.gov/legislativeatlas/

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center’s training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Rhode Island include

- Coastal Applications Using ArcGIS
- Project Design and Evaluation
- Public Issues and Conflict Management
- Remote Sensing for Spatial Analysts

www.csc.noaa.gov/training/

Pacific Islands Region

Products and services for the Pacific Islands often originate through the satellite office in the region, the NOAA Pacific Services Center. What follows is a list of site-specific activities in this region. Contact the NOAA Pacific Services Center at (808) 532-3200 or psc@csc.noaa.gov to learn more, or visit the website at www.csc.noaa.gov/psc/.

Building Geospatial Capacity in the Pacific

Ongoing NOAA Pacific Services Center efforts provide the Pacific Islands with needed geospatial tools, data, training, and services. These efforts include developing an inventory of spatial data for the Pacific Islands region, supporting regional data development initiatives to include land cover, and working with watershed planning and land-based pollution control projects.

NOAA Regional Collaboration Support

Eight regional teams and four national priority area task teams are providing the coordination necessary for NOAA to address regionally distinct priorities and its own national priorities of hazard-resilient communities, integrated ecosystem assessments, integrated water resource services, and outreach and communication. NOAA Pacific Services Center staff members lead the Pacific region efforts and the hazard-resilient coastal communities priority-area task team.

NOAA Resilience Portal

This Web-based portal provides access to a basic suite of data, information, tools, products, and services available from NOAA that are needed to help communities in pilot regions understand, evaluate, and enhance community resilience to natural hazards.

Pacific Islands – Enhancing Coastal Community Resilience

The NOAA Pacific Services Center is conducting a range of activities that support the enhancement of coastal community resilience, including the development of a coastal community resilience guidebook and assessment tool, and an assessment of existing hazard mitigation plans. Tsunami inundation models are also being developed for the U.S. Pacific Island territories. These areas are highly vulnerable to tsunami impacts but have never been modeled.

Pacific Islands Technical Assistance

The NOAA Pacific Services Center provides technical assistance to the coastal resource managers in the U.S. flag Pacific Islands. This assistance includes working with

geospatial technologies, raising awareness of the availability of remotely sensed data sets, providing technical training, and directing efforts to create a unified geodetic network. Efforts include working with the National Geodetic Survey to make improvements to the National Spatial Reference System in the Pacific, introducing new land cover data and related tools, and providing GIS training classes when needed.

Pacific Islands Technology Tools and Applications

The NOAA Pacific Services Center is conducting a range of activities that support the development of technology tools and applications that help communities build resilience to coastal hazards. Some of the new activities include a partnership with the NOAA National Weather Service to develop an Internet application for distributing NOAA Weather Radio alerts. This application will provide a much-needed service for the Pacific Islands region, since the NOAA Weather Radio coverage for portions of the islands is intermittent. Another activity is the development of an environmental resource assessment tool for Guam.

Pacific Regional Geodetic Advisor Support

The Pacific Services Center supports a variety of activities geared toward enhancing the geodetic foundation of the National Spatial Reference System in the Pacific region. This initiative primarily involves technical support and training.

Pacific Risk Management 'Ohana (PRiMO)

The Pacific Risk Management 'Ohana (PRiMO) is an interagency working group focused on collaboration among Pacific organizations that have disaster risk management roles. The group's focus is on building hazard resilience at the community level. The Pacific Services Center is leading efforts to assess the applicability of the Indian Ocean Coastal Community Resilience Program and the Community Resilience Index to the U.S. Pacific Islands. Efforts are also focused on initiating multiagency collaborative projects geared at enhancing hazards resilience in coastal communities throughout the Pacific Islands region.

Strengthening the Capacity for Marine Protected Area Management Effectiveness Evaluation in the Pacific Region

The NOAA Pacific Services Center offers technical assistance and training on management planning and effectiveness evaluation to international governments and their nongovernmental partners. Requests have come from Indonesia, Fiji, the Bahamas, South Korea, and U.S. territories in the Pacific region.

U.S. Government's Contribution to the Indian Ocean Tsunami Warning System

Work will continue with the U.S. Agency for International Development to create a coastal community resilience program for the Indian Ocean region, a component of the Indian Ocean Tsunami Warning System. Products include a community resilience guidebook, a training program, and a hazard assessment Internet mapping tool.

Watershed Management Technical Support

This effort provides assistance to organizations interested in addressing land-based pollution sources. A key element involves providing technical training and assistance and concept design development. These efforts will help jurisdictions acquire technical knowledge and establish a programmatic framework for addressing and controlling land-based sources of pollution using a watershed approach.

Hawaii

Ahupua'a Management Toolkit

Many watershed management products and services have been developed across NOAA, as well as other agencies, for the State of Hawaii. This project packages these efforts together and builds upon their cumulative benefits. A unique aspect is the integration of traditional Hawaiian knowledge and practices with contemporary science and technology to enhance natural resource and community resilience.

Bay Watershed Education and Training (B-WET) Hawaii Grant Opportunity

The B-WET Hawaii Program provides competitive grants to organizations that use the outdoors as a living laboratory, directly connecting students to their marine and aquatic ecosystems. The awards are funded for one year and provide meaningful outdoor experiences for students and professional development opportunities for teachers. Over 30,000 participants have benefited from B-WET Hawaii Programs since the grant program began in 2004. Current priorities include earth systems science and community resilience to hazards. www.csc.noaa.gov/psc/bwet.html

C-CAP Land Cover and Change Data

The Coastal Change Analysis Program (C-CAP) is a nationally standardized database of land cover and change data within the coastal regions of the U.S. C-CAP products inventory coastal intertidal areas, wetlands, and adjacent uplands with the goal of monitoring natural and human-induced changes in these habitats on a one-to-five year cycle. Key efforts in 2008 included land cover and change maps and products developed with private-sector remote sensing contractors for the Great Lakes, Northeast, Pacific, and Caribbean Island regions. www.csc.noaa.gov/landcover/

Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar and IfSAR data sets. www.csc.noaa.gov/crs/tcm/

Coastal Hazards Risk and Impact Assessment Toolkit

Through a portfolio, or toolkit, of products and services, the NOAA Coastal Services Center and the Pacific Services Center help local communities analyze their coastal hazard risks and impacts from hurricanes and coastal storms, inundation, flooding, and shoreline change. The toolkit includes mapping tools and templates, training, visualization techniques, methodologies and best practices, and data resources, as well as marketing materials and the Center's coastal hazards outreach plan.

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in Hawaii include the following:

- Hawaii Balances Use and Sustainability of Hanauma Bay – March/April 2001
- Hawaii Web Site Connects with Sea Squirt – September/October 2001
- Hawaii Agencies Come Together to Clean Up Derelict Fishing Gear – July/August 2002
- Hazards Mitigation: Hawaii Takes On Mother Nature – September/October 2003
- Tsunami! Preparing Hawaii for the Next Big Wave – September/October 2004
- Getting Earthquake Data into the Hands of Decision Makers in Hawaii – January/February 2006
- Hawaii's Secret Weapon against Alien Algae – July/August 2006

www.csc.noaa.gov/magazine/

Coral Reef Management Fellowship

The fellowship program provides professional on-the-job education and training to highly qualified individuals on island-level coral reef management and provides policy and management support. Fellows are placed every other year and spend two years working on specific projects and activities determined by each island's lead coral reef management agency. www.csc.noaa.gov/cms/assistants/

Environmental Literacy Program

Over 500,000 students, teachers, and local community participants have benefited from NOAA Pacific Services Center's Environmental Literacy Program. An example is the NOAA Honua project, an innovative education tool

that uses digital globe formats, such as NOAA's Science On a Sphere and the Magic Planet, to provide opportunities for local communities to increase their understanding and use of NOAA's data, information, and programs.

N-SPECT Applications

The Nonpoint-Source Pollution and Erosion Comparison Tool (N-SPECT) is a GIS-based screening tool that models basic hydrologic processes, including overland flow, erosion, and nonpoint source pollution for watersheds. Staff members worked in Hawaii to help officials implement this powerful tool.

www.csc.noaa.gov/nspect/

Hawaii Flood Response Tool

This software, which is being developed for local emergency managers, will provide an improved operational picture for flood response activities by automatically logging disparate real-time and near real-time observation data and text products via the Internet. The information will be displayed along with historical and baseline data in an easy-to-interpret format utilizing GIS. This rapid access to new data streams should provide a more realistic picture of on-the-ground conditions and reduce data compilation time.

Hawaii Tsunami Evacuation Visualization Tool

New models and updated data are causing Hawaii to rezone some tsunami evacuation areas and change the designations of some previously identified tsunami evacuation shelters. This new information, however, is not always easy for the public to find. This tool provides a user-friendly mechanism for the public to access Hawaii's tsunami hazards information.

Hazard Assessment Tools

Local communities have requested an easy-to-use way to access hazards data, since this information is useful when issuing building permits and making zoning decisions. Site-specific tools have been developed in response to this request.

www.csc.noaa.gov/hat/

High-Resolution Land Cover

The Center's Coastal Change Analysis Program (C-CAP) develops high-resolution data that complements the C-CAP regional land cover products by providing information that managers can use to address more site-specific management issues. In 2008, this high-

resolution work focused on the completion of impervious surface products for the main eight islands of Hawaii, high-resolution land cover maps for the counties of Oahu and Maui, and continued work with the National Estuarine Research Reserve System and other partners as they explore new ways to use these data. The data were obtained via contracts with various remote sensing companies. www.csc.noaa.gov/landcover/

Legislative Atlas

This Web-based legislative mapping tool provides coastal resource managers with easy access to coastal legislative data and information. Efforts in 2008 focused on incorporating additional legislative information for the three regions represented in the atlas—Hawaii, California, and the Gulf of Maine. This added information includes both federal and state regulations. The legislative query tool will also be redesigned according to user input. www.csc.noaa.gov/legislativeatlas/

Marine Debris Action Planning

The NOAA Pacific Services Center is working with the NOAA Marine Debris Program to address marine debris issues across the Hawaiian archipelago. At the conclusion of this project, a strategic and implementable plan will be in place to address activities in five focus areas: research, outreach and education, land-based debris prevention, beach cleanups, and in-water and reef debris removal.

Training

The NOAA Coastal Services Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center's training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Hawaii include

- Coastal Applications of ArcGIS
- Project Design and Evaluation
- Public Issues and Conflict Management

www.csc.noaa.gov/training/

Updating Nautical Charts and U.S. Coast Pilot

The NOAA Pacific Services Center is partnering with the Office of Coastal Survey to ensure that the nautical charts and U.S. Coast Pilot within the Pacific Islands are up-to-date and accurate so that these data (e.g., current shorelines, hydrographic depths, features, and aids or dangers to navigation) can assist maritime commerce.

American Samoa, Commonwealth of the Northern Mariana Islands, and Guam Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in the other Pacific Islands include the following:

- Student Input at the Heart of Mariana Islands CD-ROM – May/June 2001
- Guam Managers Take Coral Reef Show on the Road – May/June 2002
- Getting the Fact Sheets Straight in Guam – January/February 2003
- The Northern Marianas' Drive to Protect the Beach – March/April 2003
- Population Growth: American Samoa Determines How Many Is Too Many – July/August 2003
- Planning for Coastal Fun a Big Job in Guam – January/February 2005
- Picturing the Risks from Natural Hazards in American Samoa – March/April 2005
- Teaching Environmental Stewardship in American Samoa – May/June 2007

www.csc.noaa.gov/magazine/

Coral Reef Management Fellowship

The fellowship program provides professional on-the-job education and training to highly qualified individuals on island-level coral reef management and provides policy and management support. Fellows are placed every other year and spend two years working on specific projects and activities determined by each island's lead coral reef management agency. www.csc.noaa.gov/cms/assistants/

Hazard Assessment Tools

Local communities have requested an easy-to-use way to access hazards data, since this information is useful when issuing building permits and making zoning decisions. Site-specific tools were developed in response to this request. www.csc.noaa.gov/hat/

Needs Assessment and Social Science Tools Coordination and Technical Assistance

The Center provides coastal managers and communities with technical assistance in the use of social science tools, including assessing customer needs. This project provides technical assistance with survey design and analysis and for the facilitation of meetings, workshops, and stakeholder engagement in projects across the country, including the Pacific Islands.

Land Cover Mapping

Nothing provides a big picture view of land cover status better than these maps, which are developed using remote sensing technology. The Center has baseline land cover data for most of the coastal zone. The goal is to update the imagery every five years to also provide a means of detecting change or trends. www.csc.noaa.gov/landcover/

Pacific Services Center Partner Support

The NOAA Pacific Services Center supports NOAA National Ocean Service partners working in the Pacific. This assistance included natural resource damage assessment workshops in Guam and the Northern Mariana Islands in November 2008. The Pacific Services Center also supports technical assistance needs related to marine debris research, prevention, and removal. A typhoon protection strategy is also being discussed.

Pacific Islands Climate Change Portal

This portal provides climate information and climate-related resources to coastal resource managers. The content includes tools, reports, trainings, websites, data sets, educational materials, risk assessments, and climate projections. Partnering with NOAA in this endeavor are multiple groups in the Pacific, including the Pacific Regional Environment Programme and the NOAA Integrated Data and Environmental Applications (IDEA) Center. This is a prototype effort initially developed for Samoa and American Samoa but with the possibility of expanding to include additional Pacific islands. This prototype could be used in other geographies as well.

Updating Nautical Charts and U.S. Coast Pilot

The Pacific Services Center is partnering with the Office of Coastal Survey to ensure that the nautical charts and *U.S. Coast Pilot* within the Pacific Islands are up-to-date and accurate so that these data (e.g., current shorelines, hydrographic depths, features, and aids or dangers to navigation) can assist maritime commerce.

Southeast and Caribbean Region

To learn more about products and services for states and territories in this region, e-mail southeast-region@csc.noaa.gov.

Climate and Weather Impacts on Society and the Environment 2 (CWISE2)

Organizations involved in this four-year cooperative agreement are studying the physical, socioeconomic, and ecosystem impacts of sea-level variability and change. These organizations are also developing decision-support resources to help communities from Texas to Maryland increase resilience to impacts of erosion and inundation in a scenario of sea-level change. www.csc.noaa.gov/climatology/research.html

Collaboration with NOAA Fisheries

The Center and the NOAA Fisheries' Office of Habitat Conservation work together to help coastal managers and communities implement ecosystem-based management practices for coastal habitat conservation and restoration. In 2008, the organizations hosted a workshop on barrier removal to achieve tidal hydrology restoration in the Southeast region. The workshop provided an opportunity for the restoration community to share lessons learned. From this workshop, technical guidance was developed to enhance tidal hydrology restoration.

NOAA Regional Collaboration Support

Personnel from the Center are serving on five of the eight regional teams (Gulf of Mexico, North Atlantic, Pacific, Western, and Southeast and Caribbean) devoted to understanding customer needs and delivering applicable NOAA products and services. The Center also serves on two of NOAA's priority area task teams—hazard-resilient communities and outreach and communications.

Florida *(See also Gulf Coast Region, Page 34)*

Benthic Habitat Mapping and Classification

The Coastal and Marine Ecological Classification Standard provides a consistent and universally applicable coastal habitat inventory system. These standards are being applied to ongoing mapping efforts to evaluate their usefulness as an analytical tool in establishing a habitat baseline and monitoring ecosystem changes. Mapping projects in Texas and Florida include developing a "crosswalk" designed to demonstrate where specific habitat types reside within the classification framework.

Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar data sets. Efforts in 2008 focused on Florida, Illinois, Indiana, Michigan, Ohio, South Carolina, and Virginia. www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The Florida Coastal Management Program has hosted two fellows:

- + 1996 to 1998: To develop criteria for approval of local government hazard mitigation and redevelopment policies for the local comprehensive planning process.
- + 2000 to 2002: To implement the second phase of Florida's BlueWays initiative, an effort to promote adaptive coastal management.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in Florida include the following:

- + Signs Improve Access to Florida Beaches – March/April 2000
- + Coastal Catastrophes: What Managers Are Doing to Prepare for the Next Big Storm – September/October 2000
- + Careless Drivers Damaging Marine Habitats in Florida Sanctuary – September/October 2001
- + No-Take Zones: Balancing the Use of the Marine Environment in the Florida Keys – November/December 2002
- + Tracking Down a Killer in Florida's Waters – March/April 2003
- + Water Woes: Florida Tries Drinking from the Sea – May/June 2003

- + Storm-Wearied Staff Members' Emotional Health a Manager Priority – May/June 2006
 - + Coral Bleaching: The Impact of Rising Sea Temperatures on Florida Keys' Reefs – September/October 2007
 - + State Money Helping Homeowners Prepare for Hurricanes in Florida – January/February 2008
 - + Workshop Leads to Local Red Tide Data Collection in Florida – March/April 2008
- www.csc.noaa.gov/magazine/

Land Cover Mapping

Nothing provides a big-picture view of land cover status better than these maps, which are developed using remote sensing technology. The Center has baseline land cover data for most of the coastal zone. The goal is to update the imagery every five years to also provide a means of detecting change or trends. www.csc.noaa.gov/landcover/

Legislative Atlas

The Center—along with Photo Science, Inc., the National Sea Grant Law Center, and local partners—developed the Legislative Atlas. This Web-based tool allows users to visualize the location of selected coastal and ocean laws for the continental U.S. and state laws for the Gulf of Mexico region. The tool provides a foundation for coordinated ecosystem-based approaches to coastal management. www.csc.noaa.gov/legislativeatlas/

Risk and Vulnerability Assessment Tool

Using the Community Vulnerability Assessment Tool methodology and interactive mapping, this product helps determine the locations of vulnerable people, property, and natural resources within Brevard and Volusia Counties, Florida, and determine ways to increase flood protection and reduce flood risk and insurance premiums. Storm surge animations depict projected inundation for popular locations within these communities. www.csc.noaa.gov/rvat/

Topographic and Bathymetric Applications

The Center provides information about the availability of topographic and bathymetric data sets and assists coastal managers in working with these sets—particularly in relation to storm surge and inundation modeling. The current focus of this project is on developing a data inventory for Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, Maryland, North Carolina, South Carolina, and Virginia and guidance documents describing the coastal management applications of topography and bathymetry. www.csc.noaa.gov/topobathy/

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center’s training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Florida include the following:

- Coastal Applications of ArcGIS
- Coastal Community Planning and Development
- Coastal Inundation Mapping
- Conservation Data Documentation
- Introduction to ArcGIS
- Project Design and Evaluation
- Public Issues and Conflict Management
- Remote Sensing for Spatial Analysts

www.csc.noaa.gov/training/

Georgia

Alternatives for Coastal Development

Coastal communities need tools to analyze, visualize, and make decisions about economic, social, and environmental impacts. For this project, map-based visualization software (CommunityViz and ArcGIS) is used to analyze three hypothetical development scenarios in coastal Georgia. The project demonstrates tools people can use to help them visualize, measure, and compare options. The results provide information that can help users meet conservation objectives.

www.csc.noaa.gov/alternatives/

Climate Demonstration Project

While climate is an important factor for all coastal communities, coastal officials often don’t know where to access climate information or how to incorporate this information into their decision-making processes. Two pilot websites were

developed for the states of Georgia and North Carolina to address this issue—one for recreation and tourism (www.cormp.org/climate/) and another for recreational and commercial fishing (www.coastalclimate.org).

Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar and IfSAR data sets.

www.csc.noaa.gov/crs/tcm/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in Georgia include the following:

- Georgia Connecting Inland Residents to the Coast – November/December 2000
- Visitors Check Internet Site before Heading to Georgia Beaches – November/December 2001
- Georgia’s Bare-Bones Program to Manage Sport Fish – July/August 2003
- Reeling In Future Coastal Managers in Georgia – November/December 2003
- Doing Something about Doggie Doo on Georgia’s Beaches – January/February 2004
- Movies More Valuable Than a Thousand Pictures for Georgia Sanctuary – November/December 2005
- Developing Guidelines for Green Growth in Georgia – September/October 2006
- Mapping and Removing Abandoned and Sunken Vessels in Georgia – July/August 2007

www.csc.noaa.gov/magazine/

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www.csc.noaa.gov/landcover/

Storm and Shoreline Products for Practitioners

Resilience is about building the capacity to “bounce back.” These products enhance community resilience by providing information, resources, and tools relating to coastal storm hazards and shoreline change. Products and services include the following: a storm information website, easy access to hurricane evacuation studies, an information guide regarding best management practices for shoreline change, and an expanded hurricane preparedness study for Chatham County, Georgia, including a decision-support tool and model for mapping storm surge zones.

Topographic and Bathymetric Applications

The Center provides information about the availability of topographic and bathymetric data sets and assists coastal managers in working with these sets—particularly in relation to storm surge and inundation modeling. The current focus of this project is on developing a data inventory for Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, Maryland, North Carolina, South Carolina, and Virginia and guidance documents describing the coastal management applications of topography and bathymetry.

www.csc.noaa.gov/topobathy/

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center’s training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Georgia include the following:

- Negotiating for Coastal Resources
- Public Issues and Conflict Management

www.csc.noaa.gov/training/

Visualizing Storm Surge and Coastal Shallow Flooding

This tool helps emergency managers view hazards and planning data in a GIS environment. This Internet mapping application, developed for Chatham County, Georgia, enables multiple county offices to view storm-surge zones and shallow coastal flooding advisories with hazards planning data. It also illustrates the ways in which potential coastal inundation might impact critical facilities, infrastructure, vulnerable populations, and other factors. The Center developed this tool in partnership with the Chatham County Emergency Management Agency.

North Carolina

Climate Demonstration Project

While climate is an important factor for all coastal communities, coastal officials often don’t know where to access climate information or how to incorporate this information into their decision-making processes. Two pilot websites were developed for the states of Georgia and North Carolina to address this issue—one for recreation and tourism (www.cormp.org/climate/) and another for recreational and commercial fishing (www.coastalclimate.org).

Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar and IfSAR data sets.

www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The North Carolina Division of Coastal Management has hosted four fellows:

- 1999 to 2001: To develop a restoration and management plan for forested wetlands in northeastern North Carolina.
- 2002 to 2004: To evaluate inlet process impacts on oceanfront shorelines, transportation infrastructure, and other development activities.
- 2005 to 2007: To assess the two most commonly used shoreline datums in North Carolina—the wet/dry line and the mean high water (MHW) line—to determine if results of the two methods are interchangeable.
- 2007 to 2009: To develop a comprehensive beach and inlet management plan for North Carolina.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in North Carolina include the following:

- North Carolina Seawall Ban Stands Up to Legal Challenge – March/April 2000
- Wetlands as the Solution to Landfill Pollution in North Carolina – January/February 2002
- Coming Soon to a Computer Near You, EstuaryLive! – September/October 2003
- Wetlands Mitigation: Acting Proactively in North Carolina – July/August 2005
- Studying Stormwater Permit Compliance in North Carolina – November/December 2006
- Shifting Sand: Ensuring the Right Kind of Sediment Goes on North Carolina Beaches – May/June 2008

www.csc.noaa.gov/magazine/

Community Vulnerability Assessment Tool

This informational aid is designed to assist communities in their efforts to reduce hazard vulnerability. The tutorial steps users through a process of analyzing physical, social, economic, and environmental vulnerability at the community level. This tool was piloted in coastal North Carolina and helps local and state governments determine and prioritize their localities' vulnerability to coastal hazards.

www.csc.noaa.gov/products/nchaz/startup.htm

Digital Coast Inundation Visualization

This Web-based visualization tool is a pilot project for eastern North Carolina that shows the degree of coastal inundation that would occur as water levels rise. The tool will help users understand the factors that can affect sea levels and coastal inundation. Users will be able to zoom in to see street-level impacts to habitat and infrastructure at various water depths.

Geospatial Collaboration with the National Weather Service

The Center is working with the National Weather Service to improve the geospatial display and delivery of products and services related to weather, water, and climate. As part of this project, flood-severity-inundation map libraries will be implemented and available for 35 Gulf Coast regions and 17 locations in North Carolina, with additional pilot locations in development.

Land Cover Mapping

Nothing provides a big picture view of land cover status better than these maps, which are developed using remote sensing technology. The Center has baseline land cover data for most of the coastal zone. The goal is to update the imagery every five years to also provide a means of detecting change or trends.

www.csc.noaa.gov/landcover/

On-line Flood Inundation Maps

The Center is working with the National Weather Service and the Federal Emergency Management Agency to provide on-line access to flood severity maps for 17 flood forecast locations in southeastern North Carolina. These maps, based on high-resolution digital elevation data and hydraulic modeling, contain visual and interactive information on the extent and severity of floods. This information is used by local officials and emergency managers who make evacuation and road closure decisions.

Topographic and Bathymetric Applications

The Center provides information about the availability of topographic and bathymetric data sets and assists coastal managers in working with these sets—particularly in relation to storm surge and inundation modeling. The current focus of this project is on developing a data inventory for Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, Maryland, North Carolina, South Carolina, and Virginia and guidance documents describing the coastal management applications of topography and bathymetry.

www.csc.noaa.gov/topobathy/

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center's training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in North Carolina include the following:

- Coastal Community Planning and Development
- Coastal Inundation Mapping
- Managing Visitor Use in Coastal and Marine Protected Areas
- Project Design and Evaluation

www.csc.noaa.gov/training/

South Carolina

Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar and IfSAR data sets. Efforts in 2008 focused on Florida, Illinois, Indiana, Michigan, Ohio, South Carolina, and Virginia.

www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The South Carolina Office of Ocean and Coastal Resource Management (OCRM) has hosted five fellows:

- 1997 to 1999: To develop a GIS to incorporate coastal inventory information in a manner that allows efficient post-hurricane damage field assessments.
- 1999 to 2001: To establish an on-line information clearinghouse to serve as a mechanism for OCRM to provide recommendations and findings from their research about natural resource management to local governments.
- 2001 to 2003: To create an assessment of current stormwater management procedures, legal analysis of maintenance and inspection requirements, baseline field inspections of systems, and fiscal analysis of inspection programs.
- 2003 to 2005: To develop policy recommendations and guidance across agency jurisdictions attempting to create more streamlined and effective comprehensive management of South Carolina's shellfish resources.
- 2007 to 2009: To examine and assess erosion control devices and beachfront structures, baselines and setbacks, and beach renourishment.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address

coastal issues. Recent articles featuring programs in South Carolina include the following:

- The Coastal Management SAMP of Approval – November/December 2003
- South Carolina SCOREs with Oyster Restoration Program – March/April 2004
- Wastewater: The Hidden Threat of Our Nation's Changing Shoreline – May/June 2004
- From Dump to Demo: Retrofitted House Showcases Hazard Mitigation Techniques – January/February 2006
- Regulating Access to Coastal Islands in South Carolina – March/April 2007

www.csc.noaa.gov/magazine/

Creating Resilient Communities

The Center is participating in a regional planning effort in Charleston, Dorchester, and Berkeley counties in South Carolina. The project will make linkages between future development, conservation, and resilience to natural hazards. Areas where natural hazards (hurricanes, flooding, etc.) threaten future community development are being identified, as are areas where ecosystem services can help reduce threats to people and infrastructure and should be recognized as potential lands for conservation.

GeoTools 09 Conference

GeoTools is the conference series that focuses on the technical information needs of the nation's coastal programs. Through this conference, constituents of the Center learn about new ways to address coastal resource management issues through the effective use of geospatial data and tools. The conference is held every two years in South Carolina.

www.csc.noaa.gov/geotools/

Habitat Priority Planner Applied in South Carolina

This GIS-based tool developed by the Center is for conservation and habitat restoration planners and practitioners to test different alternatives for setting management priorities in a watershed, county, or small region. The tool can be used to evaluate and compare the effects of future land use, conservation scenarios, or proposed restoration projects on habitat quality. In 2008, training and updated outreach materials are being developed to support and facilitate the use of the tool, and pilot application products are planned for South Carolina and two other states.

www.csc.noaa.gov/hpp/

Implementing Ecosystem-Based Management in a South Carolina NERR: The Role of GIS

For this project, stakeholders at the ACE Basin in South Carolina and another National Estuarine Research Reserve site will get GIS assistance as they develop strategic natural resource management plans for their geographic regions. One of the primary goals is to get the public to participate in the process. Efforts from the Center will focus on creative ways to highlight the value and threats to these resource areas. The Center's Habitat Priority Planner tool will be used for this purpose. From this experience, information will be shared with other organizations on how to best use visualizations and other spatial data products to support ecosystem-based management.

Land Cover Mapping

Nothing provides a big picture view of land cover status better than these maps, which are developed using remote sensing technology. The Center has baseline land cover data for most of the coastal zone. The goal is to update the imagery every five years to also provide a means of detecting change or trends.
www.csc.noaa.gov/landcover/

South Carolina Marsh Island Assessment

The Center partnered with the South Carolina Office of Ocean and Coastal Resource Management and the state Department of Natural Resources to better assess development and conservation concerns involving marsh islands in South Carolina through the development of a GIS-based marsh assessment tool.
www.csc.noaa.gov/id/scmarsh.html

Topographic and Bathymetric Applications

The Center provides information about the availability of topographic and bathymetric data sets and assists coastal managers in working with these sets—particularly in relation to storm surge and inundation modeling. The current focus of this project is on developing a data inventory for Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, Maryland, North Carolina, South Carolina, and Virginia and guidance documents describing the coastal management applications of topography and bathymetry.
www.csc.noaa.gov/topobathy/

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center's training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in South Carolina include the following:

- Coastal Applications of ArcGIS
- Coastal Inundation Mapping
- Conservation Data Documentation
- GIS Tools for Strategic Conservation Planning
- Introduction to ArcGIS
- Planning for Meaningful Evaluation
- Project Design and Evaluation
- Public Issues and Conflict Management
- Remote Sensing for Spatial Analysts

www.csc.noaa.gov/training/

Visualizing Shallow Coastal Flooding and Sea Level Rise

Lidar-derived elevation data were used to map inundation in Charleston, South Carolina. This high-resolution elevation information is one of the best data sets available for predicting areas impacted during short-term coastal flooding and relatively small changes in sea level. These products are helping local and state officials understand the potential areas of inundation and better prepare their communities.
www.csc.noaa.gov/digitalcoast/action/hazards/chsflood.html

Puerto Rico and the U.S. Virgin Islands Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The U.S. Virgin Islands Coastal Zone Management Program has hosted one fellow:

- 2006 to 2008: To develop, implement, and operate a functioning GIS office for the program by inventorying needs, creating a GIS database, and training the staff on using the software.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues.

Recent articles featuring programs in Puerto Rico include the following:

- Puerto Rico Finds a Measure of Success – July/August 2004
- Using Purchasing Power to Protect Lands in Puerto Rico – July/August 2007

Recent articles featuring programs in the U.S. Virgin Islands include the following:

- Conference Helping Virgin Islands Find Nonpoint Source Solutions – November/December 2000
- Resolving Coastal Conflicts in the Virgin Islands – July/August 2001

www.csc.noaa.gov/magazine/

Land Cover Mapping

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www.csc.noaa.gov/landcover/

N-SPECT Applications

The Nonpoint-Source Pollution and Erosion Comparison Tool (N-SPECT) is a GIS-based screening tool that models basic hydrologic processes, including overland flow, erosion, and nonpoint source pollution for watersheds. Assistance was given to resource managers in Puerto Rico and several states as they used N-SPECT to estimate runoff in various land cover scenarios. Staff members also work with the Environmental Protection Agency and private-sector groups that want to use N-SPECT with their programs.

Needs Assessment and Social Science Tools

Surveys, needs assessments, and other social science-related tools are useful in gathering information and making informed decisions. The Center has provided the U.S. Virgin Islands with technical assistance in conducting such activities to ensure high-quality results and usable information.

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center's training facility for some courses but most often is taken to coastal managers in the field.

Recent courses delivered to programs in Puerto Rico include the following:

- Coastal Community Planning and Development
- Evaluation 101
- Public Issues and Conflict Management

Recent courses delivered to programs in the U.S. Virgin Islands include the following:

- Coastal Application of ArcGIS
- Introduction to ArcGIS
- Managing Visitor Use in Coastal and Marine Protected Areas
- Project Design and Evaluation
- Public Issues and Conflict Management

www.csc.noaa.gov/training/

West Coast Region

Products and services for the West Coast often originate through the efforts of the NOAA Coastal Services Center's regional offices. For more information, e-mail westcoast-region@csc.noaa.gov.

Legislative Atlas

This Web-based legislative mapping tool provides coastal resource managers with easy access to coastal legislative data and information. In 2008 the Legislative Atlas team added additional legislative information for the three regions represented in the atlas—Hawaii, West Coast, and the Gulf of Maine. This added information included both federal and state regulations. The legislative query tool is also being redesigned according to user input.

www.csc.noaa.gov/legislativeatlas/

Needs Assessment and Social Science Tools Coordination and Technical Assistance

Surveys, needs assessments, and other social science-related tools are useful in gathering information and making informed decisions about coastal issues. The Center provides coastal managers and communities with technical assistance in the use of social science tools. Current projects include looking at the impacts of climate change on the West Coast and meeting the needs of the Pacific Island communities. The Center provides support in the form of technical assistance with survey design and analysis and for the facilitation of meetings, workshops, and stakeholder engagement in projects across the country. An economics primer and other guidance documents are also being developed.

NOAA Regional Collaboration Support

NOAA is furthering its commitment to providing relevant products and services to the nation. The Center has one or more members on five of the eight regional teams, including NOAA Western (other regions are Gulf of Mexico, North Atlantic, Pacific, and Southeast and Caribbean). These teams serve to keep attuned to customer needs and deliver applicable NOAA products and services. The Center also serves on two of NOAA's four priority area task teams (hazard-resilient communities and outreach and communications).

Regional Ocean Governance Support: West Coast Governors' Agreement on Ocean Health

Regional ocean governance is a strategy for managing ocean and coastal resources in a more holistic ecosystem-based manner. Operating across local, state, and federal jurisdictional boundaries, the process is coordinated by regional ocean governing bodies, providing the framework, mechanisms, and incentives that state and federal agencies need to coordinate their management efforts. The Center offers support for three regional ocean governing bodies: Gulf of Mexico Alliance, the Northeast Regional Ocean Council and the West Coast Governors' Agreement on Ocean Health.

www.westcoastoceans.gov

Resource Managers and the Restoration Community Website

The Center is working with the Northwest Fisheries Science Center to design and develop a website that provides the latest data and information on land use change in the Pacific Northwest and its impacts on coho salmon populations. The website aims to provide information that can influence resource management decisions and guide restoration planning efforts.

West Coast Ecosystem-Based Management Network

A number of programs working to practice ecosystem-based management principles are facing common challenges. Six West Coast communities are identifying common goals and challenges, sharing lessons learned, and working jointly toward implementing ecosystem practices. The Center is helping build a collaborative network among these participants, scoping common issues, and identifying existing tools, information, and research, including social science information, to meet these needs.

California

Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar data sets.

www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state.

California coastal programs have hosted seven fellows:

- 1996 to 1998: To conduct a project designed to expand the integrated use of a GIS tools and data necessary for various regulatory, enforcement, planning, and coastal management activities.
- 1998 to 2000: To develop a GIS-based decision-support model to help prioritize sites for beach renourishment.
- 2002 to 2004: To initiate and implement a water quality monitoring program for marinas in the San Francisco Bay.
- 2003 to 2005: To produce a database to catalog coastal erosion rates for areas of the California coast and create a pilot GIS-based erosion prediction tool based on these data.
- 2005 to 2007: To create a comprehensive plan for the San Francisco Bay Water Trail.
- 2006 to 2008: To develop a program for monitoring compliance with the California Coastal Act.
- 2007 to 2009: To promote effective and collaborative ecosystem-based management for San Francisco Bay.

www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in California include

- California Reserve Has Own Artist in Residence – January/February 2001
- Drop That Crab! Deputies Patrol Tide Pools in California – September/October 2001
- Sea Kayakers Get Etiquette Lessons at California Sanctuary – January/February 2002
- ReCAPing Coastal Programs Helps California Meet Its Goals – September/October 2002
- Sharing "Agua Pura" with the Latino Community – May/June 2004
- Taking a Snapshot of California's Water Quality – May/June 2004
- Stopping Potential Invaders: Managing Ballast Water in California – March/April 2005
- Helping Answer Resource Management Questions with Rockfish Research – September/October 2006
- Nothing Fishy about Success of California Seafood Website – September/October 2007
- Thanking the Ocean to Help Protect It in California – January/February 2008
- Students Take California Sanctuary's Bait to Learn about Sharks – May/June 2008

www.csc.noaa.gov/magazine/

Coastal Storms Program Protecting Communities in Southern California

The Coastal Storms Program is developing tools and models and launching new oceanic and atmospheric observation platforms along the coastal region of the bight of Southern California. This includes ecological assessments of aquatic impacts from stormwater runoff, an atmospheric profiler, digital elevation model, precipitation atlas, and decision-support tool. These tools help communities and emergency managers better prepare for and mitigate the effects of coastal hazards.

www.csc.noaa.gov/csp/s_california/s_california.html

Land Cover Mapping

Nothing provides a big picture view of land cover status better than these maps, which are developed using remote sensing technology. The Center has baseline land cover data for most of the coastal zone. The goal is to update the imagery every five years to also provide a means of detecting change or trends. www.csc.noaa.gov/landcover/

Legislative Atlas

This Web-based legislative mapping tool provides coastal resource managers with easy access to coastal legislative data and information. In 2008 the Legislative Atlas team added additional legislative information for the three regions represented in the atlas—Hawaii, West Coast, and the Gulf of Maine. This added information included both federal and state regulations. The legislative query tool is also being redesigned according to user input. www.csc.noaa.gov/legislativeatlas/

Nonpoint Source Pollution and Erosion Comparison Tool (N-SPECT) Applications

The Nonpoint-Source Pollution and Erosion Comparison Tool (N-SPECT) is a GIS-based screening tool that models basic hydrologic processes, including overland flow, erosion, and nonpoint source pollution for watersheds. In 2008, assistance was given to Puerto Rico and the states of California, Hawaii, and Texas as they used N-SPECT to estimate runoff in various land cover scenarios. Staff members also work with the Environmental Protection Agency and private-sector groups that want to use N-SPECT with their programs. www.csc.noaa.gov/nspect/

Northern California Ecosystem Based Management Pilot

This pilot project underway in and around Humboldt Bay in northern California has local community members, nonprofits, academics, and government agencies working together to build a strong future for the bay and the people and ecosystems in the area. The Center is supporting this project by providing technical assistance and facilitating communication and data collection. www.csc.noaa.gov/id/norcal.html

Regional Coastal Water Quality

Coastal water quality and nonpoint-source pollution are priority watershed issues for coastal communities. Participation from the Center's regional staff plays an important role in many of

these efforts. In California, staff members provide key support for the development of a statewide water quality education and technical assistance organization, the California Water and Land Use Partnership. Staff members in other regions also provide strategic planning assistance and promote education efforts.

San Francisco Bay Subtidal Habitat Goals Project

As part of a broader effort to create an ecosystem-based management vision for the region, regional partners are participating in a collaborative effort in the development of research, restoration, and management goals for the bay's subtidal habitats. This work provides an opportunity to improve the coordination of research, restoration, and resource management activities in the area.

Shoreline Data Development, Visualization, and Delivery

The Center's constituents have identified shoreline data as a priority need, and they look to the Center for related information and guidance. This project addresses that need by continuing to make historical data available and working with the shoreline change community to develop guidebooks and other resources. In California, the Center is working to provide the state and local GIS technical capacity needed to address shoreline erosion and other natural hazards.

Social Assessment Technical Assistance

This project documents cultural and historical sites and practices related to traditional lifestyles and identifies social and cultural factors that influence community support for coastal conservation. The project is focused on Humboldt Bay, California, and Carabelle, Florida. A regional roundtable of natural resource management professionals, applied social scientists, and allied stakeholders was convened to identify the needed information, as well as related data gaps and applied social science approaches necessary to integrate social and cultural information into ecosystem-based management.

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center's training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in California include

- Coastal Applications of ArcGIS
- Introduction to ArcGIS

- Managing Visitor Use in Coastal and Marine Protected Areas
 - Project Design and Evaluation
- www.csc.noaa.gov/training/

Weather and Hazards Data Viewer

This Internet mapping tool helps users monitor coastal storms and visualize potential storm impacts and fire-related weather conditions. Regularly updated weather data from the National Weather Service are combined with hazards planning data in a GIS. Users assess hazards by displaying and animating forecasts for weather conditions, including waves, winds, temperature, humidity, and rainfall. http://maps.csc.noaa.gov/CSP_SoCal/

Oregon

Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar and IfSAR data sets. www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The Oregon Coastal Management Program has hosted five fellows:

- 1996 to 1998: To develop the Dynamic Estuary Management Information System (DEMIS), a GIS that includes different data types, including wetland information, soils, elevation, geology, land use, and hydrology, for the Coos Bay estuary and watershed.
- 1998 to 2000: To expand the Dynamic Estuary Management Information System to incorporate four additional estuaries.
- 2000 to 2002: To create and implement a littoral cell management plan, including an inventory and a risk assessment.
- 2004 to 2006: To conduct an interagency assessment and planning process for rocky shores management to support Oregon Parks and Recreation Department planning.

- 2007 to 2009: To expand the Oregon Coastal Atlas to include ocean-related data and information. www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in Oregon include

- Oregon Volunteers Keeping Their Eyes on the Coast – March/April 2000
 - Ocean Management: Oregon Plunges into the Wet Side of Coastal Resource Management – January/February 2003
 - Opening a Gateway to Oregon's Coastal Information – November/December 2003
 - Taking Golf from Grass to Goo in Oregon – September/October 2004
 - DVD Provides Reality Check for Buyers of Oregon's Coastal Property – January/February 2006
 - Oil Spills: Preparing for the Worst in Oregon – March/April 2006
 - Wave Power: Looking to the Ocean for Electricity in Oregon – September/October 2006
 - Planning for a Tsunami in Oregon – January/February 2007
 - Ship Recycling: Taking a New Look at an Old Industry in Oregon – November/December 2007
 - Oregon Tsunami Signs Go International – July/August 2008
- www.csc.noaa.gov/magazine/

Coastal Storms Program Protecting Communities in the Pacific Northwest

The Coastal Storms Program, a cross-NOAA program, is developing tools and models and launching new oceanic and atmospheric observation platforms along the coastal region of the Columbia River Watershed in Oregon and Washington. Included are ecological assessments of aquatic impacts from stormwater runoff, nearshore wave models, a coastal inundation tool, a Columbia River circulation model, a new buoy, and water level gauges. Together these tools will benefit communities and emergency managers by equipping them to better prepare for, and mitigate the effects of, coastal hazards. www.csc.noaa.gov/csp/pacific_nw/pacific_nw.html

Coastal Zone Conference

The Coastal Zone conference series is the largest and best-known international conference for coastal resource managers. Coastal Zone 07, held July 22 to 26, 2007, in Portland, Oregon, was the 15th installment of the biennial conference. Since 2000, the Center has served as the conference executive secretariat, coordinating the conference logistics, technical program, federal sponsors committee, and local planning committee. The local planning and federal sponsor committees help in shaping overall conference themes and issue areas. www.csc.noaa.gov/cz/2007/

Land Cover Mapping

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Legislative Atlas

This Web-based legislative mapping tool provides coastal resource managers with easy access to coastal legislative data and information. In 2008 the Legislative Atlas team added additional legislative information for the three regions represented in the atlas—Hawaii, West Coast, and the Gulf of Maine. This added information included both federal and state regulations. The legislative query tool is also being redesigned according to user input. www.csc.noaa.gov/legislativeatlas/

Oregon Coastal Inundation Visualization Tool

This tool incorporates real-time data collected from the National Data Buoy Center and the National Ocean Service to calculate the combined effect of wave run-up and tides on the beach. This tool allows the user to identify erosion or flooding during a storm. Users can also view information from past storms, such as peak wave and tide heights. Animations of historical inundation are also available through an accompanying website. www.csc.noaa.gov/cspPNW/

Storm and Shoreline Products for Practitioners

Resilience is about building the capacity to “bounce back.” These products enhance community resilience by providing

information, resources, and tools relating to coastal storm hazards and shoreline change. Products and services include the following: a storm information website, easy access to hurricane evacuation studies, an expanded hurricane preparedness study for Chatham County, Georgia, including a decision-support tool and model for mapping storm surge zones, and an information guide regarding best management practices for shoreline change.

Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center’s training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Oregon include

- Coastal Applications of ArcGIS
- Introduction to ArcGIS

www.csc.noaa.gov/training/

Washington

Coastal Elevation Mapping

The Center works with state and local officials to collect and distribute high-resolution topographic and bathymetric data sets. The Center worked with the private sector to acquire new light detection and ranging (lidar) and Interferometric Synthetic Aperture Radar (IfSAR) data for coastal management applications such as the analysis of storm surge and storm inundation, erosion, and habitat mapping. The Center also worked with state and federal partners to share costs and find multiple uses for coastal lidar and IfSAR data sets. www.csc.noaa.gov/crs/tcm/

Coastal Management Fellowship

The NOAA Coastal Management Fellowship matches postgraduate students with state coastal zone programs to work on two-year projects proposed by the state. The Washington State Department of Ecology has hosted four fellows:

- 1997 to 1999: To create an erosion hazard monitoring program and coastal hazards database in an effort to reduce the hazards associated with coastal development.
- 1999 to 2001: To develop Washington’s Coastal Atlas, an interactive mapping website that allows the user to access and analyze geospatial data from Washington’s coastal region.

- 2003 to 2005: To develop a shoreline assessment curriculum for integrating scientific information into the next generation of shoreline management plans.
- 2008 to 2010: To develop a public access portion of the Washington Coastal Atlas. www.csc.noaa.gov/fellowship/

Coastal Services Magazine

This bimonthly trade publication focuses on efforts by local, state, and nonprofit organizations to address coastal issues. Recent articles featuring programs in Washington include

- Maritime Safety a Priority in Washington Sanctuary – July/August 2001
- Washington Puts Communities in Self-Help Program – July/August 2002
- Washington Raises the Septic System’s Social Status – July/August 2003
- Volunteering to Do Ecosystem Management in Washington State – November/December 2004
- Avoiding Cultural Collisions: Working with Washington’s Native Tribes – January/February 2005
- Protecting the Bottom Line: Leasing Washington’s Submerged Lands for Conservation – November/December 2005
- Budget-Conscious Coastal Vegetation Mapping in Washington – May/June 2007

www.csc.noaa.gov/magazine/

Elwha Watershed Information Resource

Two dams constructed on the Elwha River have blocked the passage of anadromous fish since 1911. The National Park Service will remove these dams in 2009. This website provides a clearinghouse of spatial data and other information to support the future management of this watershed after dam removal. The project also included the creation of a cultural inventory for the Elwha Tribe and an economic baseline report for monitoring conditions after the dam is removed. www.elwhainfo.org

Land Cover Mapping

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Training

The Center provides training to the coastal resource managers of the nation in three focus areas: geospatial technology, coastal management, and building process skills. Training can take place at the Center’s training facility for some courses but most often is taken to coastal managers in the field. Recent courses delivered to programs in Washington include

- CanVis
- Coastal Applications of ArcGIS
- Introduction to ArcGIS

www.csc.noaa.gov/training/



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LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

2234 South Hobson Avenue
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(843) 740-1200
www.csc.noaa.gov
Printed September 2008



Printed on 100% recycled, 50% post-consumer waste, chlorine-free processed paper.