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NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

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OUR SEAS AND OUR SKIES



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Mission

The NOAA Coastal Services Center works to foster and sustain the environmental and economic well-being of the coast by linking people, information, and technology.

Operating Principles

- Oriented to clients
- Focused on results
- National in scope, local in approach
- Committed to partnerships

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TABLE OF CONTENTS

Coastal Resource Management Survey	2
Products and Services	4
Partners	10
Projects	12
Nationwide and Regional	12
State	16
Organizational Chart, Program Areas	30
Employee Profile, Financial Overview	31
Employee Directory	32

THE NOAA COASTAL SERVICES CENTER LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

The National Oceanic and Atmospheric Administration (NOAA), a world leader in coast-related science and management, has served America for three decades with a wide array of services and scientific products.

NOAA is divided into five offices: the National Weather Service; the National Environmental Satellite, Data, and Information Service; the Office of Oceanic and Atmospheric Research; the National Marine Fisheries Service; and the National Ocean Service.

State and local coastal resource managers are one of NOAA's primary customers, as their programs play an important role in determining the fate of the nation's coasts. In addition to providing federal funds, NOAA assists this community in a variety of ways.

NOAA's Coastal Services Center is an example of this assistance. Opened for business in 1994, the Center helps coastal resource management programs resolve site-specific issues using up-to-date technology, information, and management strategies. Center efforts often incorporate geographic information systems (GIS), remote sensing, training, fellowships, and other tools and services. Through these efforts the Center participates in over 100 projects per year. Lessons learned from these projects are then transmitted to the rest of the coastal management community.

This publication will introduce the reader to the NOAA Coastal Services Center and provide a brief summary of many of the Center's current projects.

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Coastal Resource Management Survey Guides Center Efforts

The NOAA Coastal Services Center was created to help state and local coastal resource programs find new sources of data and information, use technology effectively, and sharpen various management and technical skills. Instead of a "one solution fits all" approach, the Center works with clients and partners (local, state, and federal) to address site-specific coastal management issues. Lessons learned from the resulting projects (over 100 each year) are then transferred to the greater coastal resource management community. This publication profiles many of the Center's activities.

To determine which projects the Center will pursue, an in-depth understanding of the coastal resource management community is necessary. The Coastal Resource Management Survey helps the Center accomplish this task. The survey's focus is on the issues and technological needs and capabilities of this community. The 1999 survey is the second one in a series; the first was in 1996. For the most recent survey, 70 percent of the 280 coastal managers polled completed the questionnaire.

The results show that coastal resource managers are like many other professionals when it comes to technology. The Internet is playing a bigger role in their daily lives. All respondents have access to the World Wide Web, as compared to 86 percent in 1996. To transfer data sets from computer to computer, CD-ROMs continue to be the medium of choice, but other products are gaining in popularity. In the first survey no one reported using a Zip disk, whereas that number leaped to 61 percent in 1999. The Center also learned which software packages are most used by coastal managers and which data sets are

most desirable. Information such as this helps the Center decide which projects to pursue and the media that can deliver the results to the widest range of customers.

Survey results say interest in geographic information systems (GIS) continues to grow. The number of state programs using GIS increased by one-third from the previous survey, and the percentage of intermediate users (versus new users) climbed from 25 percent to 53 percent.

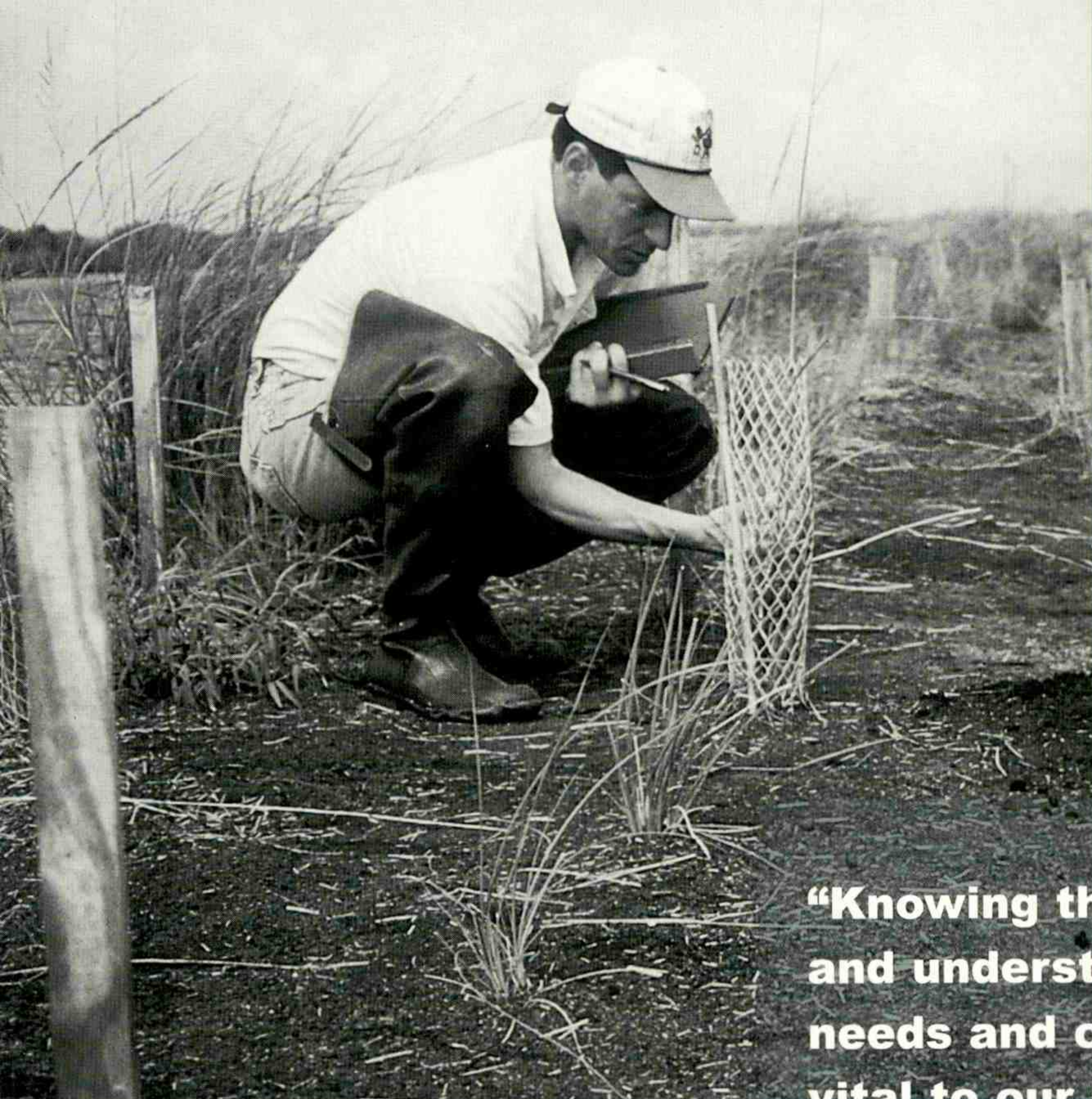
Remote sensing seems to be one of those areas where coastal resource managers know there is a lot of good data available but are unsure of how to best apply this information to the decision making process. The number of remote sensing users is low (37 percent) as compared to programs that use GIS (81 percent), yet the number of respondents interested in training for remote sensing image processing is over 60 percent. The Center offers several training programs and tutorials for GIS, remote sensing, and other spatial data management tools. Each is specifically targeted to the coastal resource manager and the issues faced by this community.

In addition to the technological needs, the survey shows a desire for help with "soft science" issues and information needs. The Center answers these requests in a variety of ways, including the Coastal Management Fellowship program; training programs on public involvement processes and meeting management; and the Center's Web-based library.

The Coastal Resource Management Survey is but one tool used by the NOAA Coastal Services Center to gauge the collective needs and capabilities of the coastal resource management community. For more information about the survey, visit the Web site.

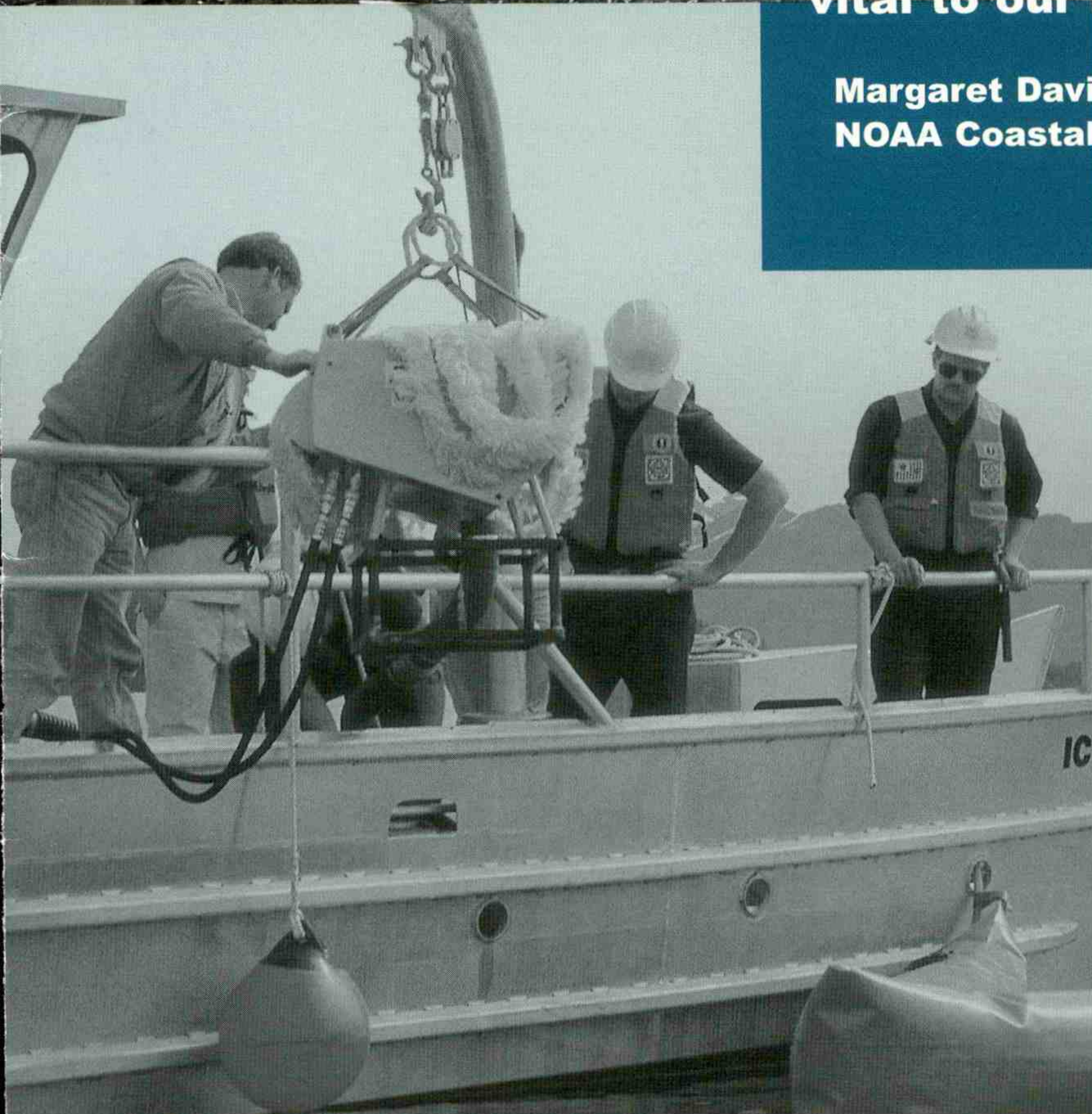
L I N K I N G P E O P L E , I N F O R M A T I O N , A N D T E C H N O L O G Y

<http://www.csc.noaa.gov/survey>



“Knowing the customers and understanding their needs and capabilities is vital to our business.”

**Margaret Davidson, Director
NOAA Coastal Services Center**



NOAA COASTAL SERVICES CENTER PRODUCTS AND SERVICES

Customer needs drive Center efforts. The organization works with state, local, and/or federal partners to address a specific issue; the end result is packaged as a product or service for the benefit of the coastal resource manager.

The following is a sample of the products and services available from the NOAA Coastal Services Center. A more comprehensive list can be found on the Internet at:

<http://www.csc.noaa.gov/products>

See the next two sections of this publication to learn about ongoing Center projects.

Publications

Coastal Services

<http://www.csc.noaa.gov/newsletter/>

This bimonthly publication, published by the Center and distributed to approximately 8,000 people, is fast becoming the trade publication for the coastal resource manager. The magazine addresses current issues, profiles innovative coastal management programs, and helps state and local programs learn from each other.

Shore and Sea Boundaries, Volume III

This series, which began forty years ago, is considered one of the most important legal and technical reference documents available to the coastal and maritime community. The third volume of the set was published by the Center. Copies of the book may be purchased from the U.S. Government Printing Office. Contact the Center for details.

Hidden Costs of Coastal Hazards: Implications for Risk Assessment and Mitigation

This book is the result of a collaborative effort between the Center and the H. John Heinz Center for Science, Economics, and the Environment. For this effort, a panel was convened to determine the full costs of hurricanes, storms, tsunamis, and other coastal hazards. The publication presents the panel's findings, and offers an in-depth study of the impacts on natural resources, social institutions, commerce, and the built environment. Copies are available from Island Press at <http://www.islandpress.org/>.

Coastal Management and Geographic Information Systems Bibliography

<http://www.csc.noaa.gov/gisbib/>

This bibliography is an international compilation of documented GIS and remote sensing applications in the field of coastal management.

CD-ROM Series

Many of the Center's products are available in a CD-ROM format. The following is a list of the most recent CD-ROMs available at press time. Visit the Center's Web page at <http://www.csc.noaa.gov/products> to see a more current and comprehensive list. To order a CD-ROM, e-mail the Center at clearinghouse@csc.noaa.gov or call (843) 740-1210.

Community Vulnerability Assessment Tool

<http://www.csc.noaa.gov/products/nchaz/startup.htm>

This CD-ROM helps communities determine and prioritize their vulnerabilities to hazards. A tutorial for designing a vulnerability assessment is included, a case study using New Hanover County, North Carolina, and information about helpful data management tools.

Digital Shorelines

<http://www.csc.noaa.gov/products/shorelines/>

A digitized shoreline, both past and present, provides the base of many GIS-related efforts. The Center is working with the NOAA National Geodetic Survey to bring old and new shoreline information into the digital arena. Visit the Web site to learn which shorelines have been digitized. The data is being released through the Internet.

Marine Spill Analysis System

<http://www.csc.noaa.gov/products/msas/>

The Marine Spill Analysis System (MSAS) is a powerful set of GIS tools designed to address many critical aspects of oil spill data management in a marine environment. The Center, in conjunction with many state and federal sponsors, is introducing potential customers along the nation's coasts to MSAS, and looking for project partners to further the development of this tool.

Florida Bay Imagery and Information

This CD-ROM provides satellite imagery and other relevant spatial information to assist scientists in documenting and analyzing water clarity, temperature, and turbidity conditions, which in turn facilitates a better understanding and management of the seagrass environment.

South Carolina's Coast: A Remote Sensing Perspective

<http://www.csc.noaa.gov/products/sccoasts/sccover.html>

This CD-ROM explores ways in which coastal resource managers can use remote sensing and GIS technologies to map shoreline and land-cover change. The CD-ROM provides land-cover change maps, beach elevation data, GIS tutorials, examples of how the data can be used to address coastal management issues, and tools to aid in data analysis.

Training

The Center provides a variety of training programs and services for project partners, state and local coastal resource managers, and NOAA staff. See the Center's upcoming events site at <http://www.csc.noaa.gov/text/upcome.html> for a list of current training opportunities.

To inquire about a training program, contact the Center's Coastal Learning Services at (843) 740-1184 or ginger.hinchcliff@noaa.gov.

GIS Training

The Center provides a variety of GIS training classes oriented toward the coastal resource manager. Beginning, intermediate and advanced training is offered.

FGDC Metadata Workshops

These workshops show participants how to document coastal data using the Federal Geographic Data Committee (FGDC) metadata standard. Beginning, intermediate and advanced classes are offered.

Coastal Management for Practitioners

The Center is developing training that targets new coastal management staff with practical skills in meeting management, convening public processes, multidisciplinary analysis of coastal issues, and navigating within the coastal zone management framework.

Public Issues and Conflict Resolution Training

This training focuses on methods to reduce or avoid conflict while engaging the public in management issues. Strategies and approaches for working with the media also are included.

Needs Assessment

Analyzing training needs provides a focus and direction for coastal programs to effectively invest in training opportunities for their region and their community. The Center is working with the Estuarine Research Reserves division to provide regional based training on needs assessment tools and methods.

Information Technology for Coastal Managers

This short training class is for the coastal resource manager, not the technologist. The goal is to help managers understand the fundamentals of information management and basics of spatial technologies. Armed with this information, the managers will know more about the appropriate and effective use of emerging technologies for their organization.



Data and Information Search Tools

Coastal Information Directory

<http://www.csc.noaa.gov/text/cid.html>

At this site you can simultaneously search various coast-related databases and library card-catalog systems throughout the country. Many items are available online. The Center's library catalog and Center products also are available from this site.

Coastal Management and Geographic Information Systems Bibliography

<http://www.csc.noaa.gov/gisbib/>

This bibliography contains information about international GIS and remote sensing applications in the field of coastal management. By using this powerful computer-based resource, coastal resource managers can uncover a variety of published literature on this topic.

Coastal Geospatial Information: Examples of Internet Resources

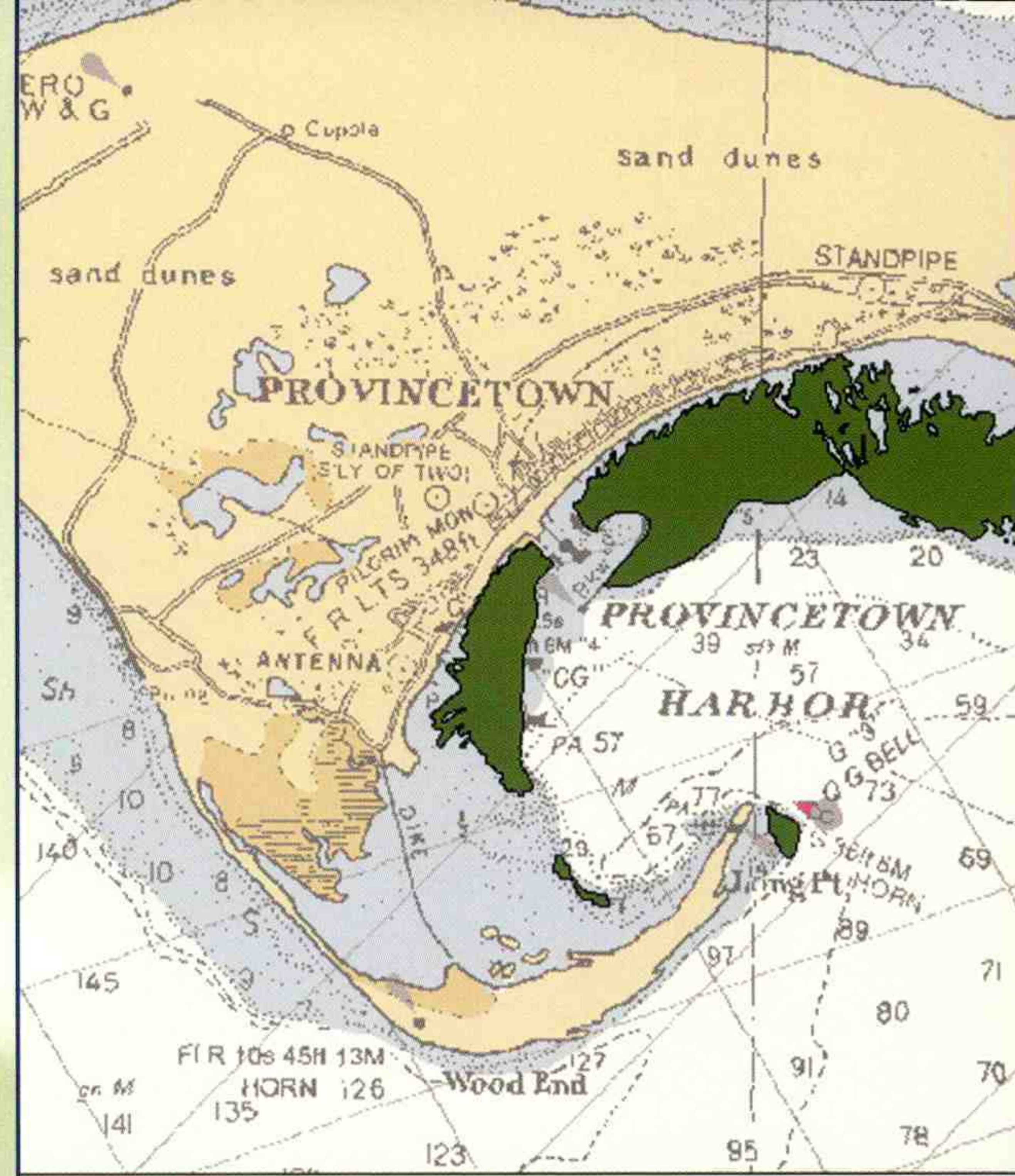
<http://www.csc.noaa.gov/products/datasites/>

This Web site provides an overview of coast-related data from a variety of sources.

NOAA Coastal Services Center Library

<http://www.csc.noaa.gov/library/>

The focus of the Center's library is to provide information on coastal issues to the coastal resource management community. An online catalog is available for searching not only the Center's library publication and media collection, but also those of other NOAA libraries. The library also maintains the Coastal Zone Information Center collection of documents, videos, and maps that were produced by states that have complied with the Coastal Zone Management Act of 1972.



TestBed Locator

<http://www2.csc.noaa.gov/informationresources/testsitelocator/>

This Web directory helps developers of new coast-related technology find the testing and demonstration facilities they need. Facility descriptions, contact information, and scheduling and fee information are included.

In-Situ Instrumentation, Platforms, and Communication for Coastal Monitoring

http://www.csc.noaa.gov/cts/sensor_intro.htm

This Web site helps users compare various tools available for in-situ coastal and marine monitoring.

Coastal Ocean Observing Systems

<http://www.csc.noaa.gov/cts/coos/>

The Center has compiled a Web page to identify and provide links to some of the major observing systems in the U.S. coastal waters. This centralized service can help users access data from buoys, remote sensing, and ships.

Coastal Management Assistance



Funding Opportunities for Coastal Managers

<http://www.csc.noaa.gov/text/grant.html>

Visit this site to link to a variety of agencies and organizations that post information about grant funding opportunities for coastal and natural resource related projects.

Coastal Management Fellowship

<http://www.csc.noaa.gov/cms/fellows.html>

The fellowship program matches highly qualified, recently graduated master's, doctoral, and professional degree recipients with coastal resource management hosts around the U.S. for two years. States with federally approved coastal zone management programs and states developing such programs are eligible to submit one application each year for the fellowship program.

Volunteering for the Coast

<http://volunteer.nos.noaa.gov>

This interactive Web site is filled with information about coastal volunteer programming ideas and volunteer opportunities across the nation. A free motivational video for volunteers also is available.

Satellite and Airborne Imagery

Mapping Benthic, Nearshore, and Coastal Land Cover

<http://www.csc.noaa.gov/ccap/>

The Center's Coastal Change Analysis Program (C-CAP) has undertaken a national coastal land cover mapping effort using satellites, aircraft, and fieldwork. By comparing maps of the same areas taken on different dates, man-made and natural alterations are readily apparent. Armed with this information, scientists and regulators work to draw correlations between changes to uplands and aquatic habitats.

Near Real-time Satellite Imagery

http://www.csc.noaa.gov/crs/real_time/composite

Daily sea surface temperature and ocean turbidity satellite products from the NOAA Coastal Services Center's High Resolution Picture Transmission ground station are available for the coastal regions of the United States.



Data and Information Systems

Coastal Information Management Survey

<http://www.csc.noaa.gov/survey/>

This site summarizes responses to 1996 and 1999 surveys designed to collect information about coastal resource management data and information needs and capabilities.

Topographic Change Mapping

<http://www.csc.noaa.gov/crs/tcm>

Topographic mapping of the beach utilizes aircraft-mounted lasers that can accomplish in a few days what would take weeks using traditional ground survey methods. The Center is developing a set of protocols to help states undertake their own beach surveys. Data from 1996–1998 is available through the Lidar Data Retrieval Tool.

Protected Areas Geographic Information System

<http://www.csc.noaa.gov/pagis/>

The Protected Areas Geographic Information System (PAGIS) project has helped the National Estuarine Research Reserves and National Marine Sanctuaries develop fully integrated GIS, spatial data management, and Internet capabilities. Standard data sets for each site have been developed. GIS, Global Positioning System, and metadata training were provided as part of this effort.

Ocean Planning Information System (OPIS)

<http://www.csc.noaa.gov/opis/opis.html>

This prototype ocean-information system covers the coastal and ocean areas off North Carolina, South Carolina, Georgia, and Florida. This is the first attempt in the U.S. to create a regional information system that integrates pertinent legal information with natural resource data to support ocean planning and governance.

Software Development

Center staff can customize some common software packages to make them more pertinent to the needs of the coastal resource manager. All are available free of charge through the Internet.

ArcView 3.0 Metadata Extension

<http://www.csc.noaa.gov/metadata/text/download.html>

Metadata is a standardized way to describe the content, quality, condition, and other characteristics of a data set. This tool helps simplify the creation of metadata for ArcView users.

NOAA Nautical Chart Extension for ArcView

<http://www.csc.noaa.gov/products/chartview/>

The Center worked with Maptech, Inc., and ESRI to create an ArcView extension that allows desktop GIS users to read BSB-formatted nautical charts. A stand-alone application to change chart projection is also available.



Partners

Partnerships play a large role in each Center effort. Partners are important not only for the higher scales of efficiency that are achieved, but also because active partner participation ensures that the final product fully meets the needs of the coastal resource manager.

The following is a partial list of the partners working with the NOAA Coastal Services Center to produce the products, services, and projects profiled in this publication.

NOAA

Aircraft Operations Center
General Counsel
High Performance Computing and Communications
Office of Marine and Aviation Operations
NESDIS - Environmental Information Services
NESDIS - National Data Centers
NESDIS - Office of Research and Applications
NESDIS - Office of Satellite Data Processing and Distribution
NMFS - Alaska Fisheries Science Center
NMFS - Office of Habitat Conservation
NMFS - Office of Protected Resources
NMFS - Office of Sustainable Fisheries
NOAA Libraries
NOS - Coastal Ocean Program
NOS - Coastal Programs Division
NOS - International Program Office
NOS - National Centers for Coastal Ocean Science
NOS - National Geodetic Survey
NOS - National Marine Sanctuaries
NOS - National Reserves Division
NOS - Office of Coast Survey
NOS - Office of Ocean and Coastal Resource Management
NOS - Office of Response and Restoration
NOS - Special Projects Office
NWS - National Center for Environmental Prediction
OAR - Atlantic Oceanographic and Meteorological Laboratory
OAR - Environmental Research Laboratories
OAR - National Sea Grant College Program
OAR - Pacific Marine Environmental Laboratory
Office of Public and Constituent Affairs

Federal Partners

Bureau of Land Management
Center for Coastal Geology
Coastal America
Economic and Statistics Administration
Economic Development Administration
Federal Emergency Management Agency
Federal Geographic Data Committee
Gap Analysis Program
Minerals Management Service
Multi-Resolution Land Characteristics Interagency Consortium
National Aeronautics and Space Administration
National Aeronautics and Space Administration - Langley
National Aeronautics and Space Administration - SIMBIOS Project

National Aeronautics and Space Administration WFF - Wallops Flight Facility Observational Sciences Branch
National Center for Atmospheric Research
National Park Service
National Wetlands Research Center
Naval Research Laboratory - Stennis Space Center
North Pacific Marine Science Organization
Pacific Disaster Center
U.S. Army Corps of Engineers
U.S. Coast Guard
U.S. Department of Agriculture
U.S. Department of Defense
U.S. Department of Energy
U.S. Department of Justice
U.S. Department of State
U.S. Department of the Interior
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Forest Service
U.S. Geological Survey
U.S. Navy

State and Local Partners

Alabama Emergency Management Agency
Alabama Sea Grant
Alaska Department of Fish and Game
Atlantic States Marine Fisheries Commission
Berkeley-Charleston-Dorchester Council of Governments (SC)
California Coastal Commission
California Coastal Conservancy
California Department of Fish and Game
California Sea Grant
Connecticut Department of Environmental Protection
Connecticut Office of Long Island Sound
Connecticut Sea Grant
Delaware Coastal Management Program
Florida Coastal Management Program
Florida Department of Environmental Protection
Florida Fish and Wildlife Conservation Commission
Research Institute
Georgia Department of Natural Resources
Hawaii Coastal Zone Management Program
Louisiana Coastal Management Division
Louisiana Department of Natural Resources
Maine Coastal Program
Maine Department of Marine Resources
Maine Office of GIS

Maine State Planning Office
Maryland Coastal Zone Management Division
Massachusetts Coastal Zone Management Program
Massachusetts Department of Environmental Protection
Michigan Land and Water Management Division
Mississippi Coastal Management Program
Mississippi Sea Grant
New Hanover County, North Carolina
New York Coastal Management Program
New York Division of Coastal Resources and
Waterfront Revitalization
New York State Department of Environmental Conservation
New York State Department of State
Connecticut Nonpoint Education for Municipal Officials
North Carolina Center for Geographic Information and Analysis
North Carolina Division of Coastal Management
North Carolina Division of Emergency Management
North Carolina Office of State Planning
Ohio Department of Natural Resources
Oregon Coastal Management Program
Oregon Department of Fish and Wildlife
Oregon Department of Geology and Mineral Industries
Oregon Department of Land Conservation and Development
Oregon Emergency Management Division
Oregon Ports Division, Economic Development Department
Oregon Sea Grant
South Carolina Department of Health and
Environmental Control
South Carolina Department of Natural Resources
South Carolina Office of Ocean and Coastal
Resource Management
South Carolina Sea Grant
South Florida Water Management District
St. Johns River and South Florida Water Management Districts
Texas Department of Parks and Wildlife
Texas General Land Office
Tillamook County, Oregon
Virginia Department of Environmental Quality
Washington Sea Grant
Washington State Department of Ecology
Washington State Department of Natural Resources
Wisconsin Sea Grant Program

Academic and Non-Profit Partners

Baruch Marine Institute
Bermuda Biological Research Station
Bigelow Institute of Oceanography
California State University
Center for Enterprise Development
Charleston Metro Chamber of Commerce
Business Development Group
Chesapeake Biological Laboratory at Solomon's Island
The Coastal Society
Coastal States Organization
College of Charleston
Columbia River Estuary Study Taskforce

Cooperative Institute for Coastal and Estuarine
Environmental Technology
Cornell Laboratory for Environmental Application
of Remote Sensing
Council on the Environment
Duke University
East Carolina University
Ecological Society of America
Estuarine Research Federation
Florida International University
H. John Heinz III Center for Science, Economics
and the Environment
Institute for Business and Home Safety
Institute of Ecosystem Studies
International Center for Living Aquatic Resources Management
Irish Marine Institute
Island Institute of Maine
Joint Center for Sustainable Communities
Louisiana State University
Mote Marine Laboratory
National Association of Counties
National Association of Marine Laboratories
National Association of State Universities
and Land Grant Colleges
National States Geographic Information Council
The Nature Conservancy
North Carolina Coastal Federation
North Carolina State University
Northwest Habitat Institute
Oregon State University
Prescott College
Rutgers University
Santa Monica BayKeeper
Scripps Institute of Oceanography
Sea Grant Association
Skidaway Institute of Oceanography
Smart Growth Program
State University of New York
University College, Cork, Ireland
University of Alaska
University of California
University of California at Santa Barbara
University of California at Santa Clara
University of Florida
University of Georgia Center for Remote Sensing
and Mapping Science
University of Hawaii
University of Maryland
University of New Hampshire
University of Rhode Island
University of South Carolina
University of South Florida
University of Southern Mississippi

NATIONAL AND REGIONAL PROJECTS



CAMMP

The Coastal and Marine Management Program (CAMMP) is a system that state coastal regulatory programs and National Estuarine Research Reserves can use to comply with NOAA's reporting requirements and apply for grants online. The Center is assisting NOAA's Office of Ocean and Coastal Resource Management and Special Projects Office with this effort.

Characterization/Restoration of a Northeastern U.S. Watershed

The goal of this project is to help coastal resource managers develop the information, tools, and partnerships needed for watershed and habitat restoration planning. The actual location and project cooperator will be chosen through a competitive process. This is the Center's fifth characterization/restoration project.

Coastal GeoTools 2001 Conference

This conference is for people interested in increasing their awareness and understanding of geospatial data, tools, and technology applications. The utility of existing tools will be discussed, as well as the predicted developments and impacts this technology will play in assisting the coastal resource manager. The Coastal GeoTools conference series began in 1999. This is the second conference, and like the first, will be held in Charleston, SC.

Coastal Management for Practitioners

This training will increase the knowledge and skill base of coastal resource management professionals through a course that addresses the core competencies and knowledge of

this profession. Commonly known as CZ 101, the training will be disseminated through a series of face-to-face training sessions and the Internet.

Coastal Ocean Habitat Project

This project uses new remote sensing techniques and data types to provide information on water column characteristics (biological, optical, and physical variables) and their trends for the ocean, large embayments, estuaries, and major river outflow regions along the U.S. coastal zone. This information reveals event-specific, seasonal, and long-term trends. The Coastal Ocean Habitat Project operates as the retrospective data product generation sector for the Center and supports real-time satellite imagery acquisitions.

Coastal Techniques Web Site

A coastal management technique is any method, process, activity, procedure, or tool that improves coastal decision making. This Web site is designed to be a gateway to information about coastal management tools and techniques. The site has two primary components: an index of coastal zone management sites, and a specialized, Web-based discussion group where individuals can discuss their experiences about management tools.

Coastal Zone '01

Held every two years in various coastal locations, this conference is the largest meeting of coastal resource managers in the world. Coastal Zone '01 will be held in Cleveland in July. The Center is leading the coordinated efforts of the many agencies, individuals, and private organizations that are necessary to produce a conference of this magnitude successfully.

Communities and Their Development

Communities struggle with managing multiple uses and priorities among issues such as urban port and harbor redevelopment, recreation and tourism, and public access. Strategies for managing growth involve urban design and comprehensive planning. To examine these issues, the Center proposes to establish a joint position with the Environmental Protection Agency to work on smart growth, and a mid-term Sea Grant initiative focused on waterfront development.

Coral Reef Conference Planning

The Center's Coastal Learning Services is working with NESDIS and non-governmental agencies to put together this major international conference. The Center's role includes, but is not limited to, conference planning, date and site selection, planning committee selection, program formatting, and achieving specific overall goals and objectives for the conference. This conference will be held in the summer of 2001.

Estuarine Habitat Project

High spatial resolution, low-cost methods of determining water quality within coastal areas using remote sensing is the focus of this project. Potential new technologies developed in partnership with NASA include the ability to make salinity determinations using reflected GPS signals.

Harmful Algal Bloom (HAB) Forecasts Project

Using aircraft, buoys, and satellites, this work group is integrating data for development of HAB forecasting systems. Long-term goals include the incorporation of numerical models with real-time data streams.

Living on the Coast: Guidelines to Healthier Building Practices

While many land-use tools are available to planners, there are no comprehensive design and development guidelines targeted specifically for coastal areas. This project integrates existing tools with a set of principles created to guide development of coastal areas. Coastal resource managers and planners will be able to select and adapt measures that are appropriate for their locality.

Marine Spill Analysis System (MSAS) Enhancement

This GIS-based tool, developed in Florida, has proven itself when it comes to oil spills, and has wide applicability to other coastal states. MSAS is now on a CD-ROM for the purpose of introducing other coastal resource managers to the concept. Interested parties are asked to contact the Center to explore the possibility of broadening the use of the product and upgrading several features.

National Spatial Data Infrastructure (NSDI)

The Center supports the NSDI through many programs and initiatives. Center staff are active on a number of Federal Geographic Data Committee (FGDC) subcommittees, chair the Bathymetric subcommittee, participate in the development of framework data, and help build standards. The Center has completed two projects that were funded by the FGDC and received funding for the Don't Duck Metadata program. The Center employs a full-time metadata specialist who ensures the Center's data follows FGDC standards, and trains the Center's partners in creating FGDC-compliant metadata. Selected by the FGDC to help develop a national curriculum for metadata, the Center supports both a



Clearinghouse gateway and node. Center staff have participated in both the National GeoData Forum and the Southeast Regional Framework Workshop.

National Association of Marine Laboratories (NAML) LabNet System Development

The Center is providing technical expertise and software development for the NAML LabNet system. LabNet will permit users to locate, retrieve, view, and manipulate data from participating marine laboratories. The system is based on FGDC standards, which allow laboratories to be simultaneously part of NSDI data sharing initiatives and LabNet.

National Estuarine Research Reserve (NERR) Coastal Training Initiative

The Reserves are proposing a national initiative to develop coastal training opportunities at each Reserve to enhance the NERRs' capacity to deliver technical training services to the coastal management community within their representative region. As one of the key partners, the Center will help implement the technical training portion of the plan.

Landsat TM Shoreline Characterization

Satellite imagery will be acquired and processed to determine the high-water shoreline and adjacent land cover characteristics for 10 coastal sites around the country. Areas of approximately 10 miles in length and 3 miles inland will be assessed for each of the study areas. The Center's beach mapping data will be compared to the

satellite data to reveal the accuracy of the beach mapping (LIDAR) methodology.

Ocean Color Applications Project

Center staff working on this project are developing processing and classification techniques to evaluate coastal water quality, and biological and geologic variables based on remote sensing data from satellite or aircraft.

Program Managers' Meeting 2000

This annual meeting of the nation's coastal resource managers is an important place to share ideas, renew partnerships, and gain new information. The Center provided program formatting and conference management assistance for this meeting.

Sea Grant-CZM Activities Directory

This national directory of Sea Grant's coastal management activities will

promote the collaboration of activities among the Center, Sea Grant, and the coastal resource management community.

Sea Grant Network Liaison and Support of Network Initiatives

The Center directly and indirectly supports the national Sea Grant network on a variety of projects. These include projects addressing coastal habitat restoration, aquatic nuisance species, nonpoint source pollution, and coastal natural hazards. The Center serves on Sea Grant's National NEMO (Nonpoint Source Pollution for Municipal Officials) Network Interagency Work Group, and provides GIS training, access to geospatial data, and technical support to this group. In the future, the Center may serve the NEMO network members with further assistance and support.

Shoreline Data Development

The Center was awarded a NESDIS Environment Data Rescue Program grant to rescue NOAA's historical shoreline maps and create digital GIS-compatible files that will be made accessible via the Internet. The Center is working jointly with NESDIS on this project. The goal is to convert 14,000 topographic manuscripts (T-sheets) during the five-year project beginning in the year 2000.

Tools and Guidelines for Environmental Characterizations and Habitat Restoration

The goal of this project is to develop GIS-based tools for evaluating the quantity and quality of coastal habitats. Three principal products will be produced: completion of the SC-CREWS model for assessing the

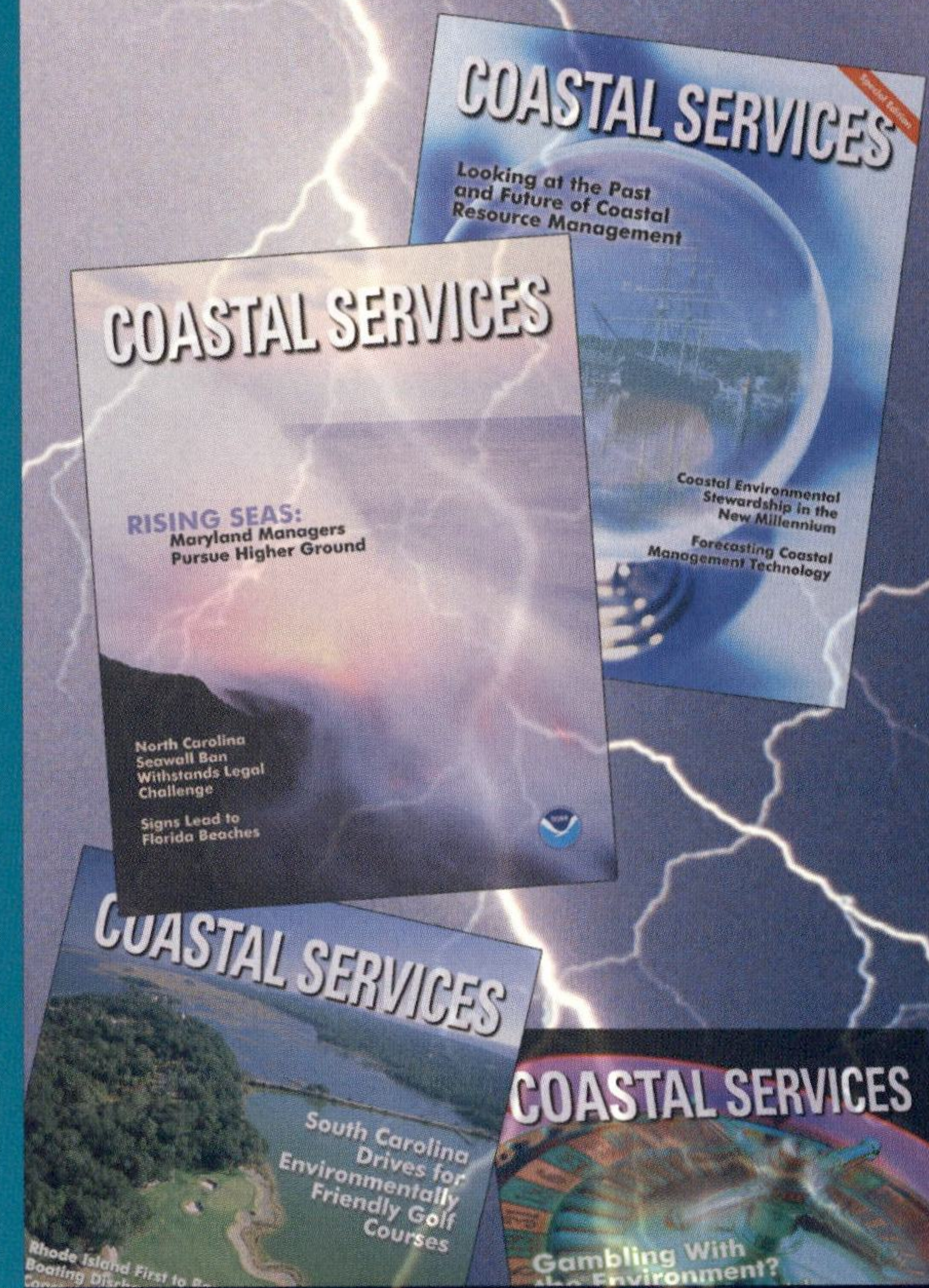
functions of wetlands; development of models for siting habitat restoration projects; and preparation of guidelines and "lessons learned" from development of environmental characterizations.

Topographic Change Mapping

The Coastal Topographic Mapping project is collecting, processing, and distributing high-resolution topographic and other spatial data sets in response to the coastal resource manager's need for accurate, timely information on beach and dune field topography. The data collection and analysis is done in partnership with two federal agencies, the U.S. Geological Survey and NASA. The establishment of a protocol for operational airborne laser topographic mapping is a component of this project.



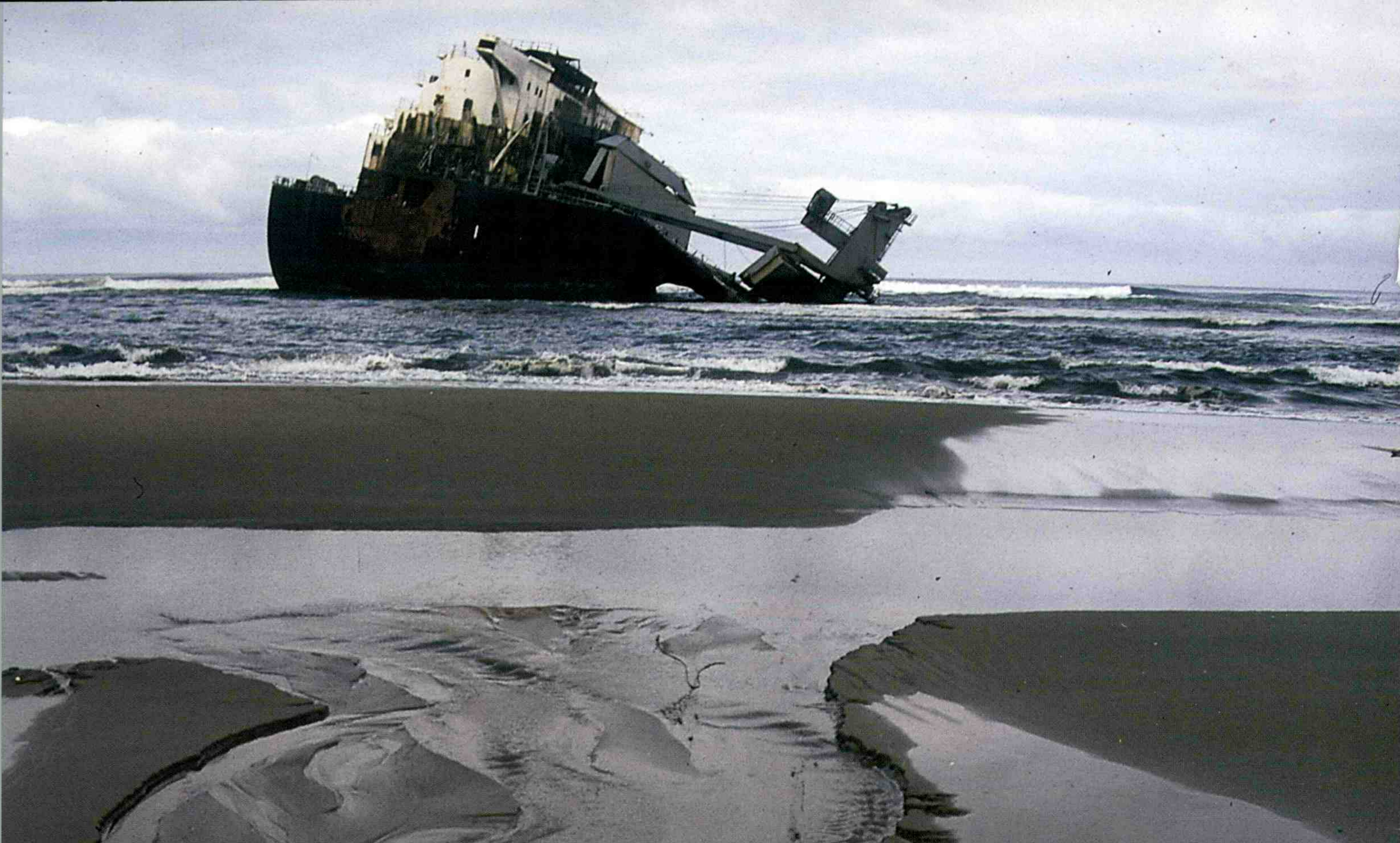
COASTAL SERVICES MAGAZINE



The nation's trade publication for coastal resource managers.

Written and published by the Center, this bimonthly is filled with stories about coastal issues and innovative management programs. To see the magazine online or subscribe, visit

<http://www.csc.noaa.gov/newsletter/>



ALASKA

ECOLOGICAL AND SOCIOECONOMIC CHARACTERIZATION OF KACHEMAK BAY

Located in south-central Alaska, Kachemak Bay, a National Estuarine Research Reserve, is at risk from increasing human use. For this project, partners from various organizations have banded together to gather, integrate, and synthesize information and data on the ecology, socioeconomics, and the management of the Kachemak Bay watershed. The resulting product, a digital characterization that includes GIS, will be a valuable tool for decision makers to rely upon as they manage this region.

CALIFORNIA

CHANNEL ISLANDS NATIONAL MARINE SANCTUARY (NMS) MARINE RESERVE PROCESS

The Center is providing facilitation services to a multi-stakeholder marine reserve working group established

by the Sanctuary Advisory Council of the Channel Islands NMS. This effort, jointly sponsored by the Sanctuary and the California Fish and Game Department, is aimed at developing a consensus agreement regarding the establishment of marine reserves, or "no-take" areas, in the Channel Islands NMS. In addition, the Center is providing technical support in the development of a GIS-based decision support tool for the process. The GIS will help consolidate and integrate the best available ecological and socioeconomic information, as well as local knowledge of the area.

COASTAL MANAGEMENT FELLOWSHIP

The Center placed a fellow with the California Coastal Commission to develop information and evaluation tools for objective examination of beach nourishment throughout the state. Criteria and a methodology will be established to evaluate and prioritize the suitability of sites for beach nourishment projects.

KELP FOREST RESTORATION PROJECT

In response to the degradation of once-prolific kelp habitats from human impacts, this project aims to aid in the restoration and protection of kelp forests in southern California. The project is designed to educate and involve residents, businesses, teachers, and students in the restoration of a critical marine habitat that once covered hundreds of acres in this region and provided food and shelter for hundreds of species of marine life.

Specifically, the project will mobilize teams of volunteer divers to survey, map, and begin restoration efforts. Additionally, an educational outreach program on kelp will be developed and introduced into the local school systems. A kelp Web site will be produced and maintained and a permanent educational exhibit will be constructed on Santa Monica Pier. Finally, to increase citizen awareness, an annual kelp festival will be started. This project is funded with a special project grant from the Center; special project grants are advertised via the *Federal Register* and the Center's Web site.

CONNECTICUT

COASTAL MANAGEMENT FELLOWSHIP

The fellow placed with the Connecticut Office of Long Island Sound Program will work on a project entitled "Long Island Sound Sediment Quality Information Database." He will produce a user-friendly sediment quality information database and GIS that will enhance management decisions with regard to sediment testing plans, selection of priority pollutants for testing, and evaluation of the suitability of sediments for open water disposal. The project also will make existing sediment quality and distribution information available to the public, including the academic community, in a usable format.

COASTAL MANAGEMENT OUTREACH, EDUCATION, AND TRAINING PROGRAM

The primary objective of this project is the establishment of a coastal management outreach, education, and training program in Connecticut's Department of Environmental Protection (DEP). Now in its 20th year, the DEP wants to reinvigorate local involvement in coastal management

implementation, and build upon the successes accomplished to date.

Funding will be used to develop training materials and provide workshops for Connecticut's 36 coastal municipalities' planning and zoning authorities and staffs. Training materials will address such topics as coastal hazard mitigation; protective buffers and setbacks from sensitive resources; the need to increase public access to marine and tidal waters; and the reduction and control of pollution from various nonpoint sources. This project is funded with a special project grant from the Center; special project grants are advertised via the *Federal Register* and the Center's Web site.

DELAWARE

COASTAL MANAGEMENT FELLOWSHIP

The Center placed a fellow with the Delaware Coastal Management Program to develop a decision making policy that provides guidance for identifying problems related to dredging operations. In addition, the fellow will develop an information management system to facilitate an expedited, comprehensive review of projects.

FLORIDA

ECOLOGICAL LANDSCAPE CHARACTERIZATION OF THE ROOKERY BAY NATIONAL ESTUARINE RESEARCH RESERVE AND BELLE MEADE WATERSHED

This project will provide, in an interactive digital format, a comprehensive interdisciplinary synthesis of current and historical information about this area. The final product, a CD-ROM, will integrate GIS data, human interactions, and key ecological processes, which will in turn help coastal resource managers make informed and ecologically sound decisions regarding long-term watershed and estuarine sustainability.

APALACHICOLA BAY BENTHIC CHARACTERIZATION

For this project, comprehensive bottom maps of the Apalachicola NERR site, with shallow water bathymetry, will be created. These up-to-date habitat maps will help the NERR coastal managers as they work to protect and learn about this resource.

Award Winning Year for the NOAA Coastal Services Center!

Not only was 1999 the Center's fifth birthday, it also was the year in which several awards were bestowed on the Center. These recognitions included:

ESRI Award: Two "Awards of Excellence" for efforts to further the role of GIS in the coastal resource management community were presented to the Center and Anne Hale-Migliarese, the Center's director of Coastal Information Services. ESRI is the Environmental Systems Research Institute, the world's largest maker of GIS software.

National Ocean Service Clerical Employee of the Year: NOAA Coastal Services Center's Lisa Holmes.

NOAA Spectrum Award: The Center was recognized for its progressive diversity-related programs. Margaret Davidson, the Center's director, also was honored in this category for her role in championing diversity-related causes throughout NOAA.

Combined Federal Campaign: The Center was noted as the organization within the Charleston, SC, region with the highest per capita giving in this federal charity drive.

PRSA Award: The South Carolina chapter of the Public Relations Society of America recognized the Center's bimonthly magazine, *Coastal Services*, for the way the publication addressed issues related to coastal resource management.

Coastal America National Leadership Award: Jeff Payne, deputy director for the Center, received this award for his role as vice-chair of the Coastal America Scientific and Technical Advisory Committee.

Best Use of Leading Edge Technologies: This award was given by the NOAA High Performance Computing and Communications Program for the Center's development and evaluation of a monitoring and emergency response / crisis management system for oil spills and hurricanes.

NOAA Equal Opportunity Advisory Committee: The Center's Eric Dobson, a remote sensing scientist, submitted the award-winning entry in the slogan contest. His slogan was "Different Strengths, Equal Opportunity."

NOAA Diversity: A team of employees at the Center won this slogan contest for their entry, "Many Faces, One Vision." Frank Ruopoli, graphic designer for the Center, won the design contest.

OCEAN PLANNING INFORMATION SYSTEM

This prototype ocean-information system covers the coastal and ocean areas off North Carolina, South Carolina, Georgia, and Florida. This is the first attempt in the U.S. to create a regional information system that integrates pertinent legal information with natural resource data to support ocean governance and planning.

TOPO/BATHY MAP SERIES

The Center is working with the NOAA Office of Coast Survey, the National Geodetic Survey, and the U.S. Geological Survey to determine the look, content, and feasibility of topographic and bathymetric data integration. These data are intended to bridge the land-water interface of the coastal region and include appropriate map features from both the NOAA nautical charts and the USGS topographic quads. The pilot project will be in the Tampa Bay Region. For this project a needs assessment for users will be undertaken, and focus groups will be used to evaluate the pilot product.

GEORGIA

OCEAN PLANNING INFORMATION SYSTEM

This prototype ocean-information system covers the coastal and ocean areas off North Carolina, South Carolina, Georgia, and Florida. This is the first attempt in the U.S. to create a regional information system that integrates pertinent legal information with natural resource data to support ocean governance and planning.

HAWAII

HAWAII LAND COVER AND BENTHIC HABITAT ASSESSMENT

Benthic habitat and adjacent terrestrial landscapes of the Hawaiian Islands will be mapped. This will be conducted in close coordination with the State of Hawaii, NOAA NOS/NCCOS Center for Coastal Monitoring and Assessment, The Pacific Disaster Center, and other federal agencies working in Hawaii.

HAWAIIAN SHORELINE VARIABILITY THIS CENTURY - A DEMONSTRATION OF DATA CAPACITY BUILDING

This study will address Hawaii's lack of a comprehensive coastal erosion database and

resultant difficulties making sound coastal land-use decisions. The primary objective of the project is to demonstrate how to build broader knowledge of coastal dynamics within Hawaii's coastal regulatory community so that permitting and planning agencies can make informed, factually-based land-use decisions.

The project will establish a high-quality, high-density database of shoreline change histories that will improve management efforts. The database will be utilized by regional coastal managers and available to the commercial sector through state and county GIS service agencies. Additionally, the study aims toward improving the understanding of why shoreline change happens, where future changes are likely to have societal impact, and how past and present coastal land use may be related to ongoing shoreline change. This project is funded with a special project grant from the Center; special project grants are advertised via the *Federal Register* and the Center's Web site.

HAZARDS TRAINING

This effort identifies and addresses hazard mitigation training needs. The resulting training efforts are pilot projects that can serve as models and visible examples of community-based hazard mitigation planning for others in the region dealing with similar hazards.

LOUISIANA

COASTAL LOUISIANA LAND COVER CHANGE

This project will provide land cover and change maps and related spatial information to local and state resource managers. In this project, the Center is cooperating with the U.S. Geological Survey (USGS) National Wetlands Research Center (NWRC) to develop and build a comprehensive, standardized GIS to detect and assess changes in terrestrial land cover and habitat within coastal Louisiana. Coastal resource managers will use this information to improve their understanding of the impacts of human-induced

Local Education Outreach Efforts



While the NOAA Coastal Services Center is a national organization, the facility strives to be a good local neighbor as well. Participants in the Center's education outreach effort developed an hour-long GIS-related curriculum in honor of GIS Day, a component of November's geography week. After learning some new mapping skills, the children enjoyed using these skills to find their school on an aerial photograph.

Center staff also participated in the "No Barriers" initiative, which brings adults into the public schools to encourage children with their professional and personal stories.

Another worthwhile effort was the Center's donation of 22 MacIntosh computers to a local elementary school. The computers will be used in the children's accelerated reader program.

change. The NOAA Coastal Ocean Program provided funding for this activity through 1997.

MASSACHUSETTS

COASTAL MANAGEMENT FELLOWSHIP

The Center placed a fellow with the Massachusetts Coastal Zone Management Program to develop an adaptive special area management planning model. A specific project goal is to expand and coordinate current resource management planning and implementation in the Parker River/Essex Bay "coastal area of critical environment control" by developing regional planning strategies and increasing local support through public participation.

MASSACHUSETTS LAND COVER CHANGE

In cooperation with the Massachusetts Department of Environmental Protection, the Center is performing a

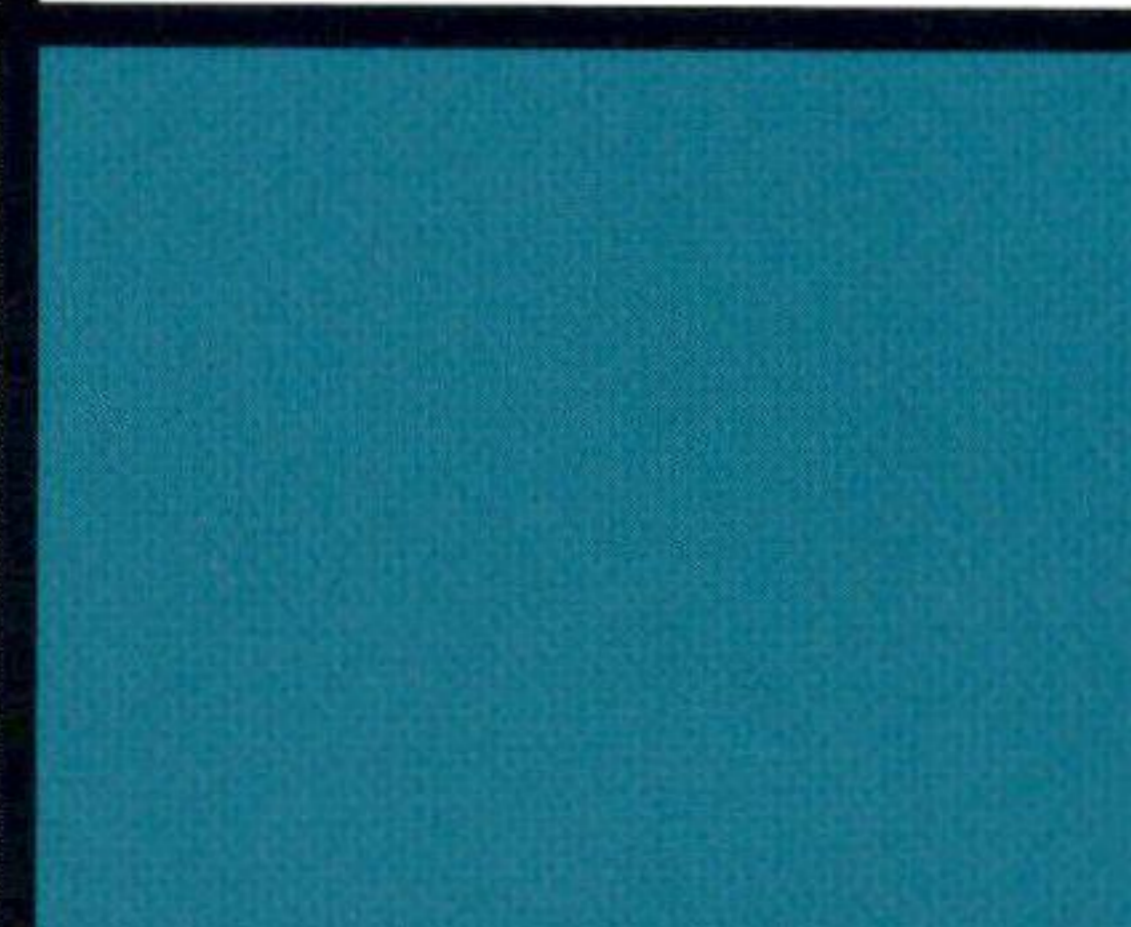
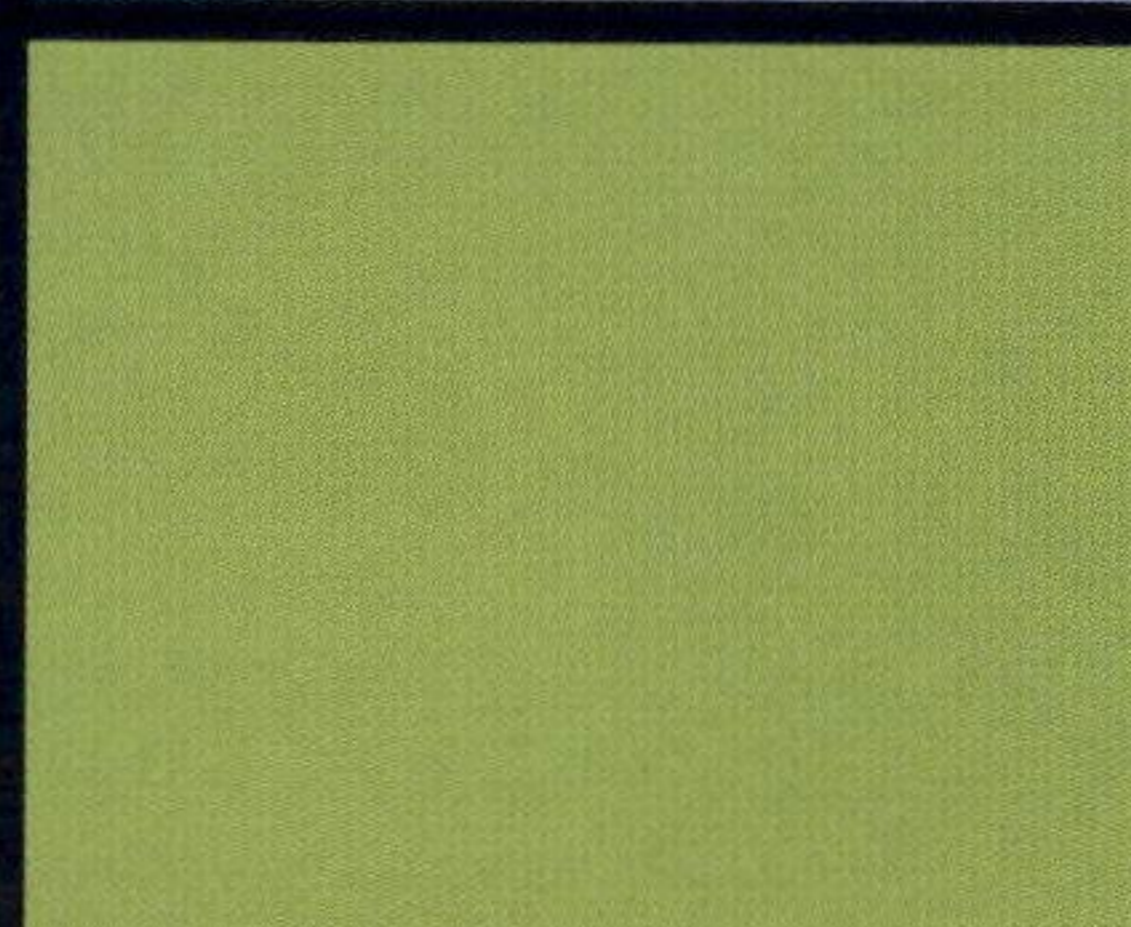
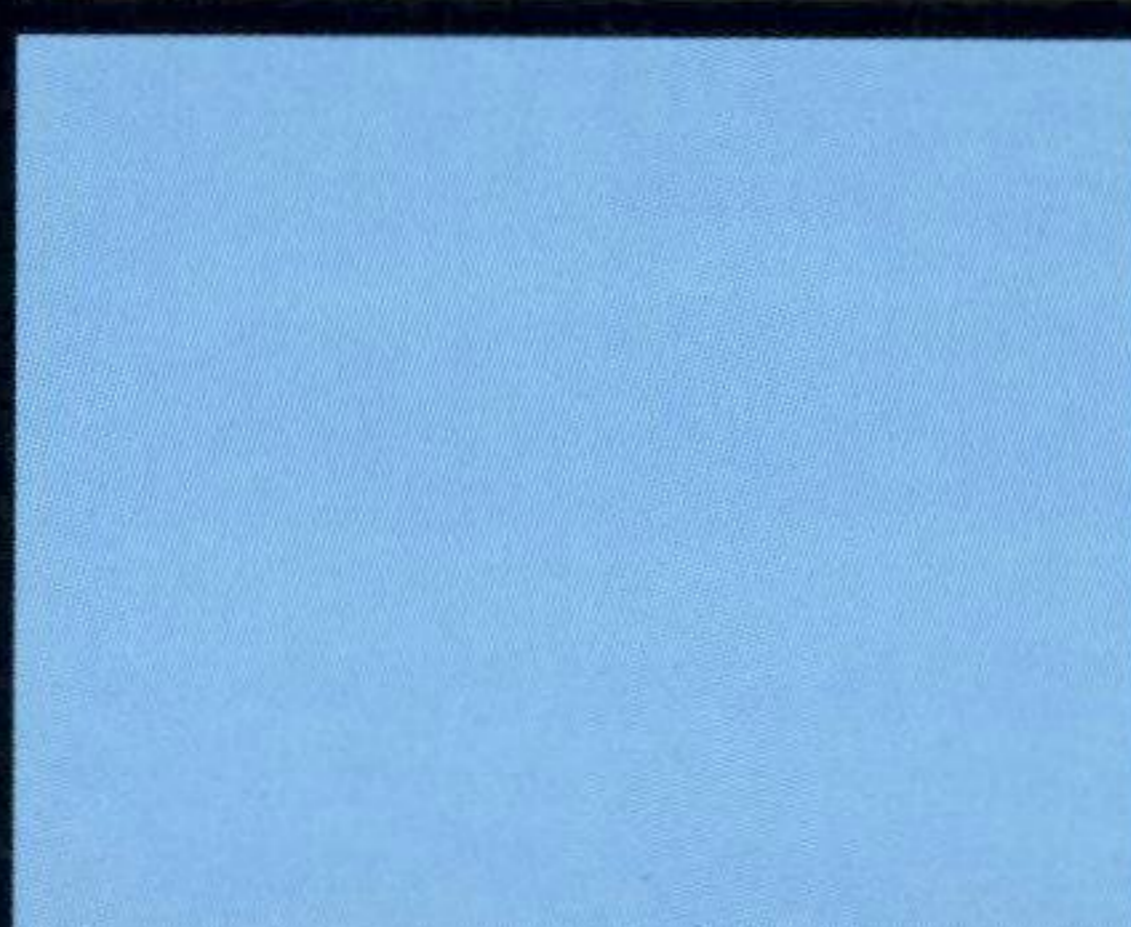
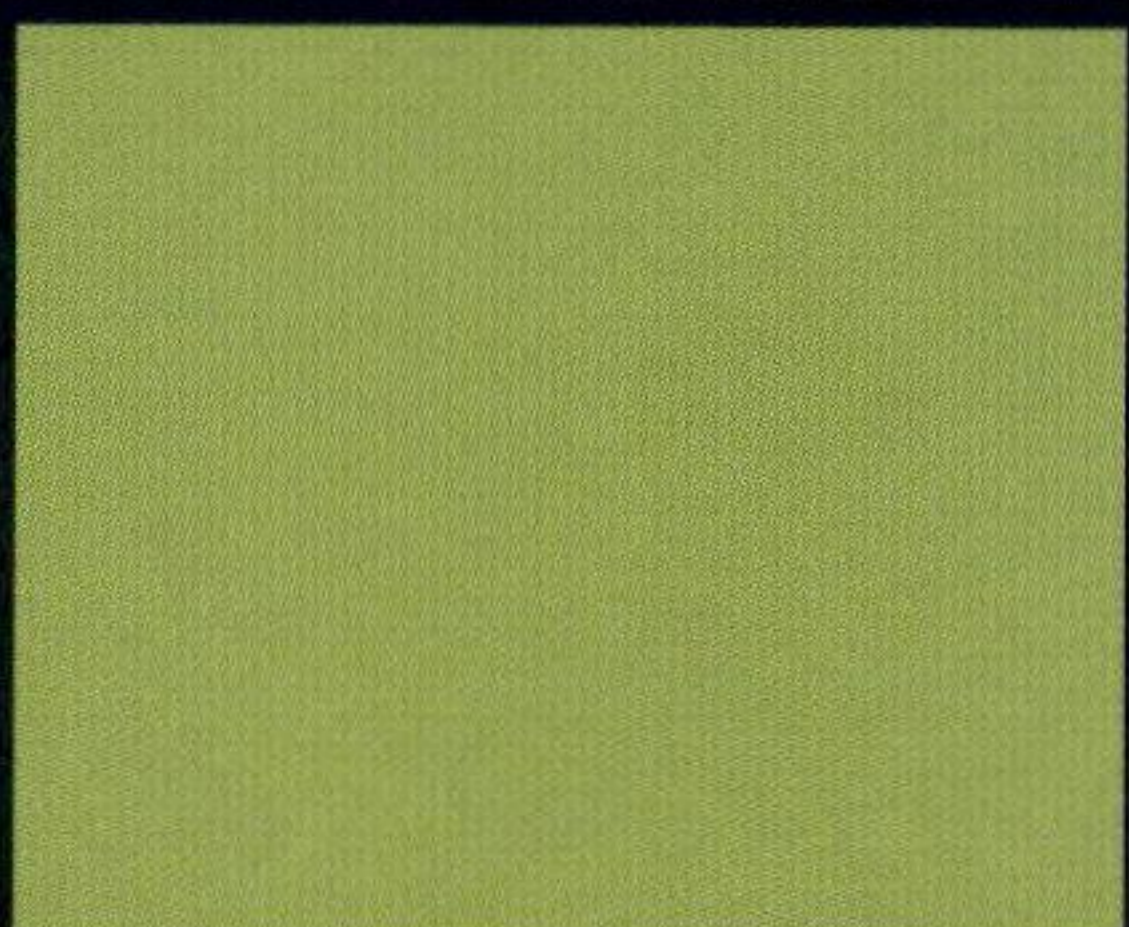
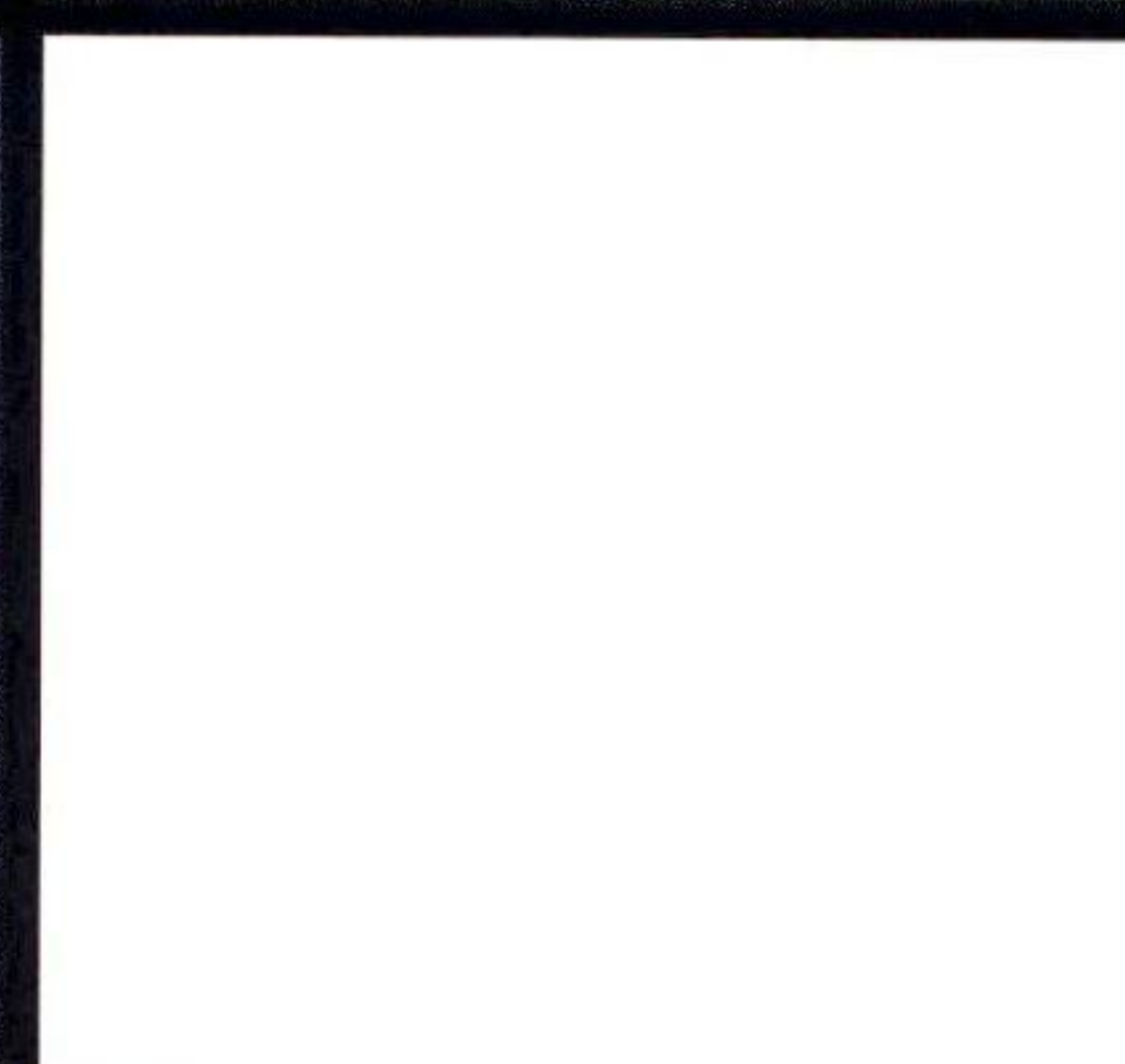
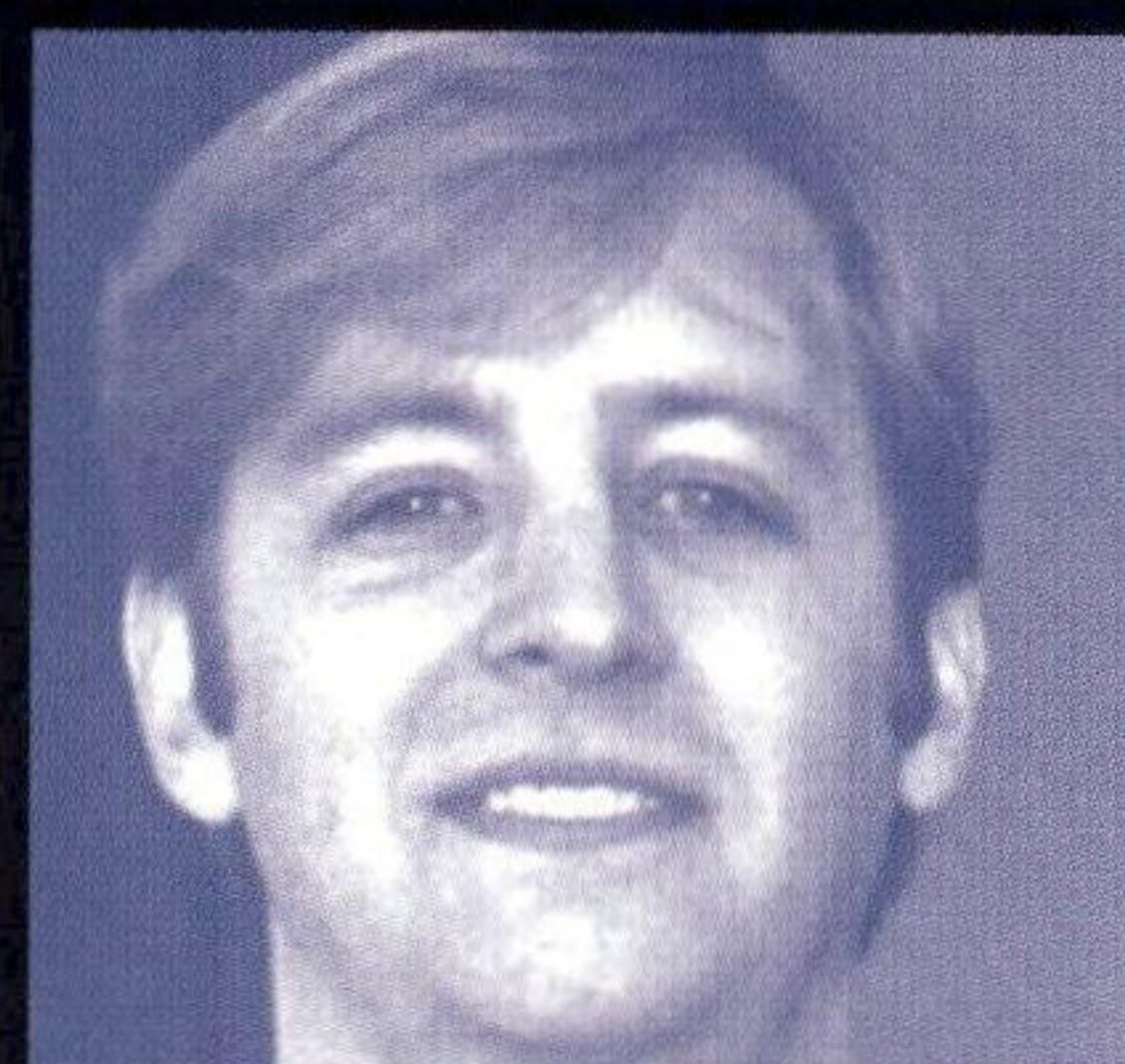
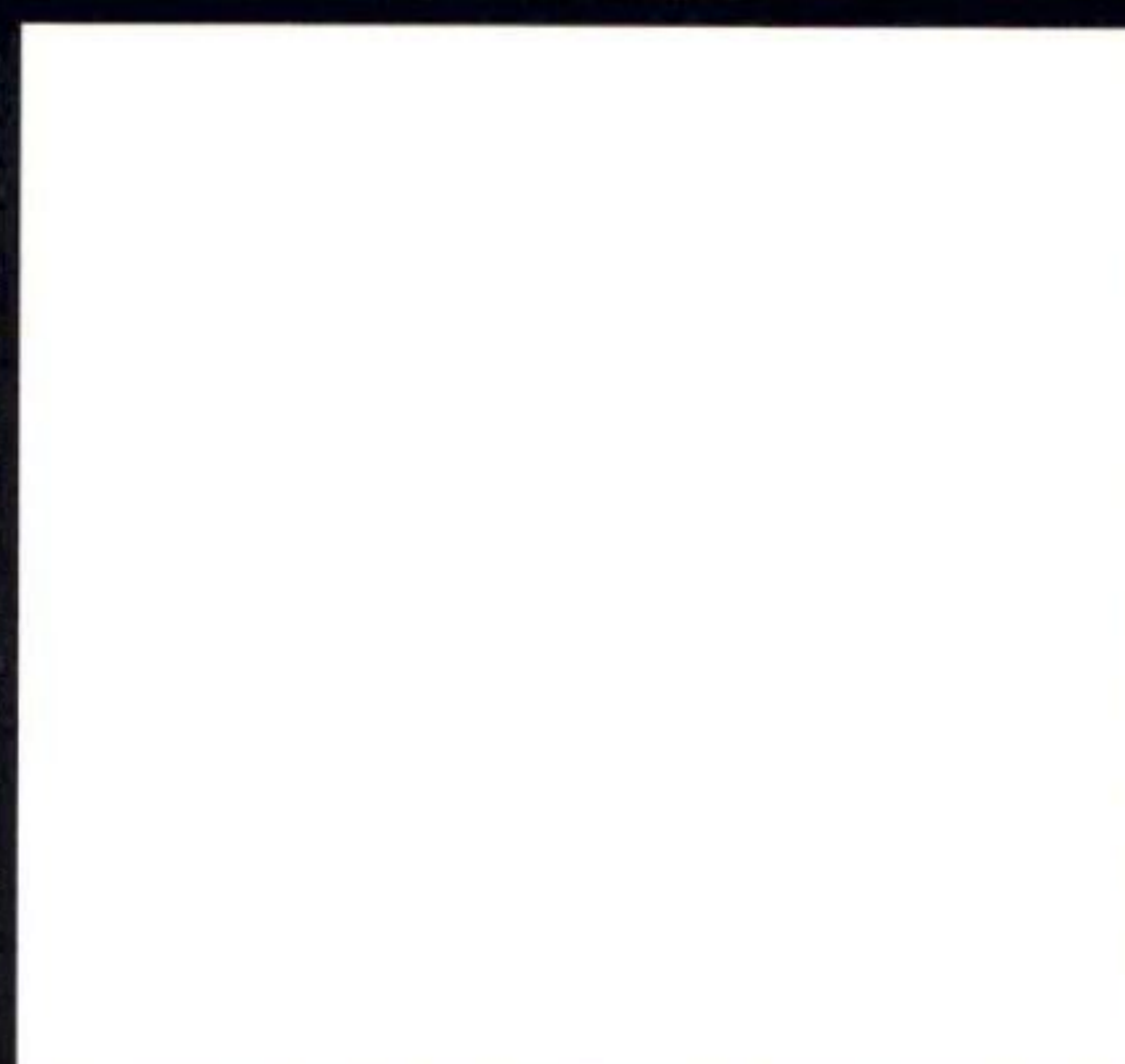
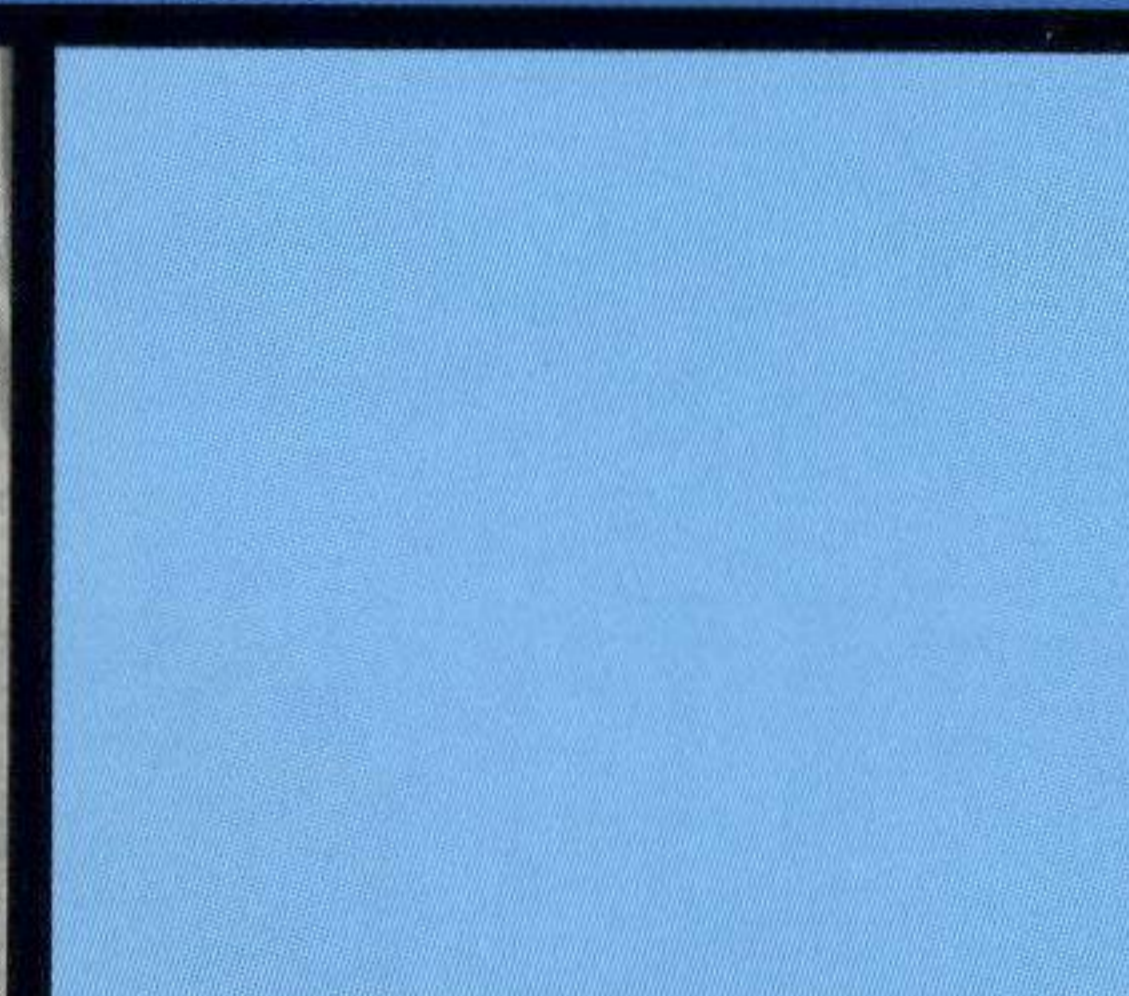
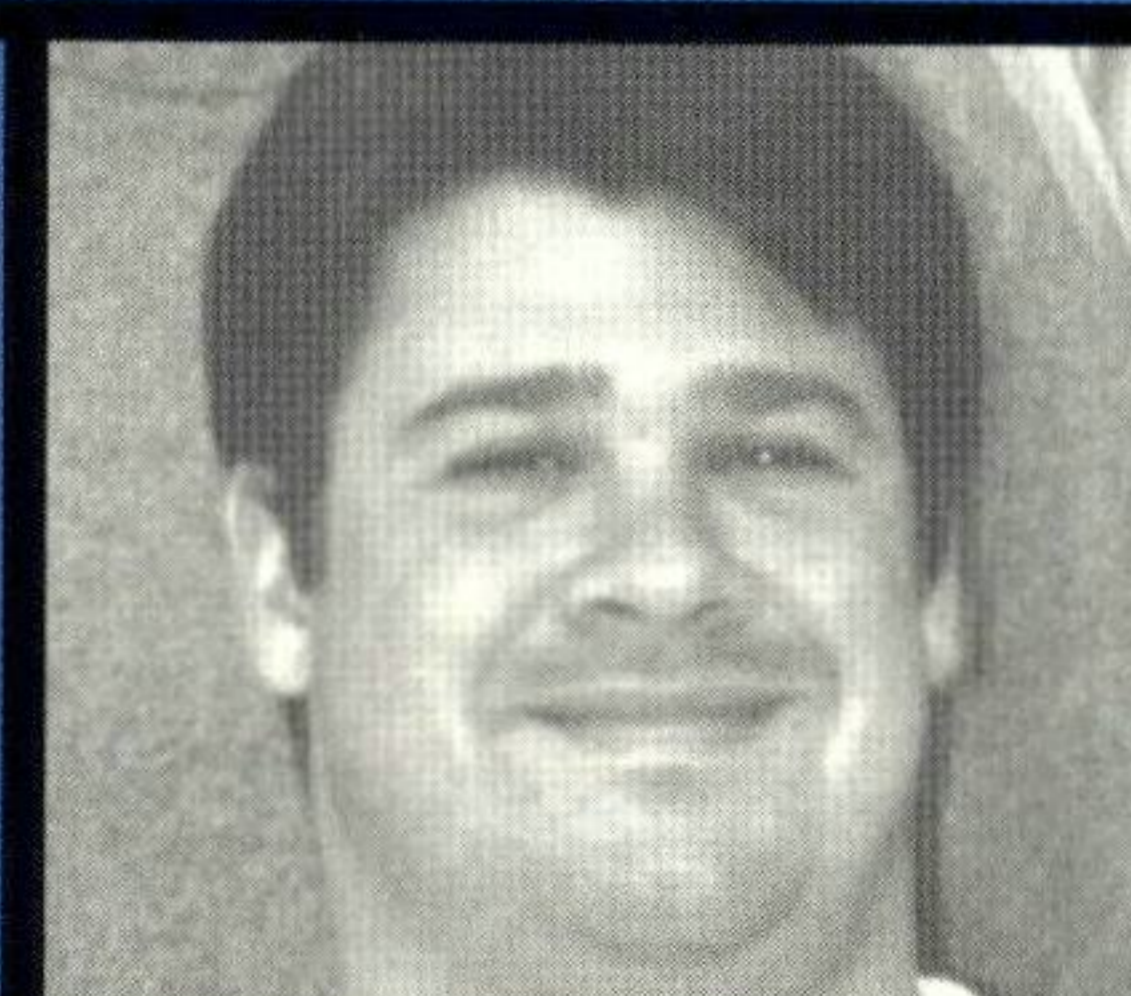
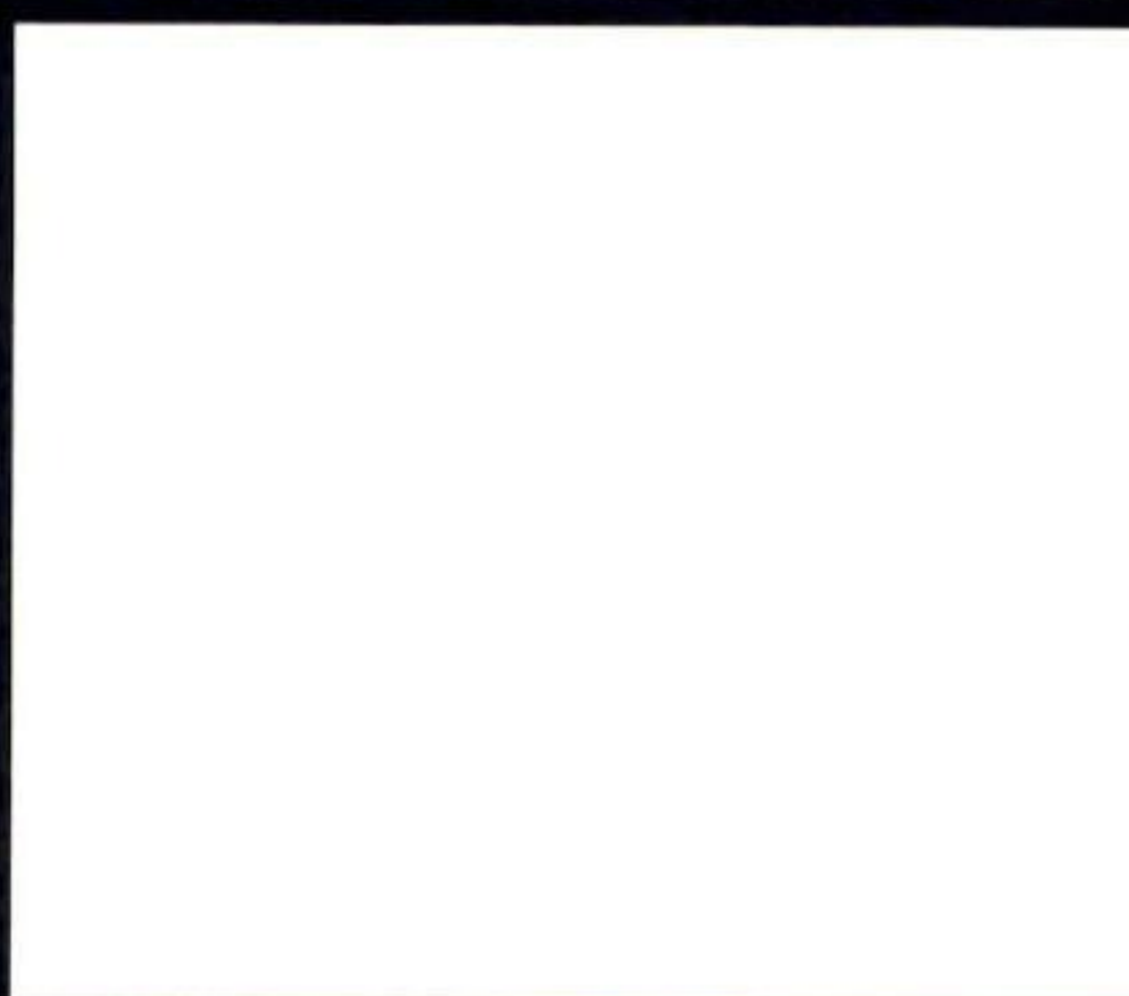
change detection analysis of emergent wetlands and surrounding uplands for coastal Massachusetts. With their recently completed C-CAP seagrass maps, Massachusetts will be the first state to have both benthic habitat and terrestrial land cover change data for the entire state's coastal area. Using the resulting seagrass, land cover change, and related spatial information, local and state natural resource managers can improve their understanding of the impacts of human-induced change on nearshore marine resources, which will facilitate informed coastal planning and decision making.

MARYLAND

COASTAL MANAGEMENT FELLOWSHIP

The Center placed a fellow with the Maryland Coastal Zone Management Division to aid in developing policy response options for sea level rise. The project goals

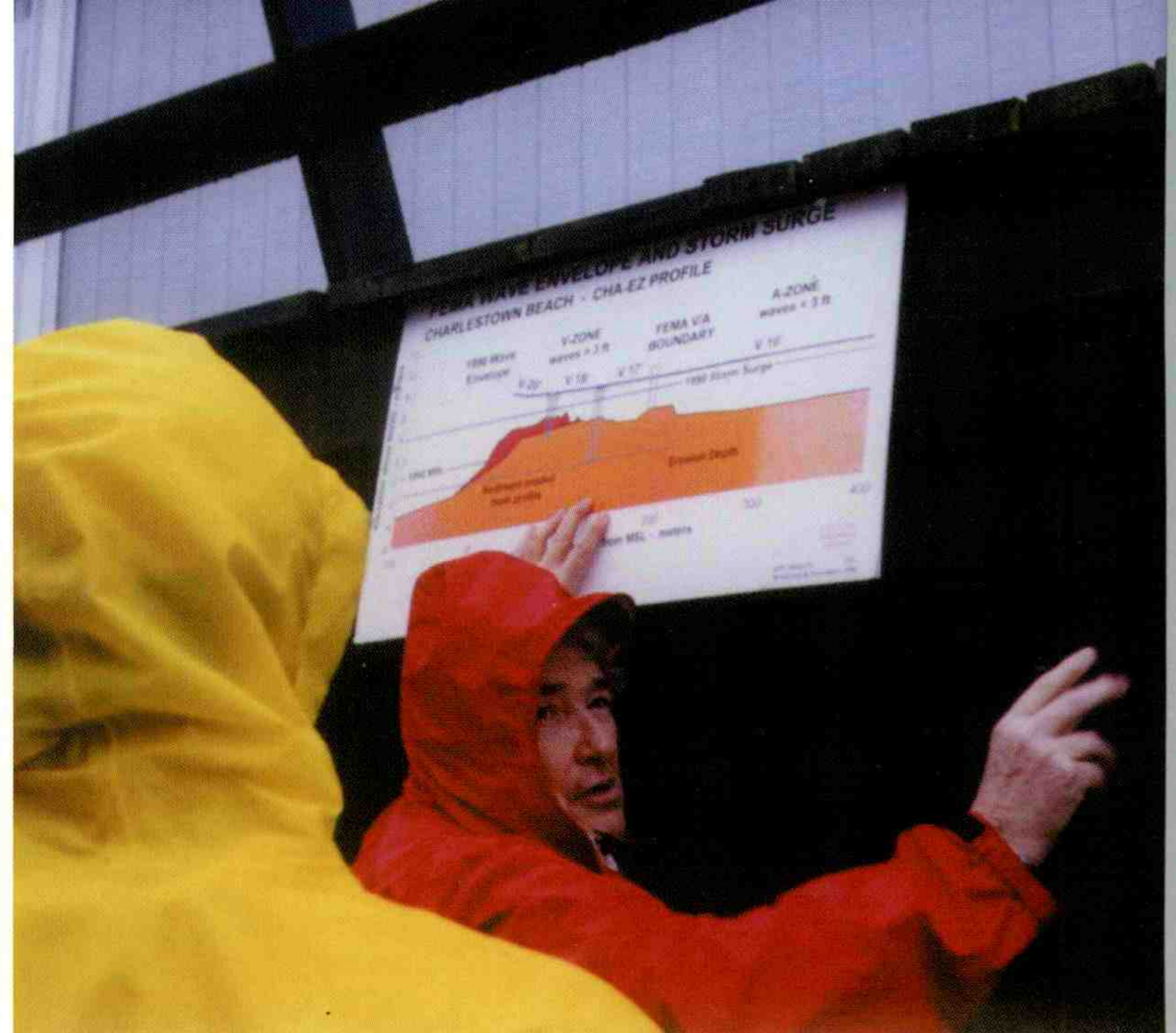
Training the Coastal Resource Managers of Tomorrow



Helping the Coastal Resource Management Programs of Today

Coastal Management Fellowship

<http://www.csc.noaa.gov/cms/fellows.html>



are to determine Maryland's current ability to respond to sea level rise, to increase public awareness of coastal hazard issues related to sea level rise, and to enhance the state's ability to plan for sea level rise.

SENSOR TESTBED

This project will support the initiation of a national testbed program that fosters the development and application of new and improved in situ sensors, platforms, and telemetry systems for coastal and ocean monitoring. Program administration, planning, and some primary technical functions will be conducted at a central facility. Field activities will be carried out among a national network of collaborating institutions, facilities, and sites.

MISSISSIPPI

COASTAL MANAGEMENT FELLOWSHIP

The Center has a cooperative agreement with the University of Southern Mississippi to administer the NOAA Coastal Management Fellowship program. The Fellowship program was established to provide professional education and training opportunities for postgraduate students in coastal resource

management and policy, and to provide specific technical assistance for state coastal resource management programs. The program matches highly qualified, recently graduated master's, professional, and doctoral degree students with coastal resource management hosts around the coastal United States. States with federally approved coastal zone management programs are eligible to submit one application each year for the fellowship program.

NEW HAMPSHIRE

GREAT BAY NERR TESTBED

Activities in technology development, application, and transfer have been initiated at the University of New Hampshire (UNH) in support of the Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET) and other NOAA-sponsored research and development. The development of a technology testbed, focused on verification of new and existing technologies for estuarine contamination monitoring and remediation, will enable the resource management community to make decisions and policy based on the latest and most efficient technologies. Centered at UNH, the technology transfer and testbed programs will be networked throughout the NERR system.

Marine Spill Analysis System

Developed in Florida and proven in the 1993 Tampa Bay oil spill, the Marine Spill Analysis System (MSAS) has attracted attention from the oil spill community. With MSAS, decision makers can display the location of a spill, determine resources at risk, track booms and skimmers, and perform other oil spill management tasks. In addition, many of the GIS tools within MSAS offer promise in other areas of coastal management.

NOAA is providing MSAS to states and looking for partners that might be interested in participating in the future development of this tool. See the Web site, www.csc.noaa.gov/products/msas, for additional information.



NEW JERSEY

COASTAL NEW JERSEY LAND COVER CHANGE

The Center is working with Rutgers University to map land cover and examine coastal change in New Jersey. With the resulting land cover and change maps and related spatial information, local and state natural resource managers can improve their understanding of the impacts of human-induced change and facilitate informed coastal planning and decision making. The NOAA Coastal Ocean Program provided funding for this activity through 1997.

NEW YORK

PROTECTING AND RESTORING COASTAL AREAS IN NEW YORK CITY

In an attempt to improve the long-term health of New York City's coastal areas, the Council on the Environment carried out this project to motivate youths and adults to become involved in a number of citywide coastal restoration, protection, and improvement projects. The first component of the project trained over 400 students from nine schools to organize 14 coastal restoration projects. In carrying out these projects, the students interacted with over 4,500 citizens. Individual projects included beach and park cleanups and public information campaigns.

The second component trained students throughout the course of the project in such citizenship skills as fundraising, outreach, and public speaking. A third and final project component was aimed at adding to existing water quality monitoring efforts in the NY/NJ Harbor Estuary and urban creeks, Jamaica Bay, and the East and Hudson Rivers by teaching students to both perform and train others in water testing. This project is funded with a special project grant from the Center; special project grants are advertised via the *Federal Register* and the Center's Web site.

HUDSON RIVER SUBMERSED ROOTED VEGETATION MAPPING

The Center, with initial funding support from the NOAA Coastal Ocean Program (COP), is cooperating with the Institute of Ecosystem Studies, the Hudson River National Estuarine Research Reserve (NERR), and

the Cornell Laboratory for Environmental Application of Remote Sensing to map submerged aquatic vegetation (SAV) in the Hudson River. With this information, coastal resource managers can better determine the characteristics and distribution of SAV within the tidal Hudson River.

LONG ISLAND SAV MAPPING

The Center is cooperating with the New York State Department of Environmental Conservation and the U.S. Fish and Wildlife Service in mapping benthic habitat in southern Long Island. Included in the Center's contribution are technical consultations on image suitability, data rescue, mapping compilation using analytical photogrammetry, and field assessments. This project will help determine the distribution of SAV within the Great South Bay, Peconic Bay, and other south shore bays on Long Island. This will in turn contribute to the national effort to identify and quantify essential fish habitat under the Magnuson/Stevens Act.

NORTH CAROLINA

NORTH CAROLINA LAND COVER CHANGE

The Center, the North Carolina Division of Coastal Management (DCM), and the North Carolina Center for Geographic Information and Analysis (NC-CGIA) are cooperating to develop a regional land cover and change detection database for coastal North Carolina. With the resulting land cover and change maps and related spatial information, local and state natural resource managers can improve their understanding of the impacts of human-induced change and facilitate informed coastal planning and decision making.

NATURAL HAZARDS RISK ASSESSMENT TOOL

DEVELOPMENT: STORM SURGE MODEL

This project will develop a focused risk assessment tool that not only predicts general surge effects but also event-related inland flooding. The prototype risk assessment tool will be applied in the field and evaluated with end users. A final product will be developed based on the field evaluation. A training component will enable private and public sector end users to apply the product.

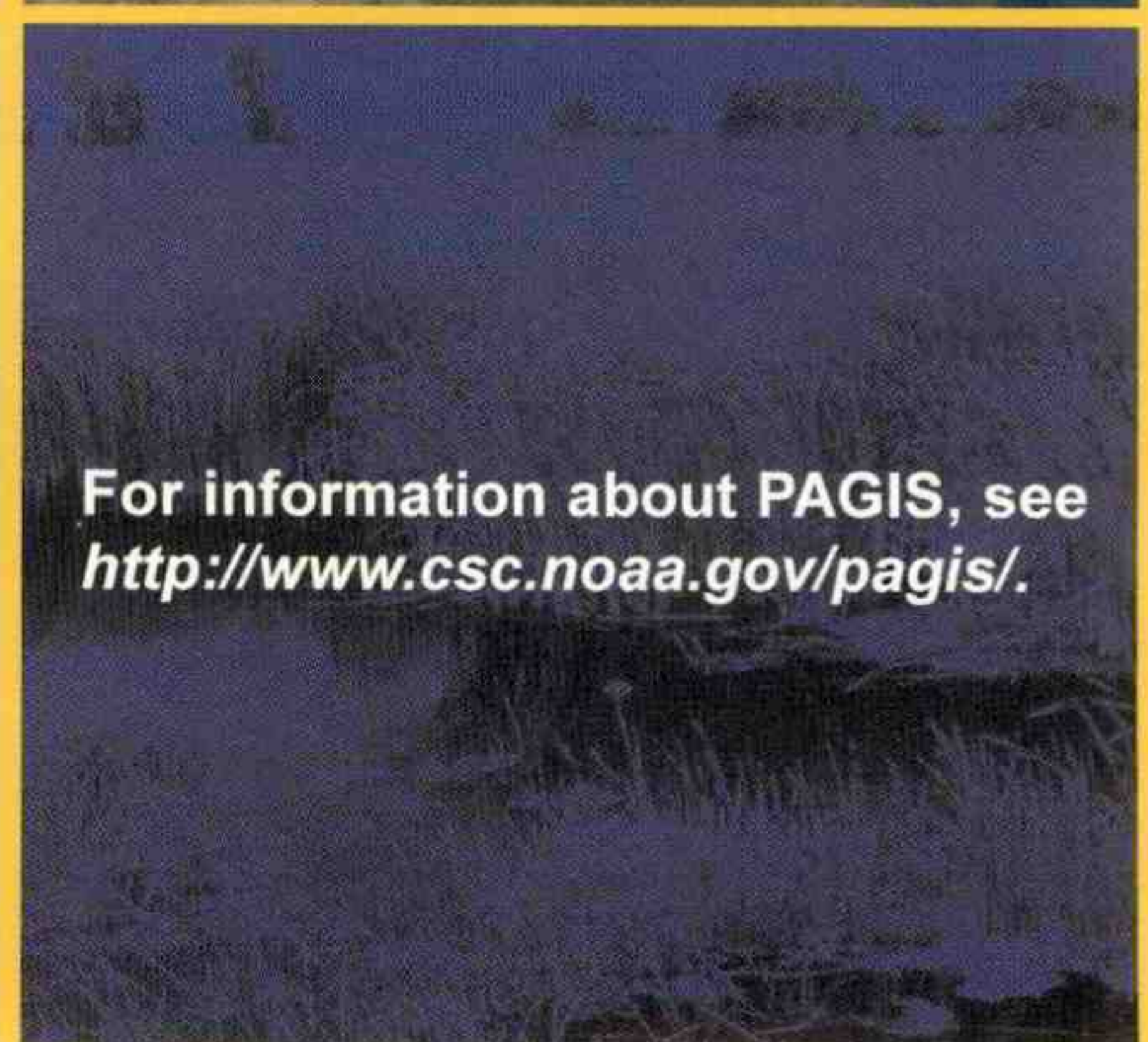
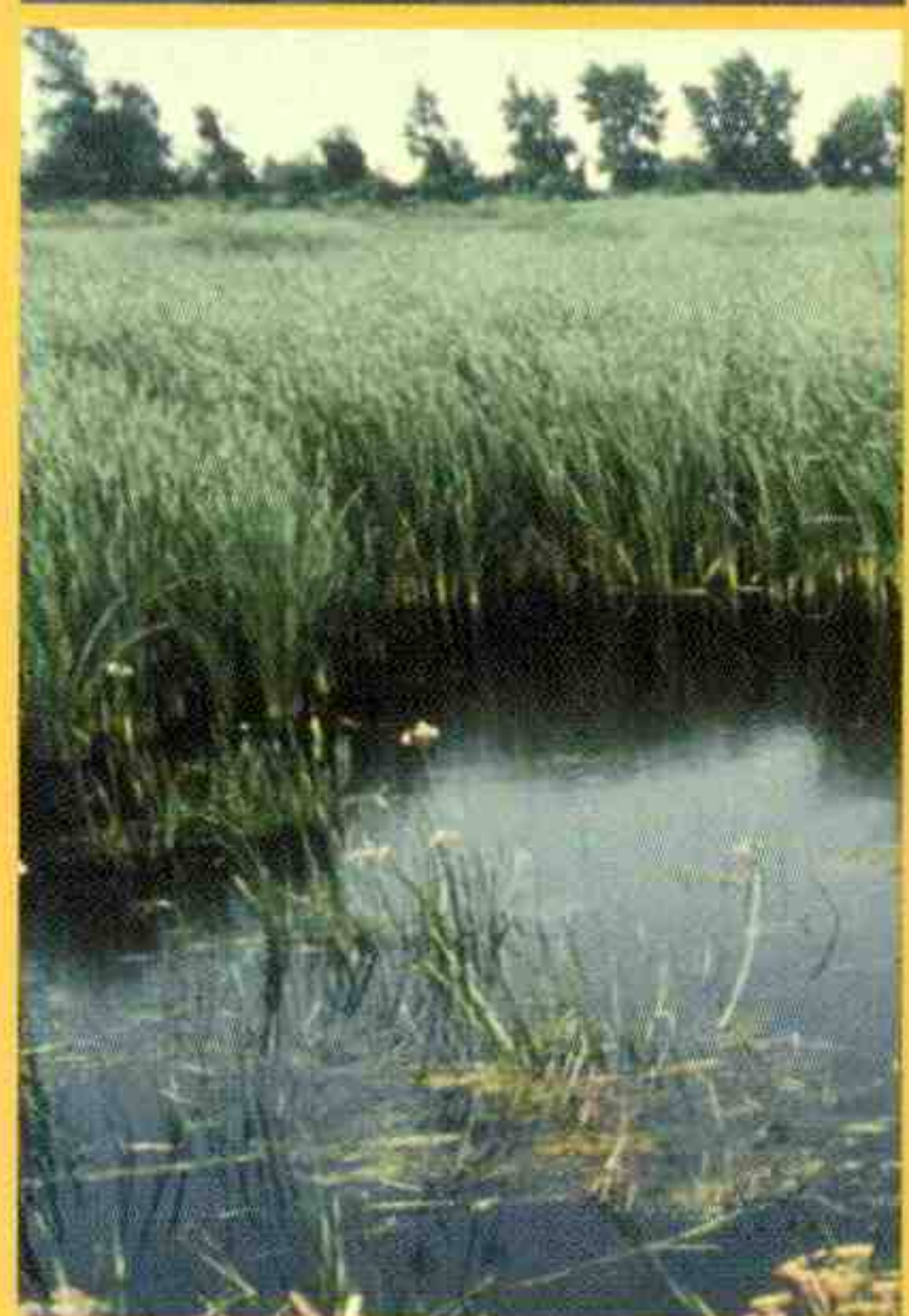
PAGIS

Protected Areas Geographic Information System

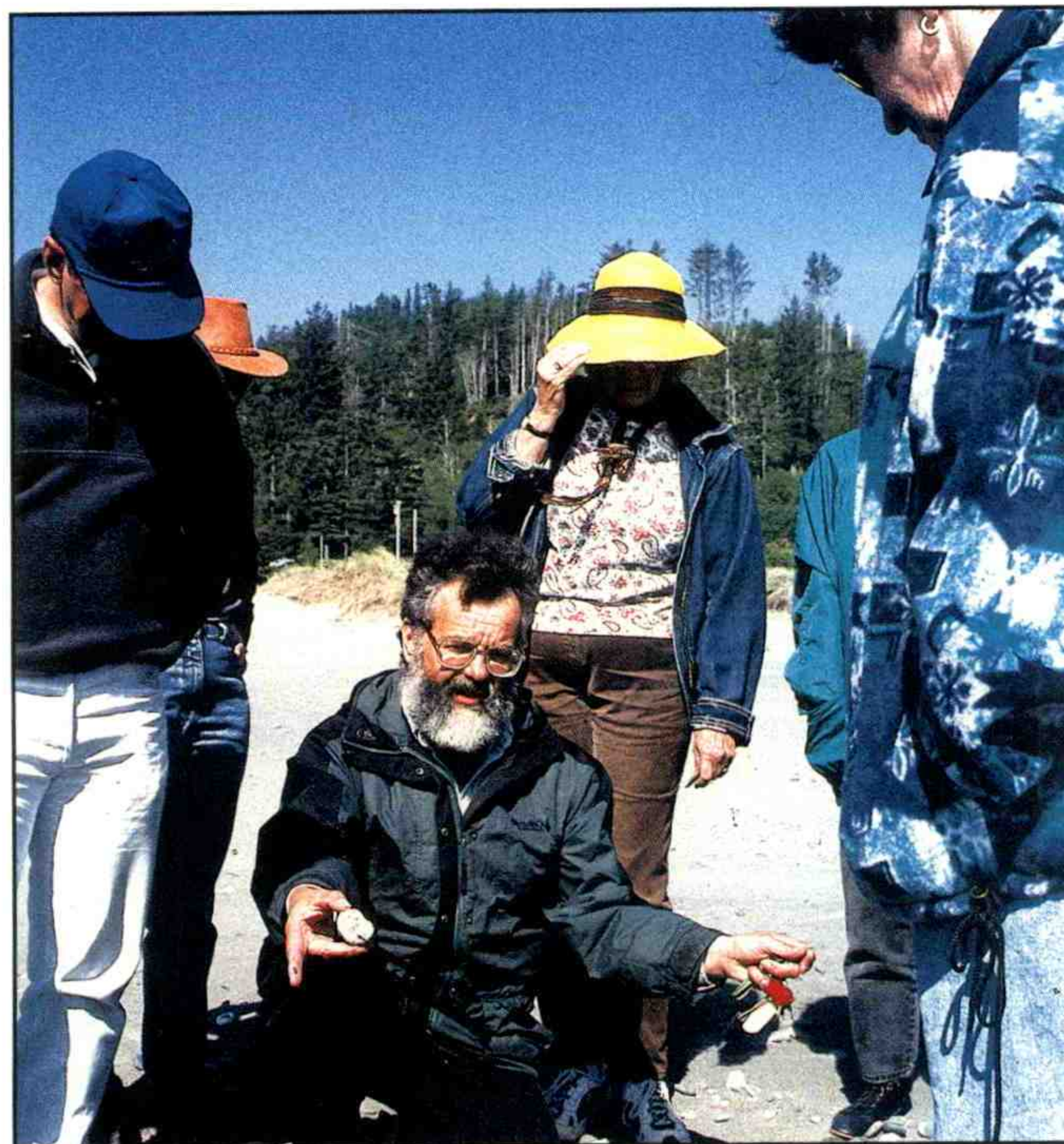


PAGIS is a project for the National Estuarine Research Reserve and National Marine Sanctuary sites. Project components include computer hardware and software, the creation and compilation of similar data sets, technology training, and a common geographic information system.

These tools will help the Reserves and Sanctuaries resolve many of their individual and collective coastal resource management issues.



For information about PAGIS, see <http://www.csc.noaa.gov/pagis/>.



OCEAN PLANNING INFORMATION SYSTEM

This prototype ocean-information system covers the coastal and ocean areas off North Carolina, South Carolina, Georgia, and Florida. This is the first attempt in the U.S. to create a regional information system that integrates pertinent legal information with natural resource data to support ocean governance and planning.

PRE-NATURAL DISASTER MITIGATION TECHNOLOGY TRANSFER AND DEPLOYMENT

The Southeast Center for Protection Against Natural Disasters (Southeast CPAND) will focus its efforts on activities and technologies that can reduce the costs associated with natural disasters inherent to the Southeast. The effort will address both disaster prevention and damage mitigation topics, including technologies to reduce the costs associated with natural disasters; management techniques; and the dissemination of information.

Initial activities under this project include a workshop on technology transfer and deployment of established and new technologies to lower the impacts and costs of natural hazards, and development of a regional strategy to link with new federal efforts and develop a mechanism for technology transfer and deployment. This project is funded with a special project grant from the NOAA Coastal Services Center; special project grants are advertised via the *Federal Register* and the Center's Web site.

COASTAL MANAGEMENT FELLOWSHIP

The Center placed a fellow with the North Carolina Division of Coastal Management to work on a project entitled "The Development of Coastal Wetland Mitigation Policy and Wetland Management Alternatives." The project goal is to develop alternatives and recommendations that will clarify and improve the division's current wetland mitigation policies. A second goal of the project is to develop

Volunteering for the Coast



A good volunteer program can enrich a coastal resource management program, but recruiting, motivating, and training volunteers can be trying. A new Web site, "Volunteering for the Coast," offers tips, resources, and a chance to interact with other volunteer coordinators. People looking for coastal volunteer opportunities can query the site.

Call the Center to receive a motivational tape for potential volunteers, and visit the Web site at <http://volunteer.nos.noaa.gov>.



wetland policy and management alternatives for the Atlantic White Cedar component of the Buckridge Coastal Reserve site. The fellow will contribute to the formulation and adoption of clear wetland mitigation policies that improve the protection of wetland resources and will contribute to the development of a final restoration plan in the Buckridge Coastal Reserve.

OREGON

COASTAL HAZARDS GIS - TSUNAMI

Efforts from this project will increase the resilience of West Coast ports, harbors, and coastal communities when faced with earthquakes and tsunami hazards. This will be accomplished by developing, testing, and evaluating a planning model using collaborative efforts with private sector interests, government agencies, and educational institutions and a GIS-based information product to assess earthquake-tsunami vulnerability.

SUSTAINABLE DEVELOPMENT GIS

Project staff will work with an existing local sustainability project in Tillamook County, Oregon, to develop a “real time” GIS-based monitoring capability to track progress and measure success in a multidisciplinary watershed management project. The project is aimed at improving water quality, enhancing fish habitat, reducing environmental and economic damage caused by flooding, and improving general economic conditions in a coastal water-dependent community. The GIS tool to be developed will provide an accountability mechanism for multiple project partners to track progress toward meeting predetermined performance measures and benchmarks.

COASTAL MANAGEMENT FELLOWSHIP

The Center placed a fellow with the Oregon Ocean-Coastal Management Program to create a computerized database and computerized maps of

Laser Beach Mapping

MAPPING SHORELINE CHANGE



Bill Eiser of South Carolina's Office of Ocean and Coastal Resource Management is mapping his state's beaches—from his desk!



“The Center's LIDAR data has changed the way we survey our beaches,” says Eiser. “The data is accurate and a big time and money saver.”

Laser beach mapping is a Center product whereby beaches are measured using lasers mounted in aircraft. To learn more about the program, see

<http://www.csc.noaa.gov/text/beach.html>

potential sites for estuarine wetland creation, restoration, and enhancement, and for wetland mitigation banking. This project will also benefit the establishment of the Dynamic Estuary Management Information System (DEMIS) in the targeted estuaries and their watersheds, and create GIS data layers for the DEMIS in each estuary.

OREGON COASTAL SHORELANDS ACCESS INVENTORY
Oregon, similar to other coastal states, is experiencing an increase in demand for public access to shorelands, coupled with the gradual reduction in the number of access sites. Due to the lack of a comprehensive inventory and gaps in information regarding the status of sites, the state has not been able to quantify this trend. With funding for this project the Oregon Department of Land Conservation and Development, in conjunction with other state agencies, local governments, and public interest groups, aims to create a database inventory and geographic information system (GIS) of coastal shoreland access points.

The database and GIS products will be used as tools to improve the management of public access sites by state agencies and local governments. Additionally, the database will be available from the Internet as an interactive Web site for the public. The comprehensive inventory will include pedestrian, vehicle, and visual access and incorporate site information on location, ownership, access type, management, facilities, landscape features, and services. This project is funded with a special project grant from the Center; special project grants are advertised via the *Federal Register* and the Center's Web site.

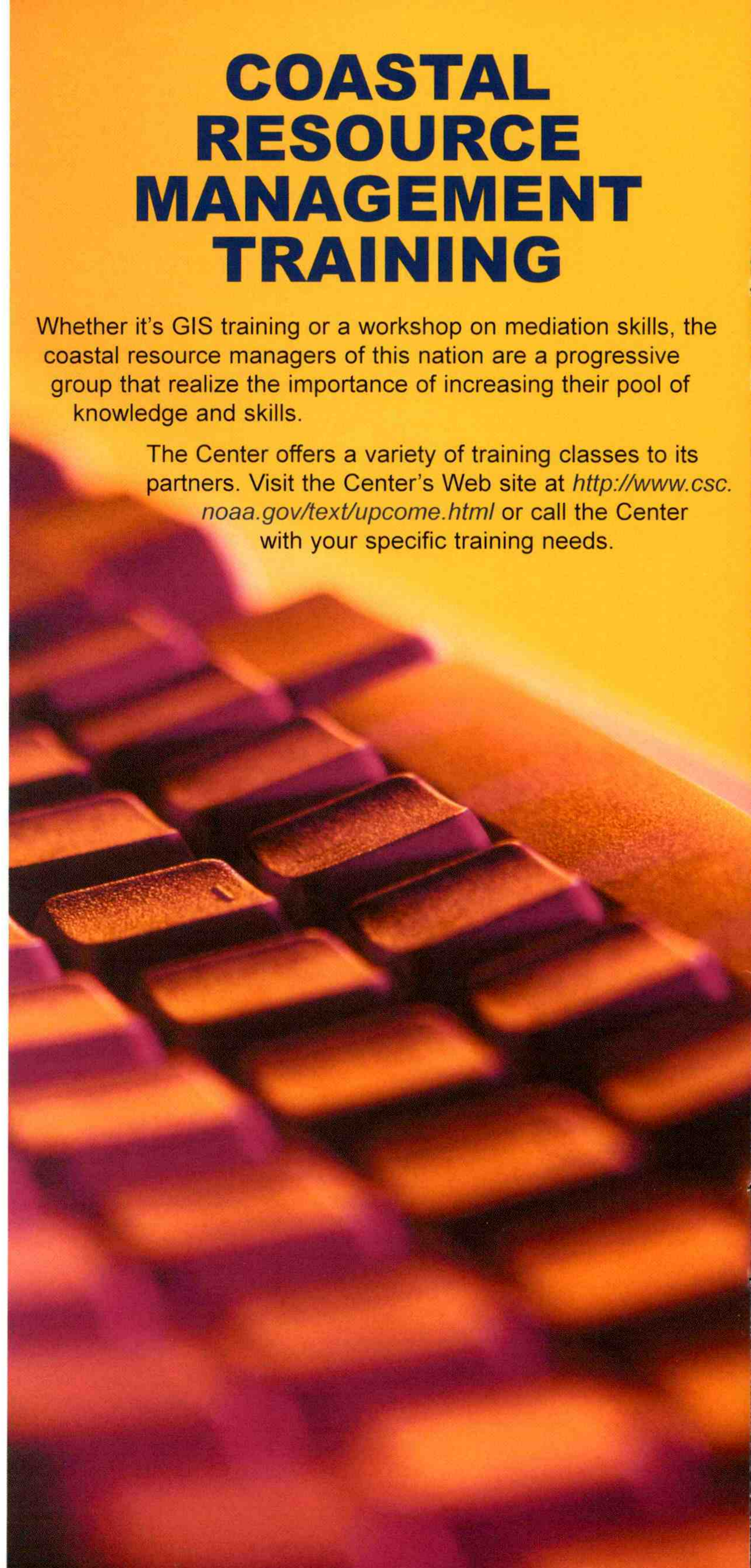
OREGON LAND COVER CHANGE

For this project, the Center, in cooperation with the Oregon Department of Fish and Wildlife, is assisting Northwest Habitat Institute staff in the image processing and field validation requirements for generating land cover and change maps for coastal areas of the State of Oregon. With the resulting land cover and change maps and related spatial information, local and state natural resource managers can improve their understanding of the impacts of human-induced change and facilitate informed coastal planning and decision making.

COASTAL RESOURCE MANAGEMENT TRAINING

Whether it's GIS training or a workshop on mediation skills, the coastal resource managers of this nation are a progressive group that realize the importance of increasing their pool of knowledge and skills.

The Center offers a variety of training classes to its partners. Visit the Center's Web site at <http://www.csc.noaa.gov/text/upcome.html> or call the Center with your specific training needs.



RHODE ISLAND

UNIVERSITY OF RHODE ISLAND GRANT MANAGEMENT

University of Rhode Island (URI) was recently awarded a grant to develop a coastal data and information resource. Deliverables include a search and delivery system for coastal data and electronic access to Sea Grant depository documents. The Center was named the grant manager for this project.

RHODE ISLAND HAZARDS TRAINING

This effort identifies and addresses hazard mitigation training needs. The resulting training efforts are pilot projects that can serve as models and visible examples of community-based hazard mitigation planning for others in the region dealing with similar hazards.

SOUTH CAROLINA

CHARACTERIZATION OF THE ASHEPOO-COMBAHEE-EDISTO (ACE) BASIN, SOUTH CAROLINA

To assist the state and local governments that manage environmental resources within the ACE Basin, this project will produce a flexible, user-friendly source of information, data, and management tools. The final product will be a CD-ROM that integrates diverse information about the area's physical characteristics, ecology, history, socioeconomics, and management.

COASTAL LAND-USE TECHNIQUES TRAINING PROGRAM BERKELEY-CHARLESTON-DORCHESTER COUNCIL OF GOVERNMENTS

Population increases and subsequent development of the coast in this area of South Carolina have highlighted critical coastal issues such as growth management, control of impervious surfaces, siting and maintenance of septic systems, and adequate access to and distribution of recreational activities. With over 200 square miles of coastline and inland waterways, these three counties recognize these and other relevant issues as crucial for local policy makers to both understand and account for in their land-use decisions.

Funding from this project is being utilized to develop and implement a training program for local policy makers in coastal issues, tools, and techniques

available to address these issues, and the legal aspects of using local government power. Additionally, the program intends to spawn a continuing educational program for policy makers and spur regional discussion on significant coastal issues and potential solutions. This project is funded with a special project grant from the Center; special project grants are advertised via the *Federal Register* and the Center's Web site.

COASTAL MANAGEMENT FELLOWSHIP

The Center placed a fellow with the South Carolina Office of Ocean and Coastal Resource Management to work on a project entitled "Establishment of the SCDHEC-OCRM Information Management System: Interfacing Information and Local Governments." Project goals are to assess the technical capabilities and information needs of local governments within the coastal zone and establish an information distribution mechanism to serve effectively the needs of local governments by providing recommendations and findings from agency-generated research. Additional goals are to establish a planning information management system to aid staff in understanding and using information about new and innovative coastal research; and to develop a procedure and mechanism for integrating information into the agency's policy development and permit review processes.



DIGITAL SHORELINE OF SOUTH CAROLINA

This CD-ROM is part of a national effort to bring shoreline location information into a digital format. The high-resolution shoreline data found on this CD is suitable for use in a GIS. A digitized shoreline, both past and current, provides the base of many of the GIS efforts of coastal resource managers.

OCEAN PLANNING INFORMATION SYSTEM

This prototype ocean-information system covers the coastal and ocean areas off North Carolina, South Carolina, Georgia, and Florida. This is the first attempt in the U.S. to create a regional information system that integrates pertinent legal information with natural resource data to support ocean governance and planning.

VIRGINIA

VIRGINIA LAND COVER CHANGE

For this project, the Center is providing technical assistance to the Virginia Institute of Marine Science, which has obtained funds from other NOAA sources to

update a previous C-CAP land cover change detection effort for the York River area of the Chesapeake Bay. This prototype study will create a third-date land cover change/trend data set for one of four Chesapeake Bay Landsat scene areas.

VIRGIN ISLANDS

VIRGIN ISLANDS CORAL REEF

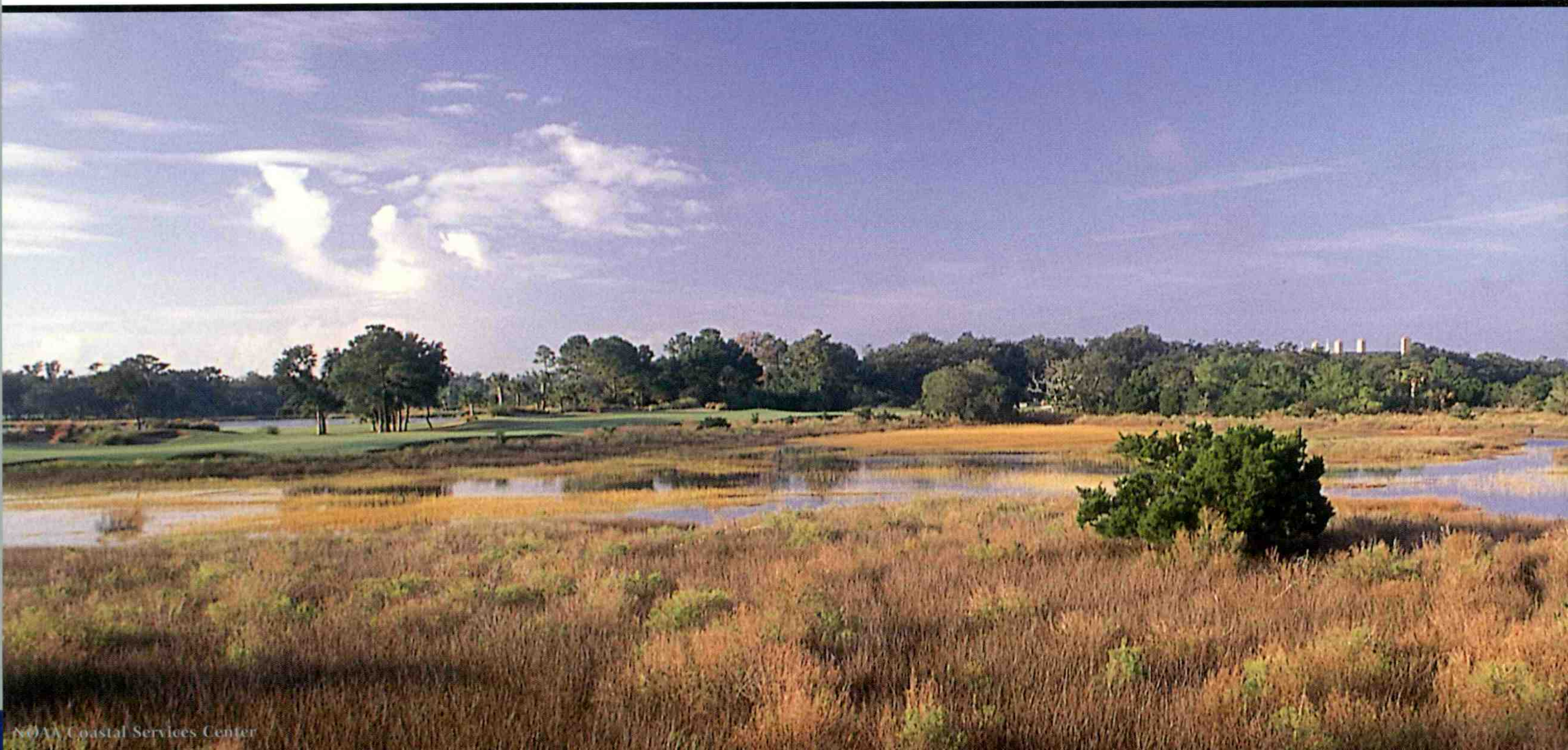
METHODS DEVELOPMENT

The Center is working with the NOAA NOS/NCCOS Center for Coastal Monitoring and Assessment to test new methods of mapping tropical coral reefs. The outcomes are expected to be methodologies, classifications, and protocols for application to Pacific mapping efforts. This testing will include digital processing of aerial photography and comparisons made to hyperspectral scanner data.

WASHINGTON

COASTAL HAZARDS GIS - TSUNAMI

Efforts from this project will increase the resilience of West Coast ports, harbors, and coastal communities



in the face of earthquakes and tsunami hazards. This will be accomplished by developing, testing, and evaluating a planning model using collaborative efforts with private sector interests, government agencies, and educational institutions and a GIS-based information product to assess earthquake-tsunami vulnerability.

COASTAL MANAGEMENT FELLOWSHIP

The Center placed a fellow with the Washington Department of Ecology to work on a project entitled "Washington State Coastal Atlas: A Digital Tool for Improved Shoreline Management." The primary goal of the project is to assure that decision makers and the general public have convenient access to high quality coastal information through the development of a coastal atlas. The fellow will evaluate potential models for a statewide coastal information system, assess the data needs of the coastal community, and assist in designing a coastal atlas. The atlas will effectively use GIS and Internet technologies and will be able to accommodate new or updated shoreline data easily.

Coastal GeoTools

January 8-11, 2001
Charleston, South Carolina

A conference for coastal resource managers who want to make better use of geospatial data, tools, and technology, including:

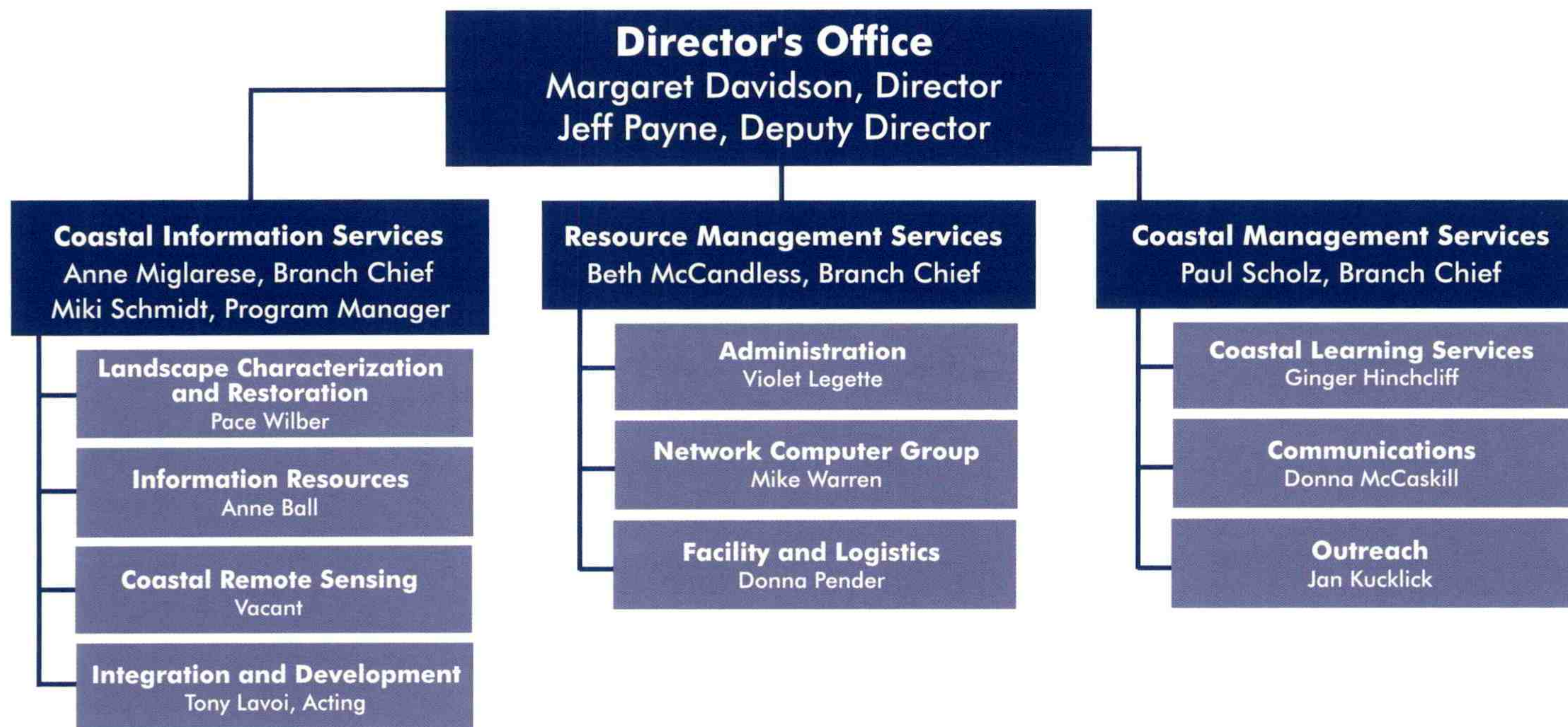
- **geographic information systems (GIS)**
- **the Internet**
- **remote sensing**
- **metadata**
- **Global Positioning System (GPS)**

To register for the conference or receive additional information, visit our Web site at

<http://www.csc.noaa.gov/GeoTools/>



NOAA COASTAL SERVICES CENTER



PROGRAM AREAS

Information Resources

This program area provides access to data, products, and information for coastal resource managers and the public. This effort includes the Center's library and the Coastal Information Directory, which is an Internet-based information search program.

Coastal Learning Services

Specialized training workshops, professional conferences, and meeting support services for the Center and the coastal resource management community originate from the Coastal Learning Services department.

Landscape Characterization and Restoration

This program identifies key management issues for watersheds and examines how interrelationships among ecological, land use, demographic, and socioeconomic trends affect those issues.

Outreach

This program works to facilitate communication among coastal resource management programs and between the Center and coastal managers. This is accomplished through partnership building and through the identification or development of coastal management tools and techniques.

Integration and Development

Integration and Development (I&D) is home to a variety of Center efforts, most of which involve helping customers obtain, organize, and use spatial data and technologies to solve specific coastal resource management issues. Hazard vulnerability assessment tools, GIS-related projects and training, and coastal and marine data development are examples of I&D projects.

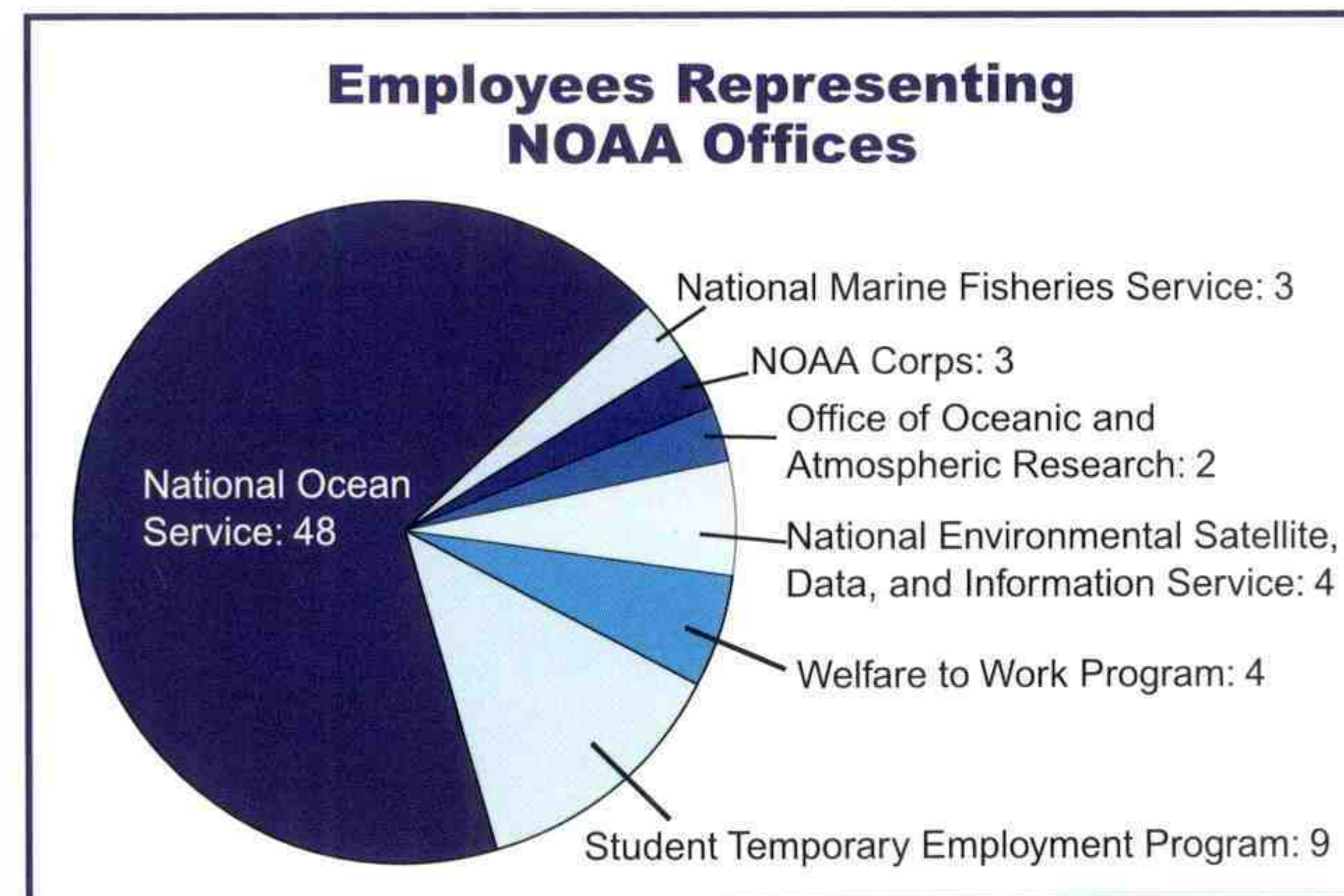
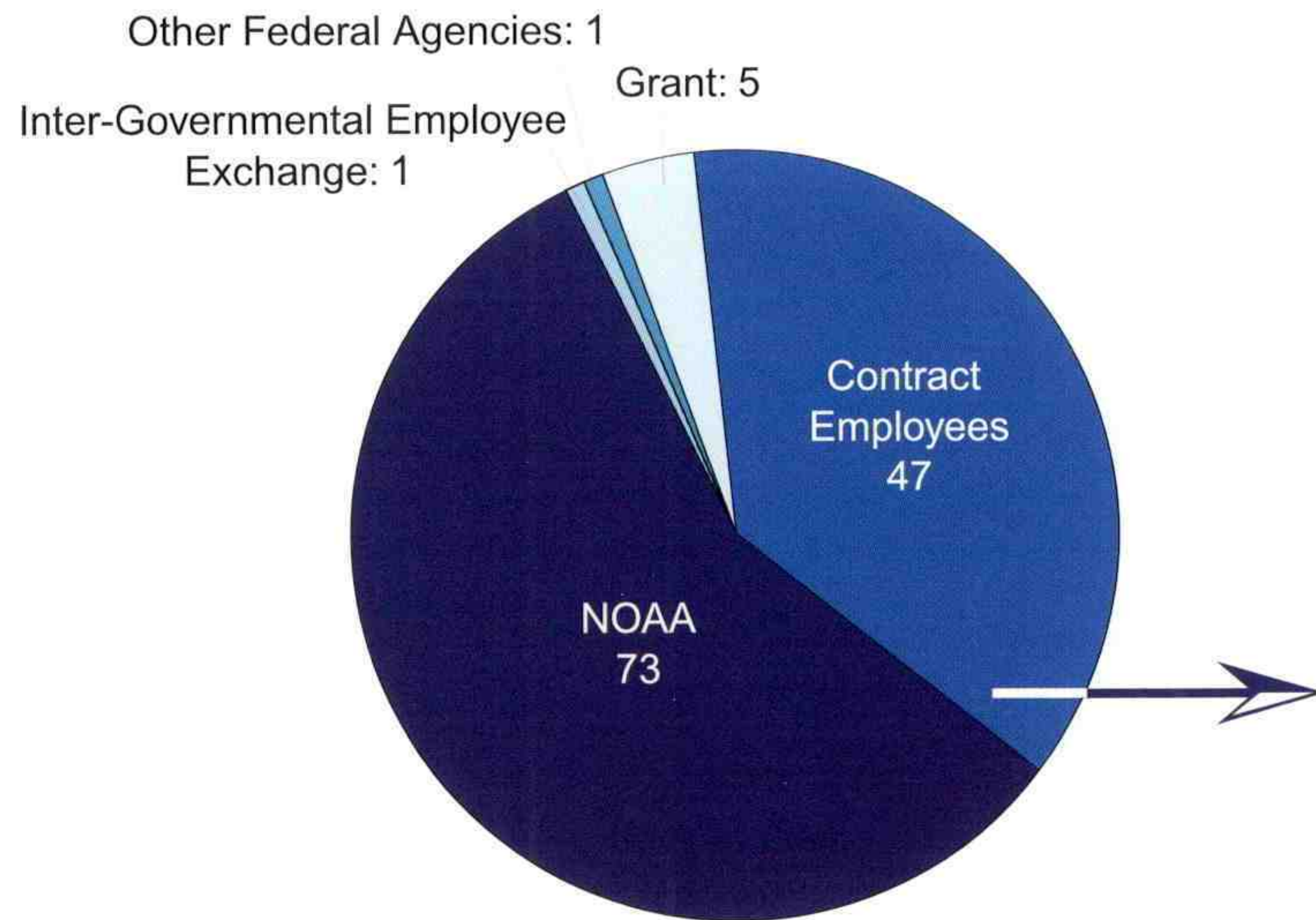
Coastal Remote Sensing

The Coastal Remote Sensing program provides coastal resource managers with practical data products based on cutting-edge technology and developments in remote sensing. The focus is on coastal submerged habitats (aquatic vegetation), wetland habitats, land cover change, oceans, and beaches.

Coastal Technology

This activity works to bring new technology out of the laboratory and into the hands of the coastal resource manager. Support is provided to help scientists demonstrate their innovation, test its performance, verify its usefulness, and evaluate its applicability and potential for commercial success.

EMPLOYEE PROFILE

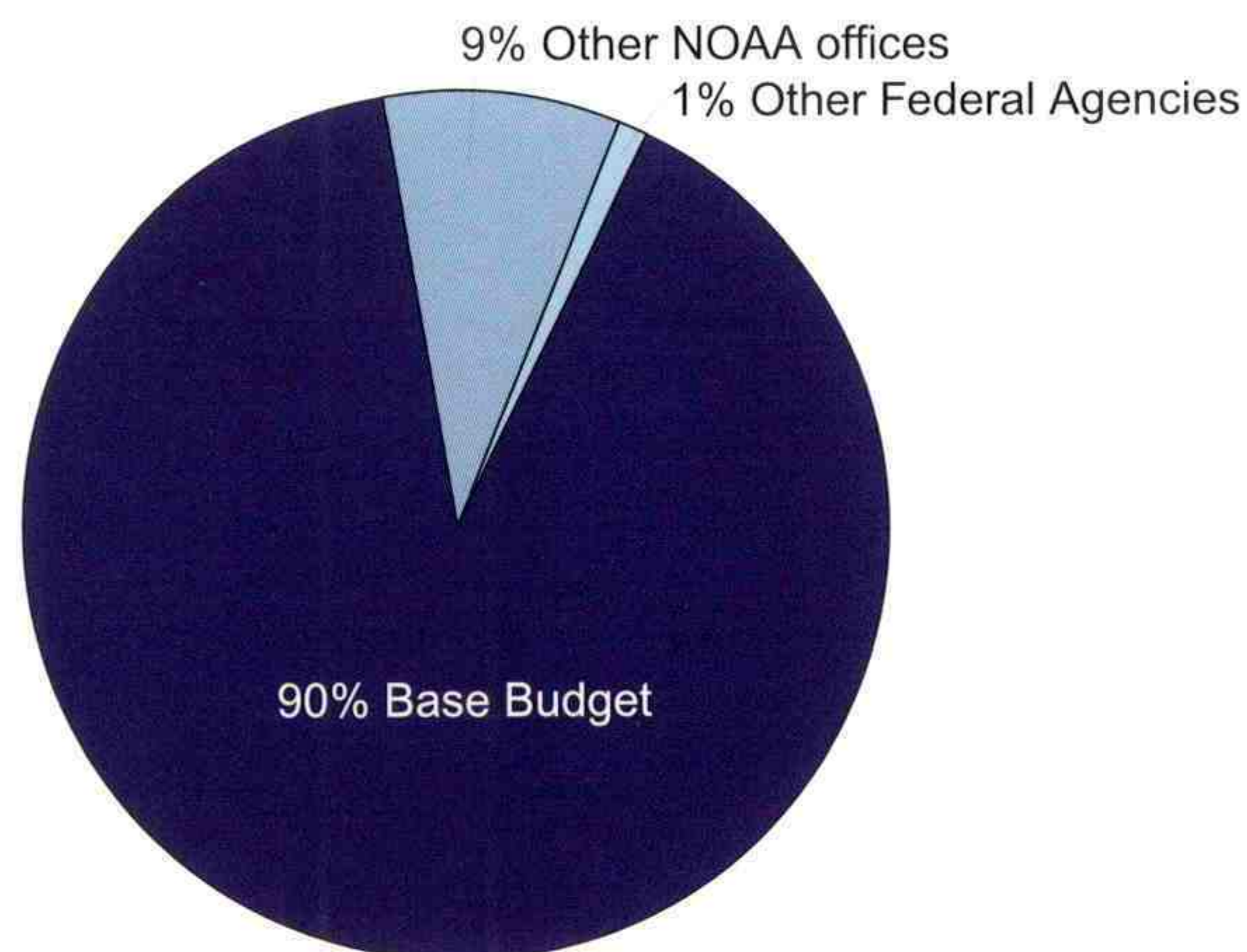


The NOAA Coastal Services Center is staffed with the coastal resource management community in mind. Experts in diverse fields such as hazards, data management, GIS, remote sensing, and training work at the Center.

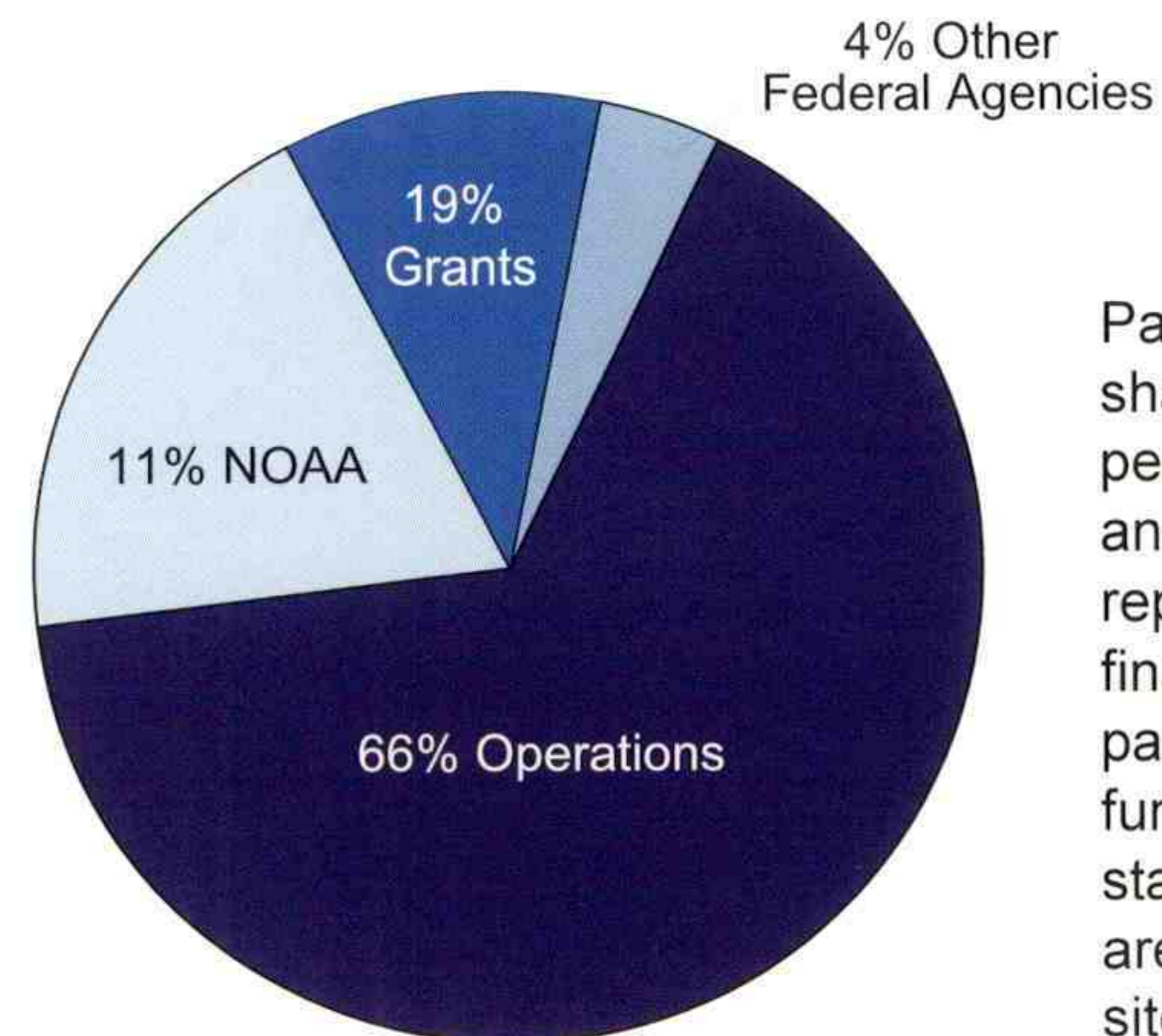
To obtain the institutional knowledge needed to tap into NOAA's considerable intellectual resources and products, many Center employees are co-supervised by someone from another office within NOAA.

FINANCIAL OVERVIEW

Funding Sources



Expenditures



Partnerships involve the sharing of expertise, personnel, knowledge, and funds. These charts represent the Center's financial commitment to partnering. With this funding strategy, federal, state, and local resources are combined to resolve site-specific issues.

Direct Center Appropriations for Fiscal Year 2000: \$14,855,000

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