

NOAA COASTAL SERVICES CENTER

Strategic Plan: 2010 to 2015

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
COASTAL SERVICES CENTER

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NOAA Coastal Services Center

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, created in 1994, provides state and local coastal resource management organizations with the up-to-date technology, information, and management strategies they require. To better serve its customers, the Center has offices and staff members throughout the coastal zone.

This strategic plan is a guidance document used to direct the work of the Center as the organization strives to meet constituent needs and fulfill NOAA goals. The first part of this document provides an organizational overview, while the second portion describes the content focus of the organization through 2015.

NOAA is part of the U.S. Department of Commerce, and the Center is housed within NOAA's National Ocean Service.

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NOAA Coastal Services Center

LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

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NOAA Coastal Services Center

Strategic Plan: 2010 to 2015

This document will serve as the guidepost for the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center's operations for fiscal years 2010 through 2015. In the Center's quest to address the nation's most pressing coastal management needs, the organization remains committed to serving the coastal management community and leading federal agencies to ensure the quality, innovation, and partnerships that will make a difference in the coastal management field. Each year the annual operating plan and the Center's standard planning process will provide the details needed to implement this strategic plan.

Organizational Overview

Mission and Vision

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

The Department of Commerce's National Oceanic and Atmospheric Administration works to conserve and manage our nation's coastal and marine resources. At the heart of this issue is the need to balance the competing demands for these resources while protecting the economic, social, and environmental benefits derived from our coasts.

Vision: Coastal communities becoming more resilient through informed decision-making.

Through collaborative efforts and the partnerships that the Center cultivates, managers of the nation's local and regional coastal ecosystems are enabled and empowered with the knowledge, tools, and skills needed to make informed and balanced planning and conservation choices, and decisions to enhance resilience and adapt to changing climate.

Operating Principles and Core Values

The Center's operating principles and core values are guiding forces in the organization, both as a philosophy and as a business practice. The goal is to "do government business better," which is accomplished by

- Focusing on customers, quality, and results
- Acting as a catalyst for innovation and change
- Building effective partnerships across NOAA and beyond government
- Being national in scope but local in approach

Drivers and Alignment of Strategies

The Center's strategies, as described in this document, align with and support Department of Commerce, NOAA, and National Ocean Service (NOS) missions and visions. Priorities are driven and focused by the needs of coastal managers, represent societal goals for sustainable coastal communities and economies, and reflect an informed society anticipating and responding to a changing climate and its impacts.

The Center is housed within NOS but relies strongly on the synergy created by working across NOAA goals, line offices, and programs to produce and deliver products and services designed for the coastal management community.

The coast and its residents are at the epicenter of the impacts of changes in weather, climate, ocean, demographics, and economies. This plan addresses two key strategic issues facing coastal managers: (1) adapting to the impacts of coastal hazards and climate change and (2) balancing the competing uses of critical coastal resources. The need to build the capacity of regional, state, and local coastal managers to address these issues is urgent and well documented:

- A 2009 U.S. Government Accountability Office study, *Climate Change Adaptation* (GAO-10-113), found that federal, state, and local officials are hampered in their ability to manage the effects of climate change because of a lack of site-specific data, a lack of a clear understanding of the roles and responsibilities of the various federal, state, and local players, and because of competing priorities where other issues require more immediate attention.
- The Interagency Ocean Policy Task Force states in its interim report that a priority goal is to “strengthen resiliency of coastal communities and marine and Great Lakes environments and their abilities to adapt to climate change impacts and ocean acidification.”
- Several regional ocean governance groups’ action and work plans specifically address hazard resilience and climate change adaptation.
- The 2008 *West Coast Governors’ Agreement on Ocean Health Action Plan* has as one of its priorities to “foster sustainable economic development in coastal communities.”
- The National Association of Counties (NACo) has land use as part of its 2009-2010 American County Platform and Resolutions. NACo recognizes that comprehensive land use planning and growth management are central to social and economic stability.
- Coastal and Marine Spatial Planning (CMSP) is one of the nine priority objectives in the 2009 *Interim Report of the Interagency Ocean Policy Task Force*.
- In March 2009, Congress passed the Ocean and Coastal Mapping Integration Act to codify the recommendations of the National Research Council report and to establish an Interagency Committee on Ocean and Coastal Mapping, which will support the CMSP effort.

Primary Customers and Key Partnerships

Customers

State and local decision makers are at the forefront of efforts to preserve coastal resources, promote responsible development, and build community resilience. Primary customers for Center products and services include the following.

- Coastal planners
- Natural resource agencies
- Regulatory agencies
- Emergency management officials
- Floodplain managers
- Conservation organizations
- Member organizations (such as the Coastal States Organization and the National Association of Counties)
- Regional ocean governance organizations

Partnerships

“The sum is greater than its parts.” This axiom represents the philosophy behind the Center’s partnership efforts. Bringing together different groups to work toward a common cause is an approach that flows through Center projects. Partners often provide the additional expertise, data, funding, or credibility needed to make a good effort stellar. Partners come from many sectors, including local, state, and federal agencies; nonprofits; private companies; consortia; and the academic community. Key partnerships include the following:

- **Regional Ocean Governance Initiatives:** Regional ocean governance, merely a concept in the recent past, now represents a critical mechanism for directly engaging with federal, state, and other partners on a regional scale to identify and address priority coastal resource management issues. The Center is actively engaged in these initiatives, coordinating with states, NOAA and other federal agencies, and local governments.
- **Digital Coast Partnership:** The Digital Coast is an enabling delivery mechanism for an integrated suite of data, tools, training, and information for coastal managers. The Digital Coast Partnership currently includes the Association of State Floodplain Managers, Coastal States Organization, National Association of Counties, National States Geographic Information Council, and The Nature Conservancy. These partners provide input to identify and refine Digital Coast products and provide the real-world uses of geospatial data and tools.
- **NOAA Offices:** The Center works with programs within NOAA that share the constituent base to ensure effective product and service design and delivery, avoid duplication of effort, and add value. In addition, the Center works with other programs to inform and guide internal NOAA policy and strategic direction on priority issues (e.g., coastal management, resilience, inundation, coastal and marine spatial planning, mapping, and climate).

- Other Federal Agencies: At both national and regional scales, it is necessary and desirable to work with sister federal agencies with common priorities and complementary missions and capabilities (e.g., mapping, coastal and marine spatial planning, and climate). As with the internal NOAA coordination, this ensures effective products and services, leverages assets, and avoids duplicated effort.
- Private Sector: The private sector is a valued partner, one that is involved in nearly every aspect of the organization. Nearly half the Center's workforce is provided by private-sector companies, and the Center often works with the private sector to gain access to additional data, training, social science, tool development, and other resources.

Expertise and Products

The Center's strategic focus is advanced by maintaining expertise and being innovative in the following areas:

- Geospatial technologies (geographic information systems and remote sensing)
- Training
- Social science
- Collaborative processes
- Communication

Base expertise is housed within the Center's organizational structure; however, when necessary, the Center obtains additional contractual expertise. Growth areas for the period covered in this report include the following:

- Finding new ways to deliver training
- Making data easier to understand and visualize
- Delivering partner products via Center product delivery mechanisms such as the Digital Coast
- Improving data acquisition and delivery
- Finding ways to help constituents address risk communication needs

Center support to coastal management organizations usually comes in the form of one or more of the following:

- Partnership Building: Collaboration and partnership building is a proven method to enhance effectiveness and accomplish goals.
- Data: The Center works with its constituents to determine priority data requirements, seeks partnerships to leverage resources and expertise for data acquisition, and then makes the data easily accessible.
- Tools: While getting the right data is necessary, constituents often need tools to turn the data into information that can easily be used. The Center understands the intersection of data, coastal management issues, and technology. Putting these three

bases of knowledge together results in a suite of helpful tools that are accessible on the Digital Coast.

- **Training:** the Center’s training curriculum is focused on keeping coastal managers and decision-makers at the top of their games. The curriculum addresses technology, process skills, and coastal issues.
- **Technical Assistance:** Organizations can’t house all the expertise needed for every task. The Center offers a suite of technical assistance designed to meet every level of need.
- **Publications and How-to Guides:** The Center provides publications and websites that relay information about viable options and approaches for a variety of coastal management issues.

Innovation

Changing climate. Changing customer needs. Changing technology.

To effectively address challenges, the NOAA Coastal Services Center shuns the “business as usual” approach to problem solving. “Innovative” would be the better term to use. Since its inception, the Center has questioned the status quo when it comes to achieving organizational goals, from finding the technology best suited for customer needs to providing better customer service by putting more staff members in the field.

The Center’s focus on customer needs requires an innovative environment, since the organization must be able to quickly retool and move forward to stay ahead of changing requirements and conditions. This approach, along with the items listed below, represents much of what it takes to make the Center a leader in coastal resource management.

- **Regional Approach:** Staying close to the customer and being able to deliver all that NOAA has to offer is an important part of the regional approach to delivering products and services from the NOAA Coastal Services Center. This is an important area for the organization, since it is vital to find new ways to better understand the customer and effectively deliver needed products and services.
- **Technology:** Understanding where technology is going and how technology can best be used to further coastal resource management is a critical role of the Center. The Center works closely with several technology firms not only to gain a better understanding of current technology and future advances, but also to represent audience needs in the private-sector data and technology development process.
- **Social Science:** Coastal managers have always appreciated the “people side” of coastal resource management, but it is only recently that social science has emerged as an accepted approach. The Center is focused on new ways to apply this science to constituent issues, including decision-support tools that integrate socioeconomic data, social science training, and the convening of diverse stakeholder groups to develop new coordinated solutions to emerging coastal management issues.

- **New Partners:** Bringing new and often unexpected partners together to address coastal issues brings about new approaches to old problems, as well as powerful results. In addition to the core constituents, the Center will also reach out to new federal agencies and continue efforts to work with the Chamber of Commerce, nonprofits, public works organizations, foundations, and other organizations from which collaboration would be beneficial from a coastal management standpoint.
- **Training:** The Center will explore new and effective ways to bring more training opportunities to a larger audience. The Center will form a coastal training consortium that will bring together coastal trainers from government and nongovernment organizations to share training resources, methods, and new approaches for delivering training; collaborate on the development of new trainings; and co-teach courses.
- **Professional Development:** Keeping staff members abreast of developments in their fields of expertise is important, which is why the organization stresses many means of professional development. These include conference attendance, certifications, training, self-directed reading, and online courses.

Evaluation and Feedback

Soliciting and incorporating feedback for continuous improvement is what makes a good organization great. The Center is committed to engaging in regular dialogue and trusted relationships to assess not only products and services, but also the operation as a whole. Surveys, evaluations, literature reviews, interviews, Web statistics, performance measures, and one-on-one customer feedback are the means used to assess customer needs and how well Center efforts address those needs.

The Center's annual operating plan establishes milestones that support corporate measures within the goal and program structure of NOAA, including Government Performance Results Act (GPRA) measures.

Content Focus Areas

Adapting to the Impacts of Coastal Hazards and Climate Change

The Challenge

In the wake of the devastating 2004 and 2005 hurricane seasons and stark predictions of climate change and sea level rise, impacted individuals and families, businesses, and public agencies are thinking even more about how communities can better withstand and recover from episodic disasters and chronic change. With increasing development and population growth in the face of climate change predictions, coastal regions are particularly at risk. The

Center is committed to improving the resilience of coastal communities by helping managers and decision makers better understand their risks and choices for how to adapt to the impacts of hazards and a changing climate.

Desired Outcomes

Through the work of the Center and its partners, communities will accomplish the following:

- Understand the impacts of coastal hazards and climate variability and change.
- Take the steps necessary to build their capacity to plan for, respond to, and adapt to the impacts of climate change.
- Improve community resilience to coastal hazards.

Center Response

The Center helps coastal constituents understand their exposure to current coastal threats, such as sea level rise, storm surge, tsunamis, inland flooding, and increased frequency and severity of storms, and take steps to improve the resilience of their communities, by focusing on these areas:

- Geospatial, including social science, data, and tools
- Mapping and data visualization
- Training
- Strategies for assessing and communicating risk and uncertainty
- Stakeholder engagement
- Peer-to-peer information exchange

Center Strategy

Specifically the Center's work focuses on three areas:

- Helping its customers better understand, communicate, and plan for impacts of **coastal inundation**.
- Helping its customers pursue **risk-wise strategies** that are based on sound risk and vulnerability assessment methods, and risk behavior and communication principles.
- Helping its customers **protect ecosystem services through conservation** strategies to improve climate adaptation and hazard resilience.

Coastal Inundation

Natural disasters such as tsunamis, hurricanes, and intense coastal storms, as well as sea level rise associated with climate change, can bring on devastating consequences for communities and ecosystems affected by coastal inundation, a condition in which normally dry land is flooded by water.

Strategic Focus of Products and Services

Over the next five years, the Center will focus its products and services in the following areas:

- **Information and method tools for risk and vulnerability assessments**, including the underlying base data to help communities determine where they are most vulnerable to coastal flooding and what steps they can take to reduce this risk. This would include standard procedures for mapping inundation and utilizing land use planning methods and resources to help local communities understand their socioeconomic vulnerabilities to inundation hazards, including sea level rise.
- **Data development and visualization tools** using high-resolution topographic and bathymetric data with accurate delineations of inundation zones, coupled with demographic, infrastructure, and ecological data. This will allow local decision makers to accurately determine the potential socioeconomic and environmental impacts of predicted sea level rise, storm surge, and other hazards.
- **Training and technical assistance** for emergency managers and land planners to understand the exposure and vulnerability of their communities to inundation. This would include working with water levels, elevation data, and flood models to map inundation scenarios, as well as the ecological, infrastructure, and socioeconomic data that are needed to understand vulnerability to the impacts.
- **Interagency leadership** to coordinate and support federal, regional-ocean-governance, and state efforts to inform risk management and response planning and promote hazard resilience.

Risk-Wise Strategies

After the 2005 hurricane season, many state and local officials realized that just telling people about risk was not working. Even after Hurricane Ike in 2008, people still did not evacuate even with the dire warning of “certain death” if you did not leave. People still rebuild in the same area previously wiped out by the natural disaster. With sea level rise and the increasing frequency and severity of storms, there is more need than ever to determine the best way to communicate about hazards risks to help people understand risk and take action to avoid or mitigate impacts. There is a need to better understand attitudes, perceptions, and beliefs behind people’s risk and resilience behaviors, and to improve the effectiveness of risk communication efforts, including identifying and assessing risk. Risk communication is defined as the exchange or sharing of information about risk between decision makers and other stakeholders.

Strategic Focus of Products and Services

Over the next five years, the Center will focus its products and services in the following areas:

- **Content and stakeholder analysis** to understand the attitudes, perceptions, beliefs, and behaviors of individuals, communities, or stakeholder groups related to hazard resilience and climate adaptation. This will inform community-based social marketing approaches to risk communication. The analysis also includes supporting and synthesizing scientific resources on understanding and communicating risks.

- **Build the capacity of and provide technical assistance to state and local partners**, including convening to understand the risk behavior associated with their communities' hazards vulnerabilities.

Protect Ecosystem Services through Conservation

Protecting and conserving coastal and marine resources is particularly critical in the face of climate change. Strategic conservation planning is needed in the coastal zone to create a protective green infrastructure network formed of interconnected coastal and marine lands that conserve natural habitats and their associated ecosystem values and functions.

Protected and ecologically functional natural habitats not only conserve biodiversity, they also help to make whole ecosystems more resistant and resilient to climate change impacts and preserve the ecosystem services counted on by human populations. A resilient green infrastructure network on the coast can provide natural shoreline protection from storms and flooding and a strong ecological foundation that coastal communities will continue to rely on to cope with impending climate impacts to built infrastructure, water supplies, fisheries, carbon sequestration, and agricultural productivity.

The Center supports conservation of green infrastructure through strategic conservation planning that is systematic, multidisciplinary, and broad scale. It is a highly collaborative and leveraged approach undertaken with coastal managers in public, private, or nonprofit settings who are working to protect the nation's coastal green infrastructure and essential ecosystem services—and who are doing so increasingly in response to climate change.

Strategic Focus of Products and Services

Over the next five years, the Center will focus its products and services in the following areas:

- **Assessment and decision–support tools** delivered to conservation partners to support conservation priorities that sustain ecosystem services specifically in response to climate change.
- **Convening and coordinating federal and state partners** to leverage efforts and incorporate climate adaptation into coastal conservation strategies of networks and alliances.
- **Technical assistance** in applying spatial data, tools, and techniques for conservation priority setting and incorporating conservation approaches refined for climate adaptation purposes into broader regional land use and climate adaptation planning.
- **Training** on climate adaptation assessments and conservation strategies, and process and engagement techniques, and supporting geospatial tools development and application through a consortium of networked trainers.

Competing Uses of Coastal Resources

The Challenge

The demands on our ocean and coastal ecosystems continue to expand with population growth in coastal areas, resulting in increased competition for resources for public access and recreational use, private development, commercial activities, and other economic and social uses. As this occurs, it is important to balance increasing development pressures with ecosystem health and conservation, while meeting social and economic objectives. Managers at all levels are actively working to allocate space on land and in the ocean to balance the environmental, economic, and social needs of communities.

Desired Outcomes

Through the work of the Center and its partners, communities will accomplish the following:

- Make land and ocean use decisions that consider short- and long-term implications for healthy coastal and ocean environments, through an enhanced understanding of ecosystem-based management and effective planning strategies.
- Make land and ocean use decisions that consider environmental, economic, and social objectives proactively by engaging multiple sectors to approach coastal and ocean compatibilities before conflicts occur.

Center Response

The Center helps coastal constituents achieve the proper balance of needs by providing the following:

- Geospatial, including social science, data access and coordinated mapping efforts
- Innovative decision-support and visualization tools
- Technical and process training and technical assistance in effective planning
- Stakeholder engagement in planning efforts
- Socioeconomic monitoring

Center Strategy

To achieve the intended outcomes, the Center will emphasize work in two areas: **land use planning**, including the incorporation of smart growth strategies, and **coastal and marine spatial planning**.

Land Use Planning

Land use planning is a discipline focused on ensuring that land is used efficiently for the benefit of the wider economy and population, as well as to protect the environment. It is usually done by zoning, the division of areas into zones that are regulated specifically for a particular use. Smart growth is a land use planning strategy that revitalizes neighborhoods, protects farmland and open space, keeps housing affordable, and provides more transportation choices. It is development that considers the economy, community, and environment under changing conditions.

Strategic Focus of Products and Services

Over the next five years, the Center will focus its products and services in the following areas:

- **Data management, integration, investment in new data sets, and visualization and geospatial tools** integrating physical, ecological, and socioeconomic data to enhance effective coastal land use planning and decision-making.
- **Training and technical assistance** to incorporate coastal land use and smart growth strategies and innovative planning methods into state and local planning efforts coordinated through a consortium of networked trainers.

Coastal and Marine Spatial Planning

As defined by the Interagency Ocean Policy Task Force, coastal and marine spatial planning (CMSP) is a “comprehensive, adaptive, integrated, ecosystem-based, and transparent geospatial planning process, based on sound science, for analyzing current and anticipated uses of ocean, coastal, and Great Lakes areas.” It is a process that identifies areas most suitable for various activities to reduce conflicts and environmental impacts, and preserve ecosystem services.

Strategic Focus of Products and Services

Over the next five years, the Center will focus its products and services in the following areas:

- **Needs assessment** and translation of needs into relevant products and services to support CMSP efforts.
- **Visualization and analytical tools** mapping physical, ecological, and socioeconomic variables to support more effective decision-making.
- **Integrated data management systems and federal interagency coordination** to ensure consistent data quality, availability, interoperability, and access to the physical, ecological, and social data in support of regional ocean governance priorities reflecting integrated ocean and coastal mapping plans.
- **Training** to build knowledge and skills in CMSP processes and methodologies coordinated through a consortium of networked trainers.
- **Supporting regional ocean governance** CMSP efforts through identifying and convening individuals and providing forums for discussion and education.