NOAA'S NEXT GENERATION STRATEGIC PLAN

Executive Summary

DECEMBER 2010

National Oceanic and Atmospheric Administration
Next Generation Strategic Plan: Executive Summary

Published by
National Oceanic and Atmospheric Administration
Office of Program Planning and Integration
1305 East West Highway
Silver Spring, MD 20910

Date of publication: December 2010

This document is a condensed version of NOAA's Next Generation Strategic Plan.
Find the full Plan online at: www.noaa.gov/ngsp

Letter from the NOAA Administrator

NOAA's mission is central to many of today's greatest challenges. The state of the economy. Jobs. Climate change. Severe weather. Ocean acidification. Natural and human-induced disasters. Declining biodiversity. Threatened or degraded oceans and coasts. These challenges convey a common message: Human health, prosperity, and well-being depend upon the health and resilience of both managed and unmanaged ecosystems. Combined with the capabilities of our many partners in Government, universities, and the private and nonprofit sectors, NOAA's science, service, and stewardship capabilities can help transition to a future where societies and the world's ecosystems reinforce each other and are mutually resilient in the face of sudden and prolonged change.

We clearly have a long way to go in order to realize this vision. We know much about the steep rise of global greenhouse gases and their current and potential impacts on the environment and on society. But our level of uncertainty about many of these impacts is far too high, particularly at regional to local scales. Our society's ability to mitigate and adapt to a changing climate will require far greater knowledge of climate trends and their impacts than we can deliver currently. At the same level, our ability to sustainably use and protect ocean and coastal resources will drive, in substantial measure, the prosperity, health, and safety of future generations—as will our ability to forecast and predict a wide range of environmental events, from hurricanes and tornados, to regional water supplies and pollutants along our coasts.

All of these challenges entail problems at the intersection of society, economy, and the environment—where NOAA's mission has its greatest impact. My optimism about the future is rooted in NOAA's long-standing record of science, service, and stewardship. We must address challenges and opportunities proactively and shape a better future for generations to come. This is the purpose of NOAA's Next Generation Strategic Plan.

The Plan conveys NOAA's mission and vision of the future, the national and global issues NOAA must address, the specific outcomes NOAA aims to help society realize, and the actions that the Agency must undertake. It emerged from extensive consultations with NOAA employees and our stakeholders—the extended community of partners and collaborators in the public, private, and academic sectors who contribute to NOAA's mission. In stakeholder forums across the country; a national forum in Washington, DC; as well as in Web-based engagement and idea generation, we took a fresh look at the major trends facing the Nation to stimulate our best thinking on how NOAA might respond.

Informed by these consultations, the Plan represents our assessment of the highest priority opportunities for NOAA to contribute substantially to the advancement of society. The availability and quality of fresh water, the exposure of people and communities to high impact weather, stresses of urbanization of the coasts, the exploitation of ocean and coastal resources, and above all the pervasive effects of climate change on society and the environment—these are the central challenges we must face if we are to improve human welfare and sustain the ecosystems upon which we depend. These are the challenges that define NOAA's strategic goals. Through the concerted efforts of NOAA and many other organizations, we can navigate our way toward a future where people, communities, and ecosystems prosper and are resilient in the face of change.

Thank you for engaging in NOAA's strategy. Your continued interest and involvement in NOAA is vital to the work of the Agency and to the health of our society, economy, and environment.

Jane Lubchenco, Ph.D.
Undersecretary of Commerce for Oceans and Atmosphere

NOAA's Mission: Science, Service, and Stewardship

NOAA generates tremendous value for the Nation—and the world—by advancing our ability to understand and anticipate changes in the Earth's environment, improving society's ability to make scientifically informed decisions, and by conserving and managing ocean and coastal ecosystems and resources. NOAA's world-class research and information services continuously advance our scientific understanding of a changing climate and its impacts. NOAA monitors and models the environment to forecast daily weather; warn us of hurricanes, tornados, and tsunamis; and support private enterprise with the information necessary to sustain economic growth. NOAA manages the Nation's fisheries and supports the responsible management of coastal habitats and species. NOAA makes key contributions to our understanding of the processes by which ecosystems provide services crucial for human survival on Earth, and in helping to educate businesses and Federal, State, and local decision makers about how the health of human society and the health of the environment are interconnected. These functions require satellite systems, ships, buoys, aircraft, research facilities, high-performance computing, and information management and distribution systems. NOAA provides research-to-application capabilities that recognize and apply significant new understanding to questions, develop research products and methods, and apply emerging science and technology to user needs. NOAA invests in and depends heavily on the science, management, and engagement capabilities of its partners.

For definitions of key terms used in this document, please see the Glossary in the full Plan: www.noaa.gov/ngsp

NOAA's mission statement summarizes the Agency's fundamental responsibilities.

NOAA's Mission: *Science, Service, and Stewardship*
To understand and predict changes in climate, weather, oceans, and coasts,
To share that knowledge and information with others, and
To conserve and manage coastal and marine ecosystems and resources

Science at NOAA is the systematic study of the structure and behavior of the ocean, atmosphere, and related ecosystems; integration of research and analysis; observations and monitoring; and environmental modeling. Science provides the foundation and future promise of the service and stewardship elements of NOAA's mission.

Service is the communication of NOAA's research, data, information, and knowledge for use by the Nation's businesses, communities, and people's daily lives.

Stewardship is NOAA's direct use of its knowledge to protect people and the environment, as the Agency exercises its authority to regulate and sustain marine fisheries and their ecosystems, protect endangered marine and anadromous species, protect and restore habitats and ecosystems, conserve marine sanctuaries and other protected places, respond to environmental emergencies, and aid in disaster recovery.

NOAA's organizational enterprise—its people, infrastructure, research, and partnerships—are essential for NOAA to achieve its vision, mission, and long-term goals.

NOAA's Vision of the Future: Resilient Ecosystems, Communities, and Economies

Earth's ecosystems support people, communities, and economies. Our own human health, prosperity, and well-being depend upon the health and resilience of natural and social ecosystems. Managing this interdependence requires timely and usable scientific information to make decisions. Human well-being requires preparing for and responding to changes within these natural systems. NOAA's mission of science, service, and stewardship is directed to a vision of the future where societies and their ecosystems are healthy and resilient in the face of sudden or prolonged change.

NOAA's Vision of the Future: ***Resilient Ecosystems, Communities, and Economies***
Healthy ecosystems, communities, and economies that are resilient in the face of change

A vision of resilience will guide NOAA and its partners in a collective effort to reduce the vulnerability of communities and ecological systems in the short-term, while helping society avoid or adapt to potential long-term environmental, social, and economic changes. To achieve this vision we must understand current Earth system conditions, project future changes, and help people make informed decisions that reduce their vulnerability to environmental hazards and stresses that emerge over time, while at the same time increase their ability to cope with them.

Resilient human communities and economies maintain or improve their health and vitality over time by anticipating, absorbing, diffusing, and adapting to change. Resilient communities and institutions derive goods from ecosystems in a way that does not compromise ecosystem integrity, yet is economically feasible and socially just for future generations. To this end, NOAA will focus on four long-term goals that are central determinants of resilient ecosystems, communities, and economies—and that cannot be achieved without the Agency's distinctive mission and capabilities.

NOAA's Long-term Goals:

Climate Adaptation and Mitigation
An informed society anticipating and responding to climate and its impacts

Weather-Ready Nation
Society is prepared for and responds to weather-related events

Healthy Oceans
Marine fisheries, habitats, and biodiversity are sustained within healthy and productive ecosystems

Resilient Coastal Communities and Economies
Coastal and Great Lakes communities are environmentally and economically sustainable

The objectives identified in the Plan are the basis for NOAA's corporate planning, performance management, and stakeholder engagement over the next five years. Objectives are specific outcomes NOAA can achieve on the path to broader, long-term goals and toward a more capable, flexible enterprise. They are measureable and can be affected by specified activities over a five-year period. Evidence of Progress within each Objective form the basis of outcome-oriented performance measures. NOAA's Line Offices and Staff Offices will be accountable for executing the strategy laid out in this document through implementation plans at a tactical (rather than strategic) level of detail. Where there are shared capabilities to achieve an objective, there will also be joint accountability for budgeting, executing, and performing toward that objective.

Long-term goal: Climate Adaptation and Mitigation

An informed society anticipating and responding to climate and its impacts

Projected future climate-related changes include increased global temperatures, melting sea ice and glaciers, rising sea levels, increased frequency of extreme precipitation events, acidification of the oceans, modifications of growing seasons, changes in storm frequency and intensity, air quality, alterations in species' ranges and migration patterns, earlier snowmelt, increased drought, and altered river flow volumes. Impacts from these changes are regionally diverse, and affect numerous sectors related to water, energy, transportation, forestry, tourism, fisheries, agriculture, and human health.

These changes already have profound implications for society, underscoring the need for scientific information to aid decision makers develop and evaluate options that mitigate the human causes of climate change and adapt to foreseeable climate impacts. While the Nation has made significant progress in understanding climate change and variability, more work is needed to identify causes and effects of these changes, produce accurate predictions, identify risks and vulnerabilities, and inform decision making. No single organization can accomplish these tasks alone. NOAA will advance this long-term goal of climate adaptation and mitigation as it builds upon a strong scientific foundation and decades of engagement with interagency, academic, and private sector partners.

Climate Adaptation and Mitigation Partners include:

- Intergovernmental Panel on Climate Change
- Interagency Climate Change Adaptation Task Force
- U.S. Global Change Research Program
- U.S. Department of Defense
- U.S. Department of Homeland Security
- U.S. Department of Commerce Agencies
- Environmental Protection Agency
- U.S. Department of Energy
- U.S. Department of State
- U.S. Department of Agriculture
- U.S. Department of Transportation
- U.S. Department of the Interior
- U.S. Department of Health and Human Services
- National Aeronautics and Space Administration
- International, State, local and tribal governments
- Academia, non-governmental organizations, and the private sector

Objective: Improved scientific understanding of the changing climate system and its impacts

The need to advance understanding of the climate and its impacts, improve climate predictions and projections, and better inform adaptation and mitigation strategies is urgent. This requires sustaining and advancing climate observation systems and platforms that monitor the state of the climate system. To achieve this objective, NOAA will continue and increase its efforts to close gaps in understanding the climate system and the role of humans within the system. NOAA must integrate this knowledge into models to improve predictive capabilities, and increase the number and quality of climate predictions through high-performance computing and modeling advancements. Actively engaging the external research community through competitive research programs will be vital to ensure NOAA's successful realization of this objective.

Evidence of progress includes:

- More comprehensive knowledge of greenhouse gases and other climate forcing agents.
- Climate observing systems are sustained and the state of the climate system is routinely monitored.
- Improved basis for confidence in understanding key oceanic, atmospheric, hydrologic, biogeochemical, and socioeconomic components of the climate system and impacts.
- Advances in climate modeling leading to improved scientific understanding and a new generation of climate predictions and projections on global to regional scales and from monthly to centennial time scales.
- Increased confidence in assessing and anticipating climate impacts.
- Quantitative short- to long-term outlooks and projections of Arctic sea ice.

Objective: Assessments of current and future states of the climate system that identify potential impacts and inform science, service, and stewardship decisions

Stakeholders and the general public need a clear understanding of the best available science that describes the state of the climate and the likely impacts of climate change. To achieve this objective, NOAA will play a lead role in international and national assessments that survey and summarize current scientific understanding about the causes and consequences of climate change and its impacts.

Evidence of progress includes:

- Potential climate impacts and key international, national, and regional vulnerabilities are identified and inform the development of useful climate services.
- Model simulations and analyses inform IPCC assessments of climate impacts, adaptation, and vulnerabilities.
- National and regional assessments address particular needs of NOAA's unique stewardship responsibilities for ocean and coastal ecosystems, living marine resources, and water resources.

Objective: Mitigation and adaptation choices supported by sustained, reliable, and timely climate services

The Nation needs a comprehensive, authoritative, and coordinated source of climate science and information to support adaptation and mitigation strategies. To achieve this objective, NOAA will build upon its strong scientific foundation and internal and external partnerships to develop and deliver climate services that help decision makers use climate information, research and model outcomes, and understand associated uncertainties. To ensure that a diverse community of customers can access and use NOAA's research, data products, and information services, NOAA will produce new and improved data management and access systems—including the NOAA Climate Services Portal—that enhance the communication and dissemination of climate information and products.

Evidence of progress includes:

- National, State, local, and tribal governments and water resource managers are better able to prepare for, adapt, and respond to drought and flooding, and can more confidently manage water resources.
- Coastal resource managers incorporate a greater understanding of the risks of sea level rise, changes in Great Lakes hydrology and water levels, and other climate impacts to reduce the vulnerability of coastal communities and ecosystem resources.
- Living marine resource managers prepare for and respond to the impacts of a changing climate, ocean acidification, and other climate impacts, and develop management strategies for marine ecosystem conditions.
- Decision makers prepare for and adapt to climate extremes, including deviations in temperatures and precipitation patterns.
- Policy makers have the information and understanding they need to implement and manage options that mitigate climate change.

Objective: A climate-literate public that understands its vulnerabilities to a changing climate and makes informed decisions

The success or failure of climate adaptation and mitigation in the United States and around the world will depend on the ability of leaders, organizations, institutions, and the public to understand the challenges and opportunities climate change presents. To achieve this objective, NOAA will work to ensure continuous and sustained dialogue among partners in order to understand capabilities and identify climate-related risks that are of the most urgent concern to decision makers and the public.

Evidence of progress includes:

- Key segments of society understand climate risks and use that knowledge to increase resilience to likely climate impacts.
- Consumers of climate information understand the strengths and limitations of climate information and utilize this knowledge in their decision making processes.
- Educators and other outreach professionals increase comprehension and use of climate science concepts and education resources.
- NOAA is better able to identify and monitor stakeholder needs and refine its information products to enhance their value and meet evolving needs.

Long-term goal: Weather-Ready Nation
Society is prepared for and responds to weather-related events

A weather-ready nation is a society that is able to prepare for and respond to environmental events that affect safety, health, the environment, economy, and homeland security. Urbanization and a growing population increasingly put people and businesses at greater risk to the impacts of weather, water, and climate-related hazards. NOAA's capacity to provide relevant information can help create a society that is more adaptive to its environment; experiences fewer disruptions, dislocation, and injuries; and that operates a more efficient economy.

Over the long-term, climate change may increase the intensity and even the frequency of adverse weather events, which range from drought and floods, to wildfires, heat waves, storms, and hurricanes. Changing weather, water, and climate conditions affect the economic vitality of communities and commercial industries, including the energy, transportation, and agriculture sectors. Environmental information aligned with user needs will become ever more critical to the safety and well-being of those exposed to sudden or prolonged hazards and is essential to sustain competitive advantage, expand economic growth, and to secure the Nation.

Weather-Ready Nation Partners include:

- U.S. Department of Homeland Security
- U.S. Department of Transportation
- U.S. Department of Defense
- U.S. Department of Interior
- U.S. Department of Energy
- U.S. Department of Commerce Agencies
- National Aeronautics and Space Administration
- Federal Emergency Management Agency
- The United Nations
- Regional, State, and local Agencies

Objective: Reduced loss of life, property, and disruption from high-impact events

Increasing the use of NOAA's weather-related information by making it more relevant to citizens, businesses, and Government can reduce the impact of weather-related events on lives and livelihoods. To achieve this objective, NOAA will provide forecasts and information that compare weather risk to user-defined risk tolerance and redefine warnings to be applicable to a broad range of high-impact events. This is especially important in densely populated urban areas where cities impact and are impacted by weather and climate events. Improving forecast and decision-support tools will ensure data and information are available, accessible, and timely.

Evidence of progress includes:

- Fewer weather-related fatalities.
- Improved community preparedness leading to fewer weather-related fatalities.
- Avoidance of economic loss from property damage and unnecessary evacuations.

Objective: Improved freshwater resource management

Managing freshwater quantity and quality is one of the most significant challenges the U.S. must address in the 21st century. The Nation's water resource managers need new and better integrated information to manage limited or excessive water supplies more proactively and effectively in a changing and uncertain environment. To achieve this objective, NOAA and its partners will develop integrated decision-support tools based on high resolution summit-to-sea data and information by implementing high-resolution hydrologic and hydraulic models, integrating long-range weather and water forecasting, and improving the confidence of hydrologic forecasts.

Evidence of progress includes:

- Avoidance of economic loss and property damage from flooding as a result of impact-based decision support.
- More efficient and effective management of municipal water supplies using integrated water forecasts.
- Economic benefits from increased efficiencies in water usage in the transportation, hydropower, and agriculture sectors.

Objective: Improved transportation efficiency and safety

In partnership with local and State government as well as other Federal Agencies, NOAA will enhance data and services to minimize the impacts of weather-related events on the national transportation system. To achieve this objective, NOAA will gain a better understanding of the transportation community needs and integrate that knowledge into improved weather-related products and services that support safety, mobility, and efficiency. Information will be available and usable in real-time, enabling two-way information-sharing. A new environmental database, the 4-D Cube, will be applied initially in the aviation industry, and will ultimately benefit all commercial sectors that require storm prediction accuracy, coastal wave modeling, and space weather prediction.

Evidence of progress includes:

- Fewer aviation delays due to weather-related events.
- Reduced grounding or sinking of cargo vessels due to weather-related event.
- A reduction in transportation fatalities and economic losses due to weather-related events.

Objective: Healthy people and communities due to improved air and water quality services

NOAA is in a unique position to combine predictive weather information with its understanding of water, climate, oceans, and coasts to develop integrated environmental predictions and analyses that can improve the health of ecosystems and communities. To achieve this objective, NOAA will improve modeling and prediction capabilities within an Earth system framework for air and water quality and initiate development of an ecological forecasting system, coupling air, land, water, and sea with biological, geological, chemical, and ecosystem processes.

Evidence of progress includes:

- Improved information on the linkages among human health, weather, water and climate for decision makers.
- Fewer adverse health impacts attributable to air pollution.
- Positive economic and ecological impacts from improved water quality forecasts.

Objective: A more productive and efficient economy through environmental information relevant to key sectors of the U.S. economy

Evidence of progress includes:

- Production gains in renewable energy through better information.
- Mitigated economic loss due to advanced warning of geomagnetic storms.
- Health sector efficiencies due to improved use of weather, water, and climate information.
- An integrated suite of information targeted to food security needs.
- Growth of America's weather and climate industry.

Timely and accurate weather, climate, and water information and forecasts can make a significant contribution to a secure and reliable infrastructure for energy, communications, health care, and agriculture. To achieve this objective, NOAA will develop integrated environmental information services for the unique needs of weather-sensitive sectors, including renewable energy; forecasts and warnings of space weather and geomagnetic storms; mitigating health sector impacts; and global food supply and security challenges. Key components of the objective require improved long-range forecasting and regional downscaling; increased accuracy of space weather models, predictions, and forecasts; expanded ability to observe, understand, and model planetary boundary layer processes (especially in complex terrain and offshore); and accessible, real-time environmental data and information.

Long-term goal: Healthy Oceans

Marine fisheries, habitats, and biodiversity sustained within healthy and productive ecosystems

Healthy Oceans Partners include:

- Federal Agencies
- Fishery Management Councils
- Federal, State, local, and tribal stakeholders
- The commercial and recreational fishing industries
- Coastal stewards
- Academic institutions, non-governmental organizations

Ocean ecosystems provide many benefits to humans. Yet our marine, coastal, and Great Lakes environments are already stressed by human uses. Habitat changes have depleted fish and shellfish stocks, put more species at-risk, and reduced biodiversity. Ecosystem declines directly impact human health and well-being. As long-term environmental, climate, and population trends continue, global demands for seafood and energy, recreational use of aquatic environments, and other pressures on habitats and over-exploited species will increase as will concerns about the sustainability of ecosystems and safety of edible fish. Depleted fish stocks and declines in iconic species (such as killer whales, salmon, and sea turtles) result in lost opportunities for employment, economic growth, and recreation along the coasts. In addition, climate change impacts to the ocean, including sea level rise, acidification, and warming, will alter habitats and the relative abundance and distribution of species. Climate change poses serious risks to coastal and marine ecosystems productivity, which, in turn, affects recreational, economic, and conservation activities.

A strong understanding of ocean, estuarine and related ecosystems—and the species that inhabit them—supports NOAA's approach to management, and accounts for the complex connections among organisms (including humans); their physical, biotic, cultural, and economic environments; and the wide range of processes that control their dynamics. An ecosystem-based approach will assist policy makers to weigh trade-offs between alternative courses of action. By working toward the long-term sustainability of all species, NOAA will also help ensure for present and future generations that seafood is a safe, reliable, and affordable food source; that seafood harvest and production, recreational fishing opportunities, and non-consumptive uses of living marine resources continue to support vibrant coastal communities and economies; and that species of cultural and economic value can flourish.

Objective: Improved understanding of ecosystems to inform resource management decisions

In order to preserve healthy ecosystems, decision makers in fishery management, protected species recovery, habitat conservation, and coastal and marine spatial planning need information on individual species, their habitats, the effects of human activities, and the consequences of ecosystem condition on human populations. To achieve this objective, NOAA will produce accurate status assessments for harvested, protected, and potentially at-risk species—based on enhanced, consistent, long-term observations—help partners develop plans that include all aspects of the biological, social, and economic environment.

Evidence of progress includes:

- Increased use of ecosystem information (such as Integrated Ecosystem Assessments) in natural resource decisions in marine, estuarine, Great Lake and riverine systems.
- Increased development and use of climate considerations in fishery and protected resource decisions and in coastal and marine spatial planning processes.
- Next-generation fish and protected resource stock assessments incorporating habitat, ecosystem, and climate information.
- Living marine resource managers using high-quality data to inform management plans and decisions.
- Increased understanding of the role of habitat in providing ecosystem services, supported by improved habitat assessments.
- Increased use of social and economic indicators in the conservation and management decision making processes.

Objective: Recovered and healthy marine and coastal species

As human populations increase and the impacts of global climate change are realized, ensuring the recovery and long-term health of endangered and protected species and their ecosystems is an important goal for the Nation, requiring science-based policy guidance, economic incentive programs, and sound regulations and enforcement. To achieve this objective, NOAA will improve its understanding of the status of listed and at-risk species, and develop and implement robust recovery and conservation for those species listed and at-risk.

Evidence of progress includes:

- Stabilized or increased abundance of species that are depleted, threatened, or endangered.
- Decreased bycatch of protected species.
- Increased number of protected species with improving status.

Objective: Healthy habitats that sustain resilient and thriving marine resources and communities

NOAA has broad habitat conservation responsibilities that include ensuring that key habitats are identified, protected, and restored to support important species, while also supporting recreational opportunities, stabilized shorelines, reduced erosion, and buffered impacts of hurricanes. To achieve this objective, NOAA will apply robust habitat science to develop effective policy measures, strengthen collaboration among all NOAA programs engaged in habitat conservation, and enhance capacity to support conservation actions. Working with NOAA's own climate service information, as well as academic and Agency partners, NOAA will develop and implement habitat adaptation strategies to support fishery management, ecosystem, and recovery plans that incorporate habitat conservation measures, and ensure financial and technical assistance for on-the-ground conservation projects.

Evidence of progress includes:

- Increased protection and restoration of habitats to enhance vital ecosystem services.
- Habitat conservation targets and evaluation protocols set to focus and improve habitat protection and restoration actions in priority areas.
- Essential fish habitat designations that encompass key habitats as informed by habitat assessments.
- Increased use of partnerships, scientifically sound conservation measures, coastal and marine spatial planning, and regional ecosystem conservation approaches to protect and restore priority habitats.
- Climate change impacts addressed in conservation actions to promote long-term habitat resilience and adaptation

Objective: Sustainable fisheries and safe seafood for healthy populations and vibrant communities

As human populations grow, demand on marine ecosystems to provide seafood and recreational opportunities also increase. This places a premium on effective management of natural fish stocks and development of ecologically sustainable aquaculture programs. Implementing management strategies that rebuild and manage fish stocks, maintain access to fisheries, and improve opportunities for aquaculture can build and sustain economically robust coastal communities and contribute to long-term food security for the Nation. To achieve this objective, NOAA will pursue science and policies to promote a suite of practices that ensure the long-term stability of wild stocks, support sound aquaculture programs, and improve seafood safety. NOAA will continue to eliminate overfishing, rebuild overfished stocks, and improve long-term economic stability of recreational and commercial fisheries. Increased seafood inspection and developing health hazard warning systems will ensure that consumers have safe and healthful seafood options.

Evidence of progress includes:

- Improving trends in stocks categorized as overfished shown in increases in abundance.
- Reduced numbers of stocks subject to overfishing.
- Increased allowable catch levels as fish stocks reach rebuilt status.
- Decreased bycatch of target and non-target species.
- Expanded recreational and commercial fishing opportunities.
- Increased research focused on sustainable aquaculture activities.
- Increased numbers of aquaculture facilities that are ecologically sustainable.
- Increased proportion of inspected seafood.
- Implementation of a national aquaculture policy and NOAA aquaculture priorities.

Long-term goal: Resilient Coastal Communities and Economies

Coastal and Great Lakes communities are environmentally and economically sustainable

The complex interdependence of ecosystems and economies will grow with increasing uses of land, marine, and coastal resources, resulting in particularly heavy economic and environmental pressures on the Nation's coastal communities. Continued growth in coastal populations, economic expansion, and global trade will further increase the need for safe and efficient maritime transportation. Similarly, the Nation's profound need for conventional and alternative energy presents many economic opportunities, but will also result in greater competition for ocean space, challenging our ability to make informed decisions that balance conflicting demands as well as economic and environmental considerations. At the same time, the interdependence of ecosystems and economies makes coastal and Great Lakes communities increasingly vulnerable to chronic—and potentially catastrophic—impacts of natural and human-induced hazards, including climate change, oil spills, harmful algal blooms and pathogen outbreaks, and severe weather hazards.

Resilient Coastal Communities and Economies Partners include:

- U.S. Coast Guard
- U.S. Department of the Interior
- U.S. Department of Agriculture
- Environmental Protection Agency
- State, local, and tribal partners
- Coastal communities
- Coastal stewards
- Stakeholders in the private and academic sectors

NOAA's long-term coastal goal will invigorate coastal communities and economies, and lead to increased resiliency and productivity. Comprehensive planning will help protect coastal communities and resources from the impacts of hazards and land-based pollution to vulnerable ecosystems by addressing competing uses, improving water quality, and fostering integrated management for sustainable uses. Geospatial services will support communities, navigation, and economic efficiency with accurate, useful characterizations, charts and maps, assessments, tools, and methods. Coastal decision makers will have the capacity to adaptively manage coastal communities and ecosystems with the best natural and social science available.

Objective: Resilient coastal communities that can adapt to the impacts of hazards and climate change

Coastal decision makers require current science-based information, accurate tools and technology, and the skills to apply them to effectively reduce the vulnerabilities of their communities. Healthy coastal communities must proactively plan for climate impacts, land use, conservation, hazard response and recovery. They must also maintain sustainable and ecologically sound uses (such as commercial and recreational fisheries and seafood production efforts); mitigate chronic stressors; and affect infrastructure decisions made at the Federal, regional, State, and local levels. To achieve this objective, NOAA will develop and provide relevant decision-support tools, technical assistance, training, and management strategies. NOAA's strong, collaborative partnerships with those responsible for improving management of coastal communities and ecosystems, and close coordination across NOAA—especially related to climate capabilities and capacities—will ensure that the science and data needed to achieve this critical objective are generated.

Evidence of progress includes:

- An increase in the percentage of U.S. coastal States and territories demonstrating annual improvements in resilience to coastal and climate hazards.
- Appropriate science-based tools and information for assessing hazard risk, vulnerability, and resilience that coastal decision makers and community leaders can understand and use.
- Effective community plans and strategies that improve community readiness to cope with natural and human-induced coastal hazards.
- Healthy natural habitats, biodiversity, and ecosystem services support local coastal economies and communities.

Objective: Comprehensive ocean and coastal planning and management

While an increased range of uses for coastal zones creates diverse coastal economies, care must be taken to ensure continued access to coastal areas, sustain ecosystems, maintain cultural heritage, and limit cumulative impacts. NOAA's expertise is needed to support a coastal and marine spatial planning framework, as well as the data streams, research, and tools necessary to develop and implement regional and place-based spatial plans. To achieve this objective, NOAA will balance the use of coastal and ocean resources with long-term planning and management of coastal and other unique marine conservation areas. NOAA will support institutional infrastructure to facilitate the planning process, engage stakeholders, execute management actions, and enhance geospatial data and visualization tools. NOAA will require and sustain resource monitoring networks that integrate across spatial and temporal scales to determine effective local management actions, and develop and disseminate models, tools, and best practices for long-term planning and management. NOAA will conduct social and economic studies needed to evaluate and improve the effectiveness of management decisions.

Evidence of progress includes:

- National, regional, and local stakeholders engaged in the coastal and marine spatial planning process.
- Coastal and Great Lakes managers use of new or enhanced models, data, tools, and best practices for informed spatial planning, management and stewardship of resources and ecosystems.
- Key coastal, marine, and Great Lakes areas acquired or designated for long-term conservation and managed to maintain critical ecosystem function and support coastal economies.
- Predictable and transparent regulatory mechanisms for ocean and coastal energy, and other sectors.
- An enhanced geospatial framework and data available to underpin decision-support tools.

Objective: Safe, efficient and environmentally sound marine transportation

The Marine Transportation System (MTS)—spanning ports and inland waterways across U.S. coastal waters and oceans to support commerce, recreation, and national security—is increasingly vulnerable to natural and human-caused disruptions that will potentially impact the economy. Increased maritime activity can stress sensitive marine and freshwater environments and increase the risk of maritime accidents. Improving the reliability and resilience of MTS will decrease risks to the economy and the environment. To achieve this objective, NOAA will continue to work with Federal, State, and local partners to boost technology and bring improvements to MTS products and services, reducing the hydrographic survey backlog in navigationally significant areas. NOAA will strengthen international partnerships to encourage the production and distribution of navigation information, and ensure that global standards and policies are consistent with U.S. interests.

Evidence of progress includes:

- Reduced maritime incidents in U.S. waters through timely and accurate navigational information.
- Increased capacity in MTS to promote greater efficiency and economic growth.
- Improved national geospatial framework for increased accuracy of navigation products and services.
- Reduced hydrographic survey backlog in navigationally significant areas.
- Increased percentage of national ports with access to real-time navigation products and services.
- Increased preparedness and response to maritime incidents and emergencies.

Objective: Improved coastal water quality supporting human health and coastal ecosystem services

In the face of pollution, contamination, and debris in the world's oceans and the Nation's waterways, coordinated efforts are needed to address drivers of this degradation and reverse trends. Early warning networks are also required to identify and predict threats to human and ecosystem health, and to implement effective and timely management efforts. To achieve this objective, NOAA and its partners will develop, implement, and improve advanced water quality monitoring programs for nationally significant areas, trust resources, and coastal and Great Lakes areas to improve resource managers' knowledge of ecological stressors, and to assess the efficacy of management decisions. Results of water quality monitoring and research activities will be provided to NOAA collaborators to develop and refine nationwide early warning efforts, predictions, and ecological forecasts.

Evidence of progress includes:

- Greater understanding of the effects of natural and human-induced contaminants on the health of humans and marine life.
- Reduced impacts to human health and ecosystem services due to degraded water quality.
- Faster detection of sediments and contaminants in coastal waters.
- Accelerated recovery and restoration of coastal resources and revitalization of coastal communities through improved water quality.

Objective: Safe, environmentally sound Arctic access and resource management

Evidence of progress includes:

- Reduced risk and impact of maritime incidents on the Arctic environment.
- Arctic communities and ecosystems prepared for climate change and weather events with adaptation strategies and plans.
- A stronger foundational geospatial framework to better support economic and community resilience and inform policy options and coastal management responses to the unique challenges in the region.
- Increased international collaboration to strengthen NOAA and U.S. policy objectives in the region.

No region better exemplifies the complex interdependence of communities and changing climate and ecosystem conditions than the Arctic. The breadth and complexity of the cultural, societal, economic, and environmental impacts within this region requires a concerted, systematic and rapid management effort with partners from local to international levels. To achieve this objective, NOAA will assist Arctic coastal communities to understand and adapt to climate impacts, prepare for severe weather, and sustainably manage Arctic resources. Modernizing the Arctic geospatial framework will provide the foundation for many of NOAA's activities in the region, including effective climate adaptation, community resilience, and coastal resource and marine spatial planning strategies. NOAA will bring to the region such essential services as accurate weather and navigation tools, capacity-building to respond to natural and human-induced coastal hazards, research to improve Arctic oil spill response and restoration capabilities, and climate information.

NOAA's Enterprise Objectives

NOAA's strategy would be incomplete without detailing the enterprise-wide capabilities that will be required to achieve the environmental, social, and economic outcomes targeted by NOAA's strategic goals. Three enterprise-wide functions define NOAA's distinctive capabilities as an organization:

- Science and technology.
- Engagement.
- Organization and administration.

The objectives set forth below represent cross-cutting requirements that address NOAA's strategic goals as a whole.

Science and Technology

NOAA's vision centers on a holistic understanding of the interdependencies between human health and prosperity, and the intricacies of the Earth system. Achieving this level of understanding presents an overarching, long-term scientific and technical challenge to NOAA: *to develop and apply holistic, integrated Earth system approaches to understand the processes that connect changes in the atmosphere, ocean, space, land surface, and cryosphere with ecosystems, organisms, and humans over different scales*. Over the long-term, drawing upon its world-class research, observation, and modeling capabilities, NOAA is uniquely positioned to:

Science and Technology Partners include:

- National Aeronautics and Space Administration
- U.S. Department of Defense
- U.S. Department of Agriculture
- U.S. Department of the Interior
- U.S. Geological Survey
- European Organisation for the Exploitation of Meteorological Satellites
- The space agencies of Canada, China, Europe, France, India, Japan, and Taiwan
- Cooperative Institutes and Sea Grant colleges
- Academic institutions and professional societies
- The private sector

- Acquire and incorporate knowledge of human behavior to enhance understanding of the interaction between human activities and the Earth system.
- Understand and quantify the interactions between atmospheric composition and climate variations and change.
- Understand and characterize the role of the oceans in climate change, and variability and the effects of climate change on the ocean and coasts.
- Assess and understand the roles of ecosystem processes and biodiversity in sustaining ecosystem services.
- Improve understanding and predictions of the water cycle from global to local scales.
- Develop and evaluate approaches to substantially reduce environmental degradation.
- Sustain and enhance atmosphere-ocean-land-biology and human observing systems.
- Characterize the uncertainties associated with scientific information.
- Communicate scientific information and its associated uncertainties accurately and effectively to policy makers, the media, and the public at large.

To address this long-term challenge and meet the near-term science requirements within and across its strategic goals, NOAA must simultaneously pursue three objectives within its core scientific and technical enterprise: a holistic understanding of the Earth system, accurate and reliable data from sustained and integrated Earth observing systems, and an integrated environmental modeling framework.

Objective: A holistic understanding of the Earth system through research

NOAA's long-term goals and objectives hinge on an enhanced understanding of the complex interrelationships that exist across NOAA's climate, weather, ocean, and coastal domains. NOAA needs to advance innovative research that pushes the boundaries of scientific understanding and integrates information across scientific disciplines. This innovative research will enable improved understanding of the Earth system from global to local scales, and improve the ability to forecast weather, climate, water resources, and ecosystem health. To achieve this objective, NOAA will expand and maintain reliable and accessible information and develop advanced technologies to better observe, understand, model, and communicate knowledge of complex systems, and promote existing and future scientific excellence and collaborations in its science workforce. Across all domains, NOAA will need to characterize the uncertainties inherent in the process of scientific discovery, and effectively communicate scientific information and its associated uncertainties to policy makers, the media, and the public.

Evidence of progress includes:

- Increased understanding of climate, weather, oceans, ecosystems, human activities, and their interrelationships.
- Improved understanding of the processes contributing to, and impacts of ocean acidification, changes in ocean temperature and freshwater input, and sea level change.
- Improved understanding of ecosystems (e.g., Gulf of Mexico, Arctic, Great Lakes) and the effects of human activities on the ecosystem, and coastal communities and economies.
- Increased investigation and assessment of unexplored and ecologically, economically and culturally important coastal and oceanic regions.
- Research on ecosystem impacts, processes, dynamics and biodiversity transitioned to enable ecosystem approaches to management and coastal community resilience.
- Social, behavioral, and economic research advanced and transitioned into NOAA's delivery of climate, weather, ocean, and coastal services.
- Meteorological, atmospheric, climatic, and oceanic research advanced and transitioned to NOAA's production of enhanced weather, climate, and marine forecasts and services, including those supporting renewable energy.
- More effective development and transition of technologies to operational services and stewardship applications.
- An integrated research agenda supported by portfolio management that promotes transformative research and innovation.

Objective: Accurate and reliable data from sustained and integrated Earth observing systems

NOAA is an environmental information generating organization. Therefore, NOAA's observing system portfolio needs to balance growing demands with continuity concerns and implementation of emerging technologies. Over the long-term, NOAA must sustain and enhance its many observing systems—and their long-term data sets—and develop and transition new observing technologies into operations, while working in close collaboration with its governmental, international, regional, and academic partners. To achieve this objective, NOAA will research, develop, deploy, and operate systems to collect remote and *in situ* observations, and manage and share data through partnerships and standards. Fundamental to ensuring effective use of the wealth of environmental information collected by observing systems is an increased focus on information management standards and strategies to improve access, interoperability, and usability of NOAA's environmental information resources.

Evidence of progress includes:

- Increased percentage of environmental measurement needs (legacy and new) satisfied within objectives of the four strategic goals.
- Reduced gaps in sustained environmental measurements.
- Improved data interoperability and usability through application and use of common data management standards.
- Enhanced access and use of environmental data through data storage and access solutions, integration of systems, and long-term stewardship.
- Reduced life cycle cost of observations through increased partnerships, integration of systems leveraging available data, and reducing unnecessarily duplicative capabilities.

Objective: An integrated environmental modeling system

To fulfill current and emerging science and service requirements for its strategic goals, NOAA must ultimately evolve toward an interconnected and comprehensive Earth system modeling enterprise that links atmospheric, oceanic, terrestrial, cryospheric, ecological, and climatic models. To achieve this objective, NOAA will develop a comprehensive modeling backbone; integrate observations, models, products, and services; and foster a culture of collaboration within and external to NOAA. To this end, NOAA will develop collaborative strategies involving internal and external partnerships and community-wide standards to ensure interoperability. integrate research monitoring and prediction plans for its strategic goals, including regional-scale climate models and integrated ecosystem modeling, enhance and expand existing capabilities for data integration from observing systems for model validation and verification, and institute a well-functioning governance structure for NOAA's environmental modeling enterprise.

Evidence of progress includes:

- Effective and efficient collaboration and coordination within NOAA and with partners to enhance the scope and predictive accuracy of integrated Earth system models for global, national, and regional applications, and for specific phenomena.
- Increased capacity, capability, and use of models to support ecological forecast services.
- Improved predictive performance of global, regional, and local climate, weather, ocean, and ecosystem models for variable temporal scales.
- Increased development and implementation of integrated modeling science plans incorporating prioritization, and partnerships to accelerate the advancements of modeling capabilities, capacities, and enterprise solutions.
- Increased volume and diversity of data and information effectively integrated into models, particularly at different global, national, regional, and local scales.
- Increased evaluation and optimization of NOAA's investments in observation and monitoring through the use of models.
- Acceleration of model coverage, transitioning, and interoperability.
- Increased development and use of enterprise and community models.

Engagement

The best way for NOAA to meet the increasingly complex needs of its stakeholders is often to deliver data and knowledge to those who have not yet accessed it. NOAA must understand these needs at all levels—within the U.S. and abroad—and respond to them. Conversely, NOAA's next breakthrough in research, development, operational improvement, or policy action may depend upon the unique knowledge or needs of a partner or customer. Achieving NOAA's goals involves garnering support from domestic and international partners through engagement.

Engagement Partners include:

- Federal Agencies
- National Science Foundation
- Sea Grant Colleges and Cooperative Institutes
- National Estuarine Research Reserve System
- Coastal Ecosystem Learning Centers
- Centers for Ocean Sciences Education Excellence
- International partners, organizations, and foreign governments
- Non-governmental organizations
- Science centers, museums, zoos, and aquariums.
- Professional societies
- State and regional groups

NOAA's capacity to engage individuals and other organizations effectively will determine its long-term success. It is not sufficient for NOAA to conduct, fund, and direct science. NOAA must be aware of science conducted, funded, and directed by others and must integrate and convert that scientific information into applications used within the Agency, and accepted and recognized by the scientific community world-wide, then harness its stewardship responsibilities by meeting society's broader needs for more information. Scientists must solicit management needs as early as possible in the design of research with a constant eye toward management's potential use of research results. Scientists must engage with their peers, but also with colleagues around the world, in other disciplines, and with the public at large. Managers of NOAA's environmental data and information services must engage with decision makers in local governments and industries. Regulators must engage with communities they regulate, as well as with their regulatory counterparts in other nations. NOAA must also engage with constituents, educators, and communicators to share knowledge and information.

Objective: An engaged and educated public with an improved capacity to make scientifically informed environmental decisions

To support climate, weather, ocean, and coastal science and management needs of the next generation, NOAA must foster an environmentally literate society and future environmental workforce. To achieve this objective, NOAA will engage stakeholders and the public at multiple levels to build awareness of environmental science, services, and stewardship responsibilities; foster community dialogue; and educate citizens and students.

Evidence of progress includes:

- Increased understanding and use of climate, weather, ocean, Great Lakes, and coastal environmental information to promote stewardship and increase informed decision making by stakeholders, educators, students, and the public who are interested in science.
- A diverse pool of students with degrees in science, technology, engineering, mathematics, and other fields critical to NOAA's mission, connected to career paths at NOAA and in related organizations.
- NOAA effectively engages key stakeholders and the public to enhance literacy of climate, weather, ocean, and coastal environments.

Objective: Integrated services meeting the evolving demands of regional stakeholders

As regional and local conditions change, NOAA will need to quickly assess changes in user and stakeholder priorities and develop collaborative solutions that draw on the full range of capabilities available from NOAA and its community of partners. To achieve this objective, NOAA will tailor services to meet regional demands by coordinating and integrating the capabilities of multiple Line Offices within that region. In particular, NOAA will focus on supporting and collaborating with established and emerging regional governance initiatives so they are better able to protect and restore coastal, ocean, Great Lakes, and other regional resources.

Evidence of progress includes:

- Stakeholder needs continually and adequately assessed for NOAA science, service, and stewardship.
- Integrated products and services tailored to the needs of NOAA's regional stakeholders and customers.
- Organizational responsiveness to stakeholder needs through the evaluation of and adjustments to products and services.
- Two-way communication with regional stakeholders, including regional governance initiatives, to build understanding, trust, and partnerships.
- A workforce operating with shared awareness and understanding of its cross-Agency missions and capabilities.

Objective: Full and effective use of international partnerships and policy leadership to achieve NOAA's mission objectives

NOAA science and stewardship is strengthened through exchanges of ideas and vigorous interaction with international colleagues. NOAA is well positioned to assist other nations improve their understanding and ability to predict and respond to changes in climate and other environmental conditions affecting natural resources, population safety, and economic activity, and thereby bring those resources to bear on achieving NOAA's mission objectives. Through partnerships, NOAA benefits from leveraging investments and advancements made by foreign partners. To achieve this objective, NOAA will promote goals and practices that can be adopted and adapted regionally and globally to benefit the Nation and advance NOAA's strategic goals. Through these efforts, NOAA will improve the standardization, availability, and utility of environmental data for the Nation and the world.

Evidence of progress includes:

- Full implementation of the provisions of the MSA to combat illegal, unregulated, and unreported fishing and bycatch of protected living marine resources in international fisheries.
- Fulfillment of the Coral Triangle Initiative objectives.
- Build transboundary relationships that support NOAA regional engagement, including that in the Arctic, Great Lakes, and Gulf of Mexico.
- Implement the International Marine Mammal Action Plan.
- Expanded collaborations and partnerships on international environmental observing capabilities and on climate observing systems, assessments, and services.
- Reduced loss of life, property, and disruption from and response to high-impact international events.

Organization and Administration

NOAA's managers, whether at headquarters or in the field, have common responsibilities to manage the investment of tax-payer dollars, deploy physical infrastructure, and retain a qualified workforce. NOAA's managerial efforts provide the rest of the Agency with the staff, the infrastructure, and the financial capital needed to get the job done. Effective management of these resources fosters an organizational environment in which core competencies can be used most effectively and final products and services can have the greatest impact.

Organization and Administration Partners include:

- U.S. Department of Commerce Headquarters and its entities
- Office of Management and Budget
- General Services Administration
- Office of Personnel Management
- Independent, non-profit organizations
- Colleges and universities

Objective: Diverse and constantly evolving capabilities in NOAA's workforce

Focusing on social and environmental outcomes will require not only the best skills in the scientific and engineering disciplines, but the best skills in interdisciplinary work. Understanding the natural, social, and economic systems that make up a dynamic ecosystem will require increased expertise in social and economic science as well as the physical sciences. Efficient operations within a complex scientific and technical organization will require expert-level mastery of the disciplines of program and project management. Finally, with a substantial portion of its workforce approaching retirement eligibility, NOAA will also need to attract, hire, train, and retain a new generation of professionals to accomplish its strategic goals. To achieve this objective, NOAA will recruit outstanding professionals with disciplinary, interdisciplinary, and managerial expertise, and cultivate existing and new sources of talent to evolve its workforce capabilities over time.

Evidence of progress includes:

- Increased leadership, managerial training, and certification in the career development of NOAA professionals and NOAA Corps Officers.
- Increased numbers of qualified program and project managers.
- Increased numbers of interdisciplinary professionals and science translators to enable functions of engagement and integration.
- Increased use of social scientists for research, service development, and operations.
- Increased capacity of the NOAA Corps to lead integration of advanced technologies into NOAA's missions.
- Increased numbers of underrepresented groups in the NOAA workforce.

Objective: A modern IT infrastructure for a scientific enterprise

Modern collaborative technologies are essential to enabling NOAA's diverse and widely distributed staff to share knowledge more effectively NOAA-wide, and to enable customers and stakeholders to engage with the extended NOAA community transparently and effectively. To achieve this objective, NOAA is committed to modernizing its IT infrastructure through the development of a common standards-based architecture and through a consistent approach to making decisions based upon the service needs of NOAA staff and stakeholders. NOAA will provide secure and flexible social media environments, collaboration tools, and web portals to promote innovation across mission, line, stakeholder, and user boundaries.

Evidence of progress includes:

- Adoption of a common architecture and framework for IT services and solutions.
- Delivery of critical high-performance computing capabilities for evolving environmental modeling requirements.
- Implementation of enterprise-wide and holistic protection from cyber security threats.
- An IT workforce that possesses the competencies required to fulfill NOAA's evolving scientific mission.

Objective: Modern, safe, and sustainable facilities

NOAA's work is conducted in specialized facilities dispersed across the Nation, and internationally. NOAA must ensure its facilities provide modern, sustainable, and safe environments to fulfill its mission successfully and to attract and retain a high-performance workforce. Like other NOAA capital assets, NOAA's facilities require routine recapitalization, renovation, and modernization to provide state-of-the-art capabilities. To achieve this objective, efficiencies are planned by leveraging targeted consolidation of dispersed facilities. Key strategies for modernization include investments in recapitalizing NOAA's aged facility portfolio, and investments in new facilities.

Evidence of progress includes:

- Improved facility condition indices.
- Reduced accidents and injuries.
- Increased energy efficiency in facility operations, including an increased percentage of NOAA's total facility portfolio certified by the U.S. Green Building Council's Leadership in Energy and Environmental Design.
- Increased operational efficiency.

Objective: A high-performing organization with integrated, efficient, and effective business systems and management processes

Successfully managing NOAA's diverse equipment, resources, and partnerships to operate efficiently and effectively over their entire life cycles requires a long-term perspective. The technical sophistication, resource intensity, and long time frames associated with NOAA's physical assets and partnerships requires fully integrated, effective management and administrative systems and processes. To achieve this objective, NOAA will strengthen financial and non-financial internal controls, develop and deploy improved risk-management methods, and reform its business processes to ensure that programs and projects achieve their goals on schedule and within budget, and provide a sound framework for routine monitoring and program performance evaluation.

Evidence of progress includes:

- Successful results from audits and evaluations of NOAA's financial and non-financial control systems;
- Sound project engineering, cost estimation, and acquisition management practices that generate routine success in meeting cost, schedule, and performance targets for programs and major projects.
- Increased organizational efficiency and effectiveness through continuous improvements in NOAA-wide business processes and strategic and performance management systems.
- Improved project and program management skills.

Strategy Execution and Evaluation

The Next Generation Strategic Plan identifies what NOAA should produce in the future (i.e., outputs), and why those outputs are important (i.e., outcomes). Distinguishing between outputs and outcomes gives NOAA the flexibility to evolve while staying true to its ultimate mission and vision. The purpose of the Plan is four-fold:

- So NOAA's management can make well-reasoned, transparent investment choices based upon administration and stakeholder priorities and upon NOAA's potential to satisfy them.
- So NOAA can properly align requirements for resources with requirements for services and with Administration and stakeholder priorities (and demonstrate this alignment).
- So NOAA's managers (and stakeholders) can monitor Agency performance (i.e., the quality and efficiency of services) and the effectiveness of outputs in contributing to societal outcomes. and
- So NOAA's business lines, staff, partners, and stakeholders can cooperate on solutions with a common understanding of roles, responsibilities, and the meaning of "success."

NOAA will systematically monitor and evaluate its performance toward the outcome-oriented goals and objectives in the Plan. Evaluating performance will allow NOAA to learn from its successes and failures, improve continually as an organization, and deliver better on the promise of its mission of science, service, and stewardship. NOAA's performance measures, including those required under the Government Performance and Results Act, are published annually in the NOAA Annual Performance Plan and Performance Accountability Report.

NOAA's Next Generation Strategic Plan supports the U.S Department of Commerce (DOC) Strategic Plan and Annual Performance Plan. A direct relationship between NOAA's goals, objectives and performance measures is included in the annual budget submission to DOC. DOC uses this information for its Annual Performance Plan and Performance and Accountability Report, which integrate outcomes and performance measures across the Department.

For further information on the consultations and analyses that NOAA used in developing the Plan, including NOAA's *Scenarios for 2035* and the results of NOAA's extensive stakeholder consultations, please visit: www.noaa.gov/ngsp.

Acknowledgements

NOAA's Next Generation Strategic Plan emerged from extensive consultations with NOAA employees and our stakeholders. NOAA acknowledges the valuable input that staff and stakeholders provided in public forums and online. We also thank NOAA's Federal Advisory Committees and our partners in numerous trade associations for their input and feedback on early drafts of the Plan. And we thank the representatives from NOAA Line and Staff Offices who served on the Scenario Team, Plan Steering Committee, Working Group, and Communications Team.


DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA