



THE NATIONAL OCEAN SERVICE

KEEPING AMERICA'S OCEANS AND COASTS SAFE, HEALTHY, AND PRODUCTIVE

America's oceans, coasts, and Great Lakes play a vital role in the life of every American, providing places to vacation and explore, as well as places to live, jobs, commerce, energy, materials for industry, and even medicines to heal. But the future of our oceans and coasts – and our continued enjoyment of them – is in jeopardy. Climate change, sea-level rise, storms, marine debris, pollution, water quality, erosion, port congestion, and population growth are all negatively impacting the health, economy, and beauty of our coastal waters and shorelines.

The National Ocean Service (NOS) is leading the way to understand, predict, and respond to these challenges, making sure that America's oceans and coasts are safe, healthy, and productive. NOS scientists, natural resource managers, and specialists provide tools and services to protect coastal communities, observe our oceans and coasts, ensure safe and efficient marine transportation, reduce ocean and coastal health risks, and conserve coastal and marine places.

PROTECTING COASTAL COMMUNITIES: The narrow fringe of our nation's coast makes up less than 20 percent of the contiguous land area of the United States, yet is home to more than half of all Americans. As the population within this finite coastal space continues to grow, our coastal communities are increasingly vulnerable to threats such as coastal storms and climate change and this growth places enormous pressure on our precious marine resources.

The challenge for NOS is to understand, protect, and manage coastal areas to make coastal communities safer and more sustainable. In rising to this challenge, NOS is working to enhance coastal resiliency in the face of natural disasters and climate change and minimize the environmental, social, and economic impacts from coastal hazards. NOS is also protecting and restoring coastal habitats, reducing impacts associated with coastal development and other uses, responding to oil and chemical spills, and providing training and technical assistance to coastal managers. The diverse expertise, products, and services of NOS are making coastal communities safer, more sustainable, and more resilient.

OBSERVING OUR OCEANS AND COASTS: Our planet is constantly changing. Right now, it is changing quickly and in ways that are impacting every facet of our society. Despite this fact, our oceans, which make up over 70 percent of our planet, remain poorly understood. And of what we do know, much of the information is fragmented.

From measuring and predicting tides and currents, monitoring sea-level rise, surveying 95,000 miles of coastline, and providing data for tsunami and storm warnings, NOS is filling the gaps needed to better understand and forecast ocean, coastal, and Great Lakes changes and their impacts. Central to these efforts is the establishment of an Integrated Ocean Observing System to coordinate and disseminate data and information to decision makers so that they can take action to improve safety, enhance our economy, and protect our environment.

SUPPORTING SAFE AND EFFICIENT COMMERCE AND MARINE TRANSPORTATION:

Each year, the U.S. marine transportation system conveys 95 percent of U.S. foreign trade by volume, moves two billion tons of freight, transports millions of people, contributes over \$700 billion to the U.S. gross domestic product, and provides more than 13 million jobs. Yet America's ports – our lifelines for commerce, trade, and the economy – are highly congested, increasing risks of accidents and environmental harm.

Now more than ever, the tools and information developed by NOS are required to keep marine transportation safe, efficient, and environmentally sound. From producing and updating nautical charts, to managing the nation's geospatial reference system, providing accurate positioning information, delivering real-time oceanographic information, and surveying our shoreline, NOS is there to ensure smooth traveling along the nation's marine highway.

REDUCING OCEAN AND COASTAL HEALTH RISKS: What happens in our oceans and on our coasts can have a direct impact on our health. Blooms of toxic algae, more frequent occurrences of bacteria and disease in waters, and increased chemical and nutrient pollution are putting hundreds of millions of people in danger.

NOS is working to predict, manage, and prevent ocean and coastal health risks. NOS is providing early-warning systems and forecasts to reduce risks of exposure to contaminants, building networks to monitor and evaluate illness in humans and marine animals, and increasing our ability to respond to health risks. Biological and chemical sensors are helping to measure public health threats, and NOS research is establishing links between land use and chemicals in the marine environment. All of these NOS efforts will protect the health of all Americans and also protect marine animals and the economies that depend on healthy ocean and coastal marine resources.

PROTECTING COASTAL AND MARINE PLACES: With expansive beaches and a seemingly endless horizon of water, the beauty of ocean and coastal areas is hard to dispute. Yet we rarely think about our dependence on coastal resources to satisfy our ever-increasing appetite for energy, food, goods, and services.

To balance environmental conservation, economic development, and recreational enjoyment of ocean and coastal resources, NOS is managing 13 national marine sanctuaries, one national marine monument, 27 national estuarine research reserves, and a network of marine protected areas. NOS is also working to reduce and prevent marine debris and to conserve coral reefs. Beyond their intrinsic value, ocean and coastal areas provide living laboratories to study and test management effectiveness, preserve our nation's marine heritage, protect biodiversity, attract tourists, contribute to economic growth, and play an important role in our nation's food supply.

From protecting our nation's beaches and marine life, to mapping and charting waters to keep mariners from getting lost at sea, restoring damaged resources, and so much more, the **NATIONAL OCEAN SERVICE** is leading federal efforts to keep America's oceans and coasts safe, healthy, and productive.