

# Taking **Action** Where We Live



*A northward view of Big Sur coastline and Monterey Bay National Marine Sanctuary. Credit: Robert Schwemmer*

Coastal communities represent an incredible resource in jobs, people, trade, and recreation. Coastal areas provide us a place to create livelihoods, but these communities depend on healthy oceans and coasts. With economic growth and environmental change, coastal communities across America will face significant and long-lasting challenges in the future. It is time that we, as a nation, re-envision our relationship with our coasts.

Like any smart investor, it is in our best interest to do what we can to protect our coastal and ocean assets and use them wisely. But good decisions don't just happen. It takes hard work, foresight, good data and good science to keep our waters clean, make a community flood resistant, help coastal economies thrive, and make smart pre-and post-storm development decisions.

Storms like Sandy, as well as coastal flooding, inundation and erosion, and other disasters make everyone more aware of the urgent need for increased community resilience. A more resilient coast today will suffer less economic and societal damage from extreme weather and environmental events tomorrow.

## **Why is the coast important?**

In 2011, 45 percent of our nation's GDP, valued at \$6.6 trillion, was generated in coastal and Great Lakes counties, supporting approximately 51 million jobs and \$2.8 trillion in wages. Close to three million jobs directly depend on the resources of the oceans and Great Lakes. If the nation's coastal watershed counties were an individual country, they would rank third in GDP globally behind the U.S. as a whole and China.

## **What is resilience?**

The ability of people, businesses, communities, and ecosystems to better withstand and bounce back after a severe event.

*Supporting and Informing Sound Coastal Management*



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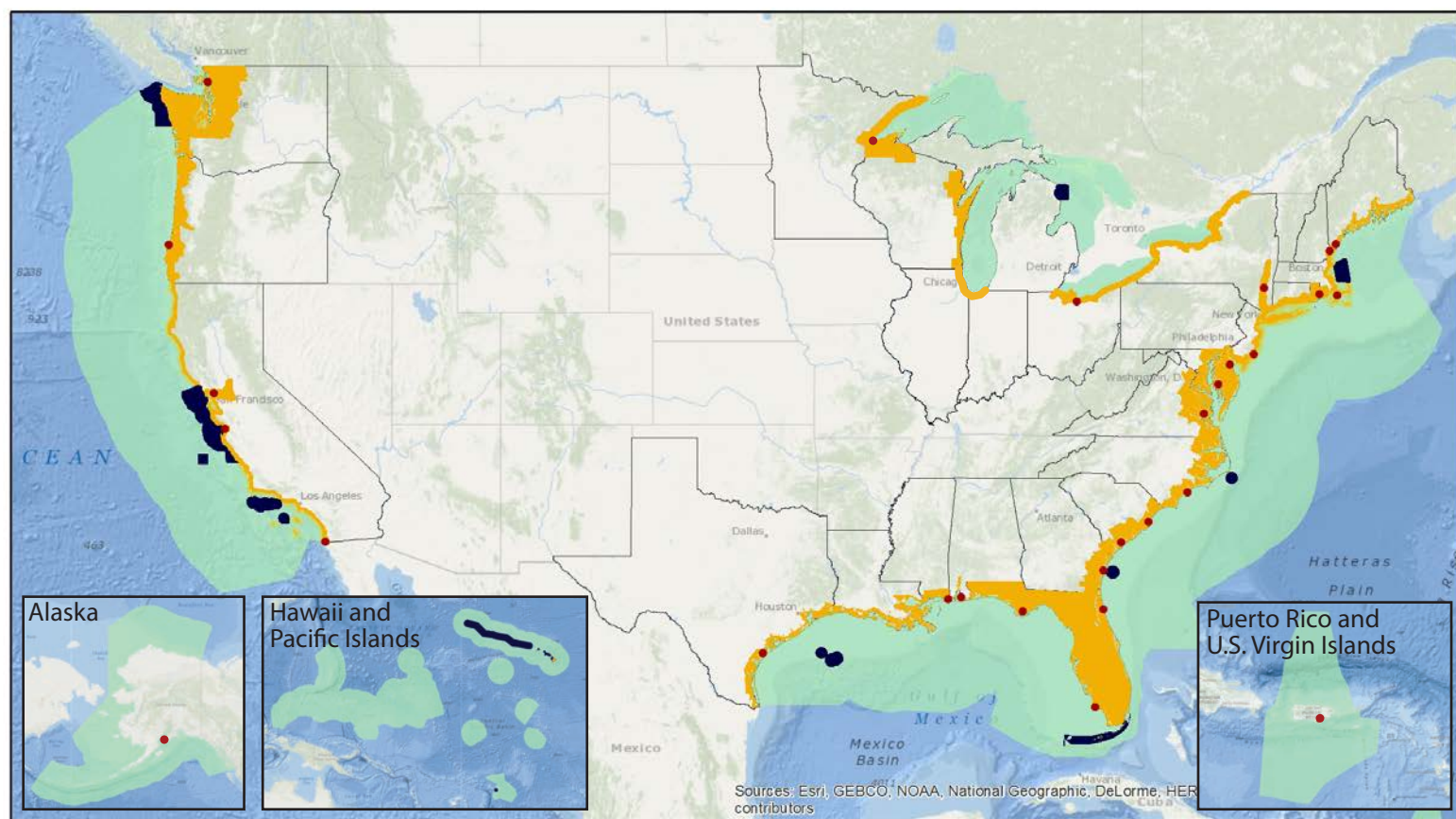
### What is at stake?

Without a whole community approach to preparedness and resilience, repetitive insurance losses due to extreme events and flooding will continue to mount, negatively affecting national fiscal health. Over 30% of repetitive insurance losses result from flooding.

NOAA's National Ocean Service and its partners are equipped for this task. They are embedded in communities and supply the scientific, technical and coastal management structure needed to increase community resilience. These programs are on the ground providing the science, stewardship, and management to ensure the nation's coasts remain vibrant economic centers while protecting coastal resources.

In FY 2013 alone, the National Ocean Service invested over \$150 million in

local, state and regional partners to support resilient communities and stewardship. These funds were further leveraged through data support and technical assistance and were matched with significant resources invested by state and local governments. ***This model proves again and again that this is a system that works: national investments partnered with regional and local implementation programs and capacities provide the greatest reach and value to our diverse coastal communities.***



● National Estuarine Research Reserves (28)    ■ U.S. Coastal Zone    / Coastal States With A Designated Coastal Zone    ■ National Marine Sanctuaries (14)    ■ IOOS Regions (11)

### How do we protect our coastal investments?

By making communities more resilient. The National Institute of Building Sciences says every \$1 spent on mitigation activities saves society an average of \$4 in losses associated with natural hazards.

These programs, which work on a national, state, and local level, include:

- Coastal Zone Management Program
- U.S. Integrated Ocean Observing System (IOOS®)
- National Estuarine Research Reserve System (NERRS)
- National Marine Sanctuary System
- National Centers for Coastal Ocean Science





## America's Coastal Management Leaders Taking Action

These partners “work where they live.” The partnerships are built on mutual goals, trust and understanding. They are part of the communities and personally committed to their long term sustainability. They supply the science, observing, and modeling to provide a comprehensive understanding of our ever changing coasts. They provide tools and training to make informed management decisions, and provide a means – via sanctuary management plans, estuarine research reserve management plans, and state coastal management plans – of implementing those decisions and building capacity within communities. The programs have a foundation in science, and enable its on-the-ground application. These programs have networks of people in state, local and tribal governments, as well as academia, industry and private citizens that partner further to enact real change that effects the coast and the entire nation.

The National Ocean Service is successful because partnering with these organizations and the mission they represent ensures that NOAA's coastal science, management, and stewardship programs are focused and leveraged to address the significant issues facing local communities, while building our collective national integrity. These programs enable action to be taken in the communities where they are needed, and are essential to their resilience to storms and economic well-being.

Partnerships through these programs are key to success for our coastal communities. The associations that help drive and support these programs are:



## Coming Together to Promote Coastal Resilience

These programs and partners come together around the country to bring their unique expertise and capabilities to bear on the specific challenges in each area.

For example, the San Francisco Bay area, home to over 7 million people, is facing increasing sea levels. Coastal managers need accurate and timely information on expected sea level rise in the Bay and its estuaries to minimize risk to the communities. The California Coastal Management Program launched an “Adapting to Rising Tides” project to integrate science into planning decisions. This effort is informed by sea level change information collected in the estuary by the San Francisco Bay NERR in conjunction with data collected at the Gulf of the Farallones National Marine Sanctuary, and the Central and Northern California Coastal and Ocean Observing System. The National Ocean Service also assists in making tide data available online, which is being heavily used by recreational and commercial boaters, as well as the port industry. ***Together, the information collected is able to be smartly integrated, locally relevant, connected to state priorities, and tied into the broader national programs.***

These programs also come together when responding to extreme events as illustrated by the interdependencies and service in responding to and recovering from Sandy. Before the storm, the New York Coastal Program helped reconstruct over 148 acres of salt marsh islands in Jamaica Bay, which demonstrated their resilience value by protecting supporting communities from waves and currents during the storm. In concert with other authoritative sources, IOOS and NERRS assets provided critical information needed by decision makers to make key safety of life and property decisions. Specifically, 1,700 buildings were severely flooded, impacting up to 34,000 people. These people benefited from advanced warnings provided by high resolution storm surge forecasts built off this information. In future storms around the country we will build resilience through built and “green” infrastructure. To do this right, we will need the observation and monitory data from IOOS and NERRS, the understanding of changes in our NERRS and Sanctuaries to inform management, and the expertise of our coastal managers to work with coastal engineers and planners.



Guana Tolomato Matanzas National Estuarine Research Reserve (GTM NERR). Credit: GTM NERR

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