



# Regional Coastal Resilience Grant Awards

## Project Details

### WEST COAST

#### Connecting the Dots and Building Coastal Resilience in the San Diego Region

**Applicant:** University of San Diego

**Recommended Federal Funding:** \$689,850 (FY 2015)

**Match:** \$408,000

The San Diego Regional Climate Collaborative, a partnership of local and regional agencies and organizations, will lead a multifaceted project to protect the county's approximately 70 miles of coastline from vulnerabilities to sea level rise, coastal flooding, and extreme weather events. By filling key information gaps and providing additional legal, scientific, and economic analyses, the project will help the cities of Oceanside, Carlsbad, Encinitas, Solana Beach, Del Mar, San Diego, and Imperial Beach develop coordinated sea level rise vulnerability assessments and integrated coastal resilience strategies. These efforts will be paired with an innovative and consistent regional communication strategy that also expands public understanding and engagement in coastal resilience planning and actions. This comprehensive strategy will result in implementable actions that reduce the region's risks and vulnerabilities and build regional coastal resilience.

Project Partners: San Diego Climate Science Alliance, Tijuana River National Estuarine Research Reserve, Southwest Wetlands Interpretive Association, Coastal Frontiers Corporation, Revell Coastal, Nexus Planning Consultants, Environmental Law Institute, Cities of Oceanside, Carlsbad, Encinitas, Solana Beach, Del Mar, San Diego, and Imperial Beach, California

#### Improving Risk Communication and Leveraging Existing Programs in Washington State to Build Capacity and Enhance Resilience in Coastal Communities

**Applicant:** Washington Sea Grant (University of Washington)

**Recommended Federal Funding:** \$879,255 (FY 2016)

**Match:** \$442,180

Communities in Washington State face significant risk from the impacts of sea level rise, storm surges, and shoreline erosion. Washington Sea Grant will lead a partnership of state and local managers, conservation groups, and academic scientists to enhance coastal community resilience through cutting-edge science, community pilot projects, and revised state guidance and restoration project design. The work will increase understanding of coastal risks and impacts and improve existing planning tools. The effort will also include significant outreach to ensure that new information and approaches are shared with coastal communities across the state.

Project Partners: Washington State Department of Ecology's Coastal Zone Management Program, University of Washington Climate Impacts Group and other departments, Estuary and Salmon Restoration Program (Washington State Recreation and Conservation Office), Island County Department of Natural Resources, City of Tacoma, Western Washington University, and The Nature Conservancy.

### GREAT LAKES and SOUTHEAST

#### Building Coastal Resilience through Capital Improvements Planning: Guidance for Practitioners

**Applicant:** Association of State Floodplain Managers and the American Planning Association

**Recommended Federal Funding:** \$703,028 (FY 2015)

**Match:** \$351,515

The planning and construction of capital improvement projects, such as community buildings and infrastructure, present an opportunity to incorporate new, high-impact approaches for building resilience. But which approaches make the most sense in different situations? Two national organizations based in the Great Lakes region, the Association of State Floodplain Managers and the American Planning Association, will work together to answer these questions and develop national guidance by researching cutting-edge techniques used in different sectors throughout the United States and through the

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experience gained in in two pilot communities: Toledo, Ohio, and Savannah, Georgia. The guidance developed through this project will be used to educate the 57,000 members of these organizations and others regarding the most successful techniques.

Project Partners: Association of State Floodplain Managers, American Planning Association, Digital Coast Partnership

## NORTHEAST

### Resilient Cape Cod: A Path Forward with Innovative Tool Development and Public Engagement

**Applicant:** Cape Cod Commission

**Recommended Federal Funding:** \$522,348 (FY 2015)

**Match:** \$258,927

The Cape Cod Commission and partners will undertake a public planning process to improve community understanding of climate change impacts, sea level rise scenarios, and various adaptation strategies. The planning process will include economic research, a public engagement process, and the development of communication tools to help residents and decision makers understand the environmental and socio-economic costs and benefits of different adaptation strategies. This information will be used to inform an adaptation plan for the Town of Barnstable, Massachusetts, to implement new policies and serve as a model for other Cape Cod towns.

Project Partners: The Association to Preserve Cape Cod, Waquoit Bay National Estuarine Research Reserve, Town of Barnstable and Barnstable County, Massachusetts

### High Resolution Coastal Inundation Modeling and Advancement of Green Infrastructure and Living Shoreline Approaches in the Northeast

**Applicant:** Northeast Regional Association of Coastal and Ocean Observing Systems (NERACOOS)

**Recommended Federal Funding:** \$891,243 (FY 2016)

**Match:** \$456,257

Each year in the Northeast U.S., coastal storms cause considerable economic disruptions as a result of damages to property, infrastructure, and natural resources. The

Northeast Regional Association of Coastal and Ocean Observing Systems (NERACOOS) will work to lessen these impacts. This project will document and predict coastal storm impacts and increase the implementation of sustainable, nature-based infrastructure approaches (living shorelines). The project will also fill high-priority data and capacity gaps, develop tools for decision-making, and improve communications and outreach.

Project Partners: Researchers from each of the coastal New England states, including University of Maine, University of New Hampshire, University of Massachusetts at Dartmouth, University of Rhode Island, and University of Connecticut's Connecticut Institute for Resilience and Climate Adaptation. State coastal program members of the Northeast Regional Ocean Council (NROC), including Maine Coastal Program, New Hampshire Department of Environmental Services, Massachusetts Office of Coastal Zone Management, and Rhode Island Coastal Resources Management Council. Other partners, including The Nature Conservancy, Gulf of Maine Research Institute, RPS Applied Science Associates, Spaulding Environmental Associates, and NROC.

## MID-ATLANTIC

### New Jersey Fostering Regional Adaptation through Municipal Economic Scenarios (NJ FRAMES)

**Applicant:** New Jersey Department of Environmental Protection

**Recommended Federal Funding:** \$898,656 (FY 2015)

**Match:** \$450,344

Since Superstorm Sandy, the New Jersey Department of Environmental Protection's Coastal Management Program has worked with an extensive network of partners to reduce New Jersey coastal communities' vulnerability to coastal hazards. Through this work, the state identified comprehensive regional planning as a high-impact strategy to build coastal resilience. In partnership with several organizations, the state will work with the 15 communities that make up the Two Rivers Council of Mayors in Monmouth County to perform a stakeholder-led scenario planning process, deploy new and enhanced decision-making tools, and develop consistent state- and community-level policy and practices that support resilience and adaptation actions.

Project Partners: Jacques Cousteau National Estuarine Research Reserve, Rutgers University Climate Institute, Louis Berger, Borough of Oceanport, New Jersey





### Project ARRK: Adaptation and Regional Resiliency Kit

**Applicant:** City of Virginia Beach

**Recommended Federal Funding:** \$844,847 (FY 2016)

**Match:** \$899,440

The City of Virginia Beach, located in the southeastern, or Tidewater, area of Virginia, has one of the highest rates of sea level rise on the Atlantic coast. It sits at the heart of the Hampton Roads region, home to 1.7 million people and a significant maritime industry, including the largest naval facility in the world. This project will prioritize and implement adaptation strategies such as the relocation or construction of infrastructure to address sea level rise impacts on land use and development. Because of the city's influence in the region, and the public engagement process included in this grants award project, this effort will benefit the greater Hampton Roads region.

Project Partners: City of Virginia Beach, Georgetown Climate Center, Hampton Roads Planning District Commission, Old Dominion University-Virginia Sea Grant, and Dewberry.

### Mid-Atlantic Regional Resilience: Linking Coastal Ocean Information to Enhance Economic, Social, and Ecological Resilience

**Applicant:** Coastal States Stewardship Foundation on behalf of the Mid-Atlantic Regional Council on the Ocean

**Recommended Federal Funding:** \$514,507 (FY 2016)

**Match:** \$257,253

The ocean plays a critical role in community resilience and is a fundamental source of economic and ecological value and productivity in the Mid-Atlantic, yet coastal communities are largely unaware of this critical role and how changing ocean conditions can impact the economy, society, and the environment. The Mid-Atlantic Regional Council on the Ocean (MARCO) will leverage its partnerships to increase coastal community resilience by enhancing the public's understanding of the science behind changing ocean conditions and what this means in terms of ocean

resources and coastal economies. Coastal and ocean stakeholders throughout the Mid-Atlantic region will also benefit from improved understanding of the relationships between changing ocean conditions and coastal economies, and community resilience.

Project Partners: Mid-Atlantic Regional Council on the Ocean – MARCO (Virginia, Maryland, Delaware, New Jersey, New York), Mid-Atlantic Ocean Data Portal (principal: Monmouth University Urban Coast Institute), and Mid-Atlantic Regional Association Coastal Ocean Observing System – MARACOOS (principals: University of Delaware, Rutgers University).

## SOUTHEAST

### Utilizing Regional Collaboration to Implement the National Disaster Recovery Framework in South Atlantic Coastal Communities

**Applicant:** Coastal States Stewardship Foundation

**Recommended Federal Funding:** \$803,713 (FY 2015)

**Match:** \$453,746

The disaster recovery process provides an opportunity to build long-term resilience to future hurricanes, flooding, and other hazards. Working across the four southeastern states, and in partnership with industry, regional organizations, the Federal Emergency Management Agency, and NOAA, over 30 coastal communities will build upon the foundation laid out by the Governors' South Atlantic Alliance, strengthening the region's ability to recover from the next coastal disaster in ways that protect the economy and the environment. At the completion of the project, state and local emergency managers and planners will have updated information, tools, and plans to guide the disaster recovery process. In addition, the development of a regional "resilient business advisory network" will help prepare businesses by delivering better information and advising on critical support services.

Project Partners: Southeast Coastal Ocean Observing Regional Association, state emergency management agencies, state coastal management agencies, Federal Emergency Management Agency, The Nature Conservancy, South Carolina Sea Grant Consortium, business industry partners



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## Building Community Resilience to Water-Related Hazards in the Charleston, SC Region: A Charleston Resilience Network Initiative

**Applicant:** South Carolina Sea Grant Consortium

**Recommended Federal Funding:** \$510,319 (FY 2016)

**Match:** \$255,568

In the 25 years following the landfall of Hurricane Hugo, disaster planning efforts in the Charleston, South Carolina, region have greatly improved. However, chronic and episodic water-related hazards continue to challenge the region's ability to maintain and safeguard the infrastructure vital to the region's economic prosperity and social well-being. Keeping pace with rapid growth and changes in natural systems makes these challenges even more complex. By leveraging the capabilities of Charleston Resilience Network members and partners, this project will advance the collaborative approach necessary to understand vulnerabilities, educate stakeholders, and foster a unified strategy. The end result will be the effective implementation of infrastructure planning and operation, land use planning, and water management practices that minimize risks from chronic and episodic flooding events.

Project Partners: South Carolina Sea Grant Consortium, Charleston Resilience Network, College of Charleston, University of South Carolina, and The Citadel.

## GULF of MEXICO

### A Systematic and Integrated Approach to Creating More Resilient Communities in the Gulf of Mexico Region

**Applicant:** Gulf of Mexico Alliance

**Recommended Federal Funding:** \$867,700 (FY 2015)

**Match:** \$493,000

While significant funding may be available to communities after a disaster, there are few funding opportunities for communities that want to take proactive measures to become more resilient. Through this project, the Gulf of Mexico Alliance and partners will help 10 Gulf of Mexico coastal communities enhance their overall resilience to future hazards through pilot projects using new and updated information and tools. The approach involves

evaluating each community from a natural resource and human use perspective, and providing a small grant to implement cost-effective solutions to increase resilience. Project partners will also create a network to support additional regional coordination and collaboration for resilience efforts and sharing lessons learned.

Project Partners: Louisiana Coastal Protection and Restoration Authority, Mississippi Department of Marine Resources, Alabama Department of Conservation and Natural Resources, Geological Survey of Alabama, Florida Department of Environmental Protection, Mississippi-Alabama Sea Grant Consortium

## PACIFIC

### Building Resilience to Coastal Hazards and Climate Change in Hawai'i

**Applicant:** University of Hawai'i Sea Grant College Program

**Recommended Federal Funding:** \$845,169 (FY 2016)

**Match:** \$422,580

People, property, and infrastructure in Hawai'i are generally concentrated in low-lying coastal areas, making local communities and economies highly vulnerable to coastal hazards, including flooding and erosion, which are expected to become more severe with climate change and sea-level rise. The University of Hawai'i Sea Grant College Program, in partnership with the State of Hawai'i and the National Oceanic and Atmospheric Administration, will work with communities in Hawai'i to develop new tools for understanding risk and vulnerability to coastal hazards and climate change and support stakeholder resilience planning, policy development, and decision-making. This partnership effort will leverage several ongoing initiatives to increase the number of communities incorporating new strategies into coastal community management and disaster recovery plans. Established partnerships with government agencies and other stakeholder groups will be used to share project results statewide and with other island communities in the Pacific region.

Project Partners: State of Hawai'i Department of Land and Natural Resources, State of Hawai'i Office of Planning, Pacific Islands Ocean Observing System (PacIOOS), University of Hawai'i School of Ocean and Earth Science and Technology, and the National Disaster Preparedness Training Center.

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