



*Bolstering resilience to weather hazards  
for the state's coastal communities.*

## THE WASHINGTON COASTAL RESILIENCE PROJECT

**C**oastal flooding, wave damage and shoreline erosion will increase as climate change continues to raise sea levels and create more severe storms along Washington's coast.

Washington's Coastal Resilience Project is a three-year effort to rapidly increase the state's capacity to prepare for natural events that threaten the coast. The project will improve risk projections, provide better guidance for land use planners and strengthen capital investment programs for coastal restoration and infrastructure. These are the tools that coastal communities need to become more resilient to disasters.

### WHAT MAKES THIS PROJECT UNIQUE?

- **Improving Risk Forecasts**  
New research will focus on improving how we forecast and communicate the risks associated with sea level rise and storm damage, making these risks easier to understand.
- **Focusing Existing Resources**  
The project will rapidly increase community governments' ability to support coastal resilience. This will be accomplished by refitting existing state funding programs with guidelines and criteria that address climate change and coastal hazards more specifically, and by identifying existing resources and opportunities to enhance local planning efforts.

### WHAT IS AT STAKE

Washington has over 3,000 miles of coastline. People living along the coast face a host of natural perils, from eroding shorelines to floods, earthquakes and tsunamis. The impacts of some of these hazards are increasing as the region's climate continues to change. Sea level rise, for instance, will increase coastal flooding over time and lead to more severe wave damage from winter storms.

Washington has over 3,000 miles of coastline, and more than 400 square miles of land at an elevation within three feet of the high tide line. Critical community infrastructure and 9,000 homes, worth more than \$5.25 billion, have been built in these vulnerable areas.\*

These hazards are financially and socially disruptive, and some events are truly catastrophic. Such perils cannot be avoided, but by forecasting risks and planning ahead, communities can minimize the damage and injury, and recover more quickly, after a disastrous event.

\*Strauss, B. et al. (2014) California, Oregon, Washington and the Surging Sea: A vulnerability assessment with projections for sea level rise and coastal flood risk. Climate Central Research Report. p. 14.

Washington Sea Grant • Washington Department of Ecology • Island County • The City of Tacoma • Padilla Bay National Estuary Research Reserve • NOAA Office for Coastal Management • The Nature Conservancy • U.S. Geological Survey • University of Oregon • University of Washington Climate Impacts Group • University of Washington Department of Earth and Space Sciences • Washington Department of Fish and Wildlife

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“The challenges confronting our nation’s coastal communities are incredibly complicated. Effective solutions are going to require strong science, ingenuity and collaboration if they are to safeguard and ensure the future vitality of our economy and valuable natural resources.” Dr. Jeffrey Payne, director of the NOAA Office for Coastal Management

## APPLYING LOCAL EXPERIENCE

Three place-based situations will help local governments explore local needs and how best to meet them:

- Island County (Whidbey Island), serving as a rural community model;
- City of Tacoma, serving as an urban community model; and
- a project of the Estuary and Salmon Restoration Program within the Department of Fish & Wildlife, serving as a model for coastal habitat restoration.

## SHARING TOOLS AND TRAINING

The project expands upon existing training and educational programs to provide local planners and decision makers with the guidance and technical information they need to address future risks.

## WHAT EACH PARTNER CONTRIBUTES

**Washington Sea Grant** and the **Washington Department of Ecology** are leading an expert team of partners from public agencies, academic institutions and nonprofit organizations.

## UNIVERSITIES

- Scientists from **University of Washington’s Washington Sea Grant, Climate Impacts Group** and the **Department of Earth and Space Sciences** are collaborating with scientists at the **University of Oregon** to improve sea level and coastal flooding forecasts and how the information is presented to planners and resource managers.

## FEDERAL AGENCIES

- Scientists from the **U.S. Department of Energy’s Pacific Northwest National Laboratory** and the **U.S. Geological Service** are contributing to better forecasts by improving models for storm surge and waves.
- Regional staff from **NOAA’s Office of Coastal Management** are providing guidance to the overall project and participating in the outreach and training elements.

## STATE AGENCIES

- The **Washington Department of Ecology** is tasked with a multi-agency effort to revise existing state programs, providing guidance and funding criteria that address coastal hazards and climate change. Through their **Padilla Bay National Estuarine Reserve**, they are

also developing outreach and training products and incorporating them into Washington’s Coastal Training Program.

- The **Washington Department of Fish and Wildlife** is developing similar guidance for its Estuary and Salmon Restoration Program in Puget Sound.

## LOCAL JURISDICTIONS

- **Island County** and the **City of Tacoma** are using their own planning processes and coastal restoration projects as case studies to understand resilience issues at a local scale and test how science, planning, funding and outreach can meet community needs.

## NON-GOVERNMENTAL ORGANIZATION

- **The Nature Conservancy** is co-leading the outreach and training elements of the project with the Department of Ecology and contributing expertise on using natural systems and habitat restoration to protect communities from coastal hazards.

## FUNDING SOURCE

NOAA’s Office for Coastal Management’s awarded Washington Sea Grant a \$879,255 regional coastal resilience grant to carry out the Coastal Resilience Project.

## SUMMARY

Through a smart combination of activities — investing in new science, coordinating existing programs and applying and sharing what is learned from three community models, our state can efficiently expand its capacity to “weather” future coastal hazards.

## FOR MORE INFORMATION

Washington Sea Grant  
University of Washington  
3716 Brooklyn Ave. N.E.  
Seattle, WA 98105-6716  
206.543.6600  
[seagrant@uw.edu](mailto:seagrant@uw.edu)  
[wsg.washington.edu](http://wsg.washington.edu)

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