

National Sea Grant College Program



CLIMATE CHANGE SERVICES FOR CITIZENS



THE ISSUE

With global attention now focused on climate change, government agencies, non-profit organizations, the private sector, and individual citizens are gearing up to face climate-related challenges. Although not all of the potential impacts of climate change are known, one thing is certain: its lasting effects will affect us all. **Sea level rise** and the threat of **inundation**, significant **reductions in Great Lakes water levels**, **drought**, **heat waves**, **reduced ice coverage**, **disruption of aquatic ecosystems**, and increased frequency and intensity of **coastal storms** are some of the impacts that may affect our coastal communities.

In light of these threats, Sea Grant is committed to improving the nation's ability to understand, plan for, and respond to climate variability and change. As a dynamic link between scientific information providers and information users, Sea

Grant is well positioned to lead innovative research and outreach programs that further the effectiveness of our federal, state, and local partners. Located within the communities it serves, Sea Grant is an integral and trusted resource for coastal residents and decision makers.

SEA GRANT WORKS TO:

Improve understanding: Help citizens and decision makers understand climate change processes and the expected effects on coastal resources and communities.

Increase capacity of coastal communities: Identify viable strategies and formulate plans to prepare for, mitigate, and adapt to these impacts.

Respond to climate change: Implement, evaluate, and adapt strategies and plans for responding to climate change.

SEA GRANT EMPOWERS CITIZENS AND COMMUNITIES

- Conducts climate change research on locally-relevant scales
- Develops education/literacy programs on climate change impacts
- Identifies and addresses major stakeholder concerns
- Improves the relevance and accessibility of climate services to community decision makers
- Integrates local climate change knowledge into community planning efforts
- Consolidates and disseminates best research-based practices to minimize impacts
- Develops localized adaptation strategies
- Conducts community demonstration projects to develop policies and adaptive actions
- Helps coastal communities identify new opportunities and adapt to changes
- Shares information regionally and nationally



Sea Grant

SEA GRANT IMPACTS: BALANCING HUMAN & ENVIRONMENTAL NEEDS

Sea Grant programs have been investing in climate-related research and outreach activities for several years. Investments include competitive research awards, the work of professional and experienced educators, and development and facilitation of collaborative approaches to climate change adaptation and mitigation efforts. These investments will continue to influence local and regional decisions. The nature of these impacts includes:

- Improved management of coastal resources via informing policy, law, and regulation.
- Improved economic performance by coastal industries through awareness and adoption of better management tactics.
- Changes in behavior of coastal residents and policy makers leading to improved public safety, quality of life, and prosperity.

FY2010 Highlights

\$6 million investment (\$4.4 million Federal funds, \$1.6 million in matching funds):

\$1.5 million **Community Climate Change Adaptation Initiative** to conduct rapid response, community-based, climate adaptation demonstration projects;

\$2.9 million in local and regional climate change **mitigation and adaptation research projects**;

\$200K in eight **Regional Climate Change Engagement Grants** to more closely engage Sea Grant with NOAA's regional teams;

\$1 million **Small Business Innovation Research** program, which received a record 40 proposals for alternative and renewable energy Phase 1 projects.

Sea Grant Community Climate Change Adaptation Initiative Highlights

- Many programs focused on **providing climate change information to decision makers** for inclusion in existing planning structures.
- Several programs **assisted communities** directly in preparing or revising plans that included climate adaptation measures.
- Other programs developed **tools** (e.g. GIS displays, web-based models) for workshops and trainings.
- Most programs (16) addressed **general climate change science and impacts**, likely reflecting the fact that communities are unsure of the basic science.
- Ten programs focused on the impacts of **sea level rise**, in particular looking at increased frequency and intensity of **coastal inundation**. Seven programs focused on **stormwater management**.

Sampling of Sea Grant Climate Activities

Sea Grant Communicates Climate Change

Sea Grant produced podcasts with social scientists: "Communicating Climate Change":

<http://seagrant.oregonstate.edu/themes/climate/index.html>. These interviews with leading social scientists about the human dimensions of climate change are aimed at professional science communicators, whose job is to explain complex scientific concepts and the work of scientists to the public at large.

Efforts Result in Enhanced Construction Guidelines

Sea Grant, in collaboration with the Rhode Island Coastal Resources Management Council (the state's Coastal Zone Management agency), fostered adoption of policy and construction guidelines within the Rhode Island Builders Association, insurance, and real estate industries, to support the nation's first Coastal Zone Management Policy that adapts construction guidelines to accommodate accelerated sea level rise resulting from changing climate.

Sampling of Sea Grant Climate Activities (continued)

Sea Grant Report Prompts Legislative Response

Sea Grant worked with 75 scientists from the University of Maine and other institutions to produce *Maine Climate Future: An Initial Assessment*. The report, requested by Governor Baldacci and delivered in February 2009, prompted the state legislature to initiate a climate change adaptation stakeholder process, coordinated by the Department of Environmental Protection. Based in part on needs identified in that process, Sea Grant and Cooperative Extension partnered with the Climate Change Institute and the Maine State Climatologist to create *Maine Climate News*, an online resource for statewide weather and climate updates, research descriptions and news:

www.extension.umaine.edu/maineclimatenews/

Sea Grant Releases DVD for Property Owners

Maine and Oregon Sea Grant released the documentary video, *Building a Resilient Coast: Maine Confronts Climate Change*. The DVD has been distributed to coastal property owners and municipal officials, and aired on Public Television Stations.

Sea Grant Links Climate Scientists with Outreach Experts

Wisconsin Sea Grant and NOAA's UCAR-COMET program are developing an online climate training course for Sea Grant and an interactive science-based climate "wiki" resource linking climate scientists with Sea Grant extension agents, communicators, and educators—a dynamic resource companion to the training course.

Additional Sea Grant Climate Activities:

<http://www.seagrant.noaa.gov/whatwedo/climate/>

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