



Sea Grant Advances

SCIENCE and TECHNOLOGY PRIORITIES and LONG-TERM GOALS

Sea Grant's work aligns closely with the Office of Science and Technology Policy's research and development priorities and advances the National Oceanic and Atmospheric Administration's long-term goals.

Sea Grant's scientists and educators promote American leadership in renewable energy and turn earth observation research and data into action that helps communities adapt to a changing climate, withstand natural disasters and prevent and mitigate environmental destruction.

GLOBAL CLIMATE CHANGE

Sea Grant works with local governments to ensure America is prepared for the impact of climate change on our coastal cities and communities.



*Over the next century, sea level rise in the Los Angeles region is expected to match global projections with an increase of 0.1 - 0.6 meters from 2000 to 2050. **California Sea Grant** developed and released the first study of what this will mean to one of America's largest cities and spurred creation of a regional planning process to protect the city from the consequences.*



***Sea Grant researchers in Hawaii** are providing improved projections of how climate change and ocean acidification are likely to impact Hawaiian coral reefs and examining the potential for corals to adapt or acclimatize to future conditions. Hawaiian coral reefs are valued at over \$33 billion annually to the American public, and Hawaii annually derives an estimated \$364 million directly from coral reefs in addition to other benefits, such as shoreline protection.*

EARTH OBSERVATION

Sea Grant's scientists and educators translate the data from Earth observation systems into practical solutions to the problems facing our nation's coastal cities and communities.



When Hurricane Sandy hit, large sections of Jersey City, including a hospital and City Hall had to be evacuated because of flooding. **New Jersey Sea Grant** experts put satellite data and imagery to work and engaged with city planners to design a resiliency plan that adapts the area's coastlines to mitigate and prevent similar disasters in future storms.



Georgia Sea Grant is working with the Georgia Department of Natural Resources (CRD) to develop a detailed climate adaptation plan for the barrier island community of Tybee Island, Georgia. The plan, based on specific adaptation scenarios, visualizes impacts from storm surges and coastal flooding. The City of Tybee Island has formally agreed to consider adopting the recommendations developed by this project through appropriate local ordinances, infrastructural improvements, and other municipal actions.

CLEAN ENERGY

Harnessing the power of the ocean and its ecosystems, Sea Grant researchers are exploring innovative solutions to America's energy challenges and paving the way for American leadership in renewable energy.



Oregon Sea Grant has been at the leading edge of research into harnessing the power of ocean waves as a source of renewable energy. Today, as businesses work to commercialize these findings, Sea Grant facilitates planning and dialogue with stakeholders including community members concerned about ocean resources.



Delaware Sea Grant research partnerships are working to determine the commercial potential of the marine algae *Heterosigma akashiwo*. The algae are an effective biofuel in small-scale production and because they use nitrogen as a nutrient, they remediate pollutants from industrial emissions. Testing large-scale production will determine potential viability of the algae as an alternative fuel product.

These are a small sample of the more than 700 research projects Sea Grant's network of 33 programs funded this year at universities in every coastal and Great Lakes state, plus Puerto Rico and Guam.

For more information, contact Sea Grant Association. www.sga.seagrant.org

LaDon Swann, Ph.D., President, Sea Grant Association | 228-818-8842 | swanndl@auburn.edu

Leon Cammen, Ph.D., Director, National Sea Grant College Program | 301-734-1089 | leon.cammen@noaa.gov | seagrant.noaa.gov

Rollie Schmitt, Chair, National Sea Grant Advisory Board | 509-763-2826 | rolliebarbara@aol.com

