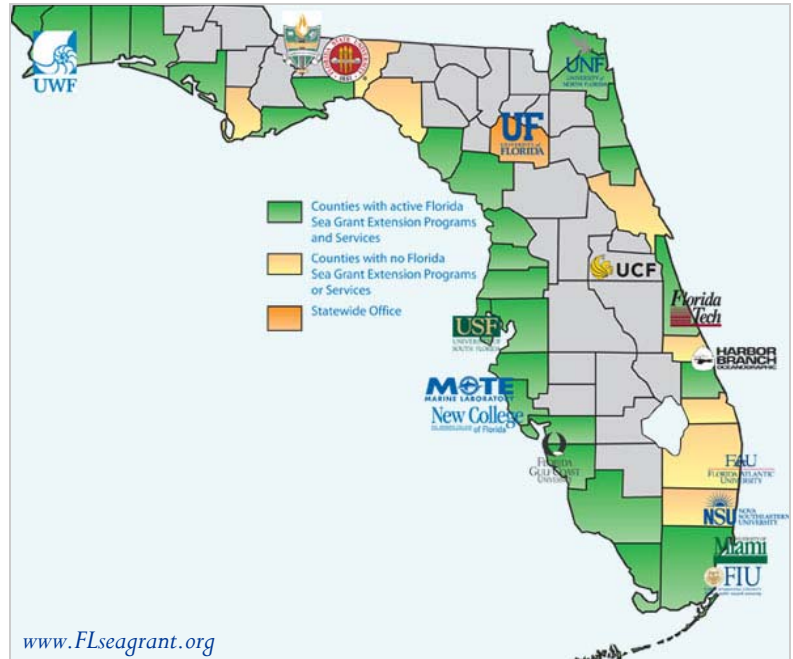


2008-2009 FLORIDA SEA GRANT RESEARCH INVESTMENT

Many people associate Sea Grant with the agent that works in their particular geographic area and the Extension programming conducted by that agent. But Sea Grant comprises far more than the Extension activities that are visible at the local level. Sea Grant is a combination of research, education, and extension. Research comprises about 50% of the overall annual Florida Sea Grant budget. Sea Grant sponsored research is conducted by members of the Florida Sea Grant College Program which consists of all State public Universities, three private Universities, and two research facilities. The projects listed below have been funded for 2008/2009. They were selected through a peer reviewed process based on the quality of the science, the importance of the work relative to critical coastal and marine issues in Florida, and the potential impacts for the people, the economy and environment.

- Scientists from Harbor Branch Oceanographic Institute and the University of Florida will develop **methods to grow the sun-ray venus clam**, a native Florida species that could diversify the state's clam aquaculture industry. The goal is to make Florida's hard clam aquaculture industry more economically viable and more resilient to changes in market demand for what now is a single species product.
- Marine biotechnology researchers at Florida Atlantic University will isolate biological compounds from cone snails to evaluate the **potential for new drugs**.
- Marine sponge cell lines will be developed by scientists from Harbor Branch for use in **producing marine bio-products** (products such as pharmaceuticals, cosmetics and chemicals derived from sea life). If successful, this work will make a significant breakthrough in addressing the supply problem for marine biotech products.
- Harbor Branch scientists will develop **methods to produce an anti-tumor compound** they have discovered in marine sponges.
- Florida International University scientists will evaluate the wind pressures that typically occur on coastal buildings during hurricanes, and identify how building codes can be improved to **reduce hurricane damage** to residences and businesses.
- As a part of the Gulf of Mexico Regional Research Project, engineers at Florida International University will develop and measure cost effectiveness of an advanced fiber support system that can be incorporated into new and existing buildings to **increase resistance to hurricanes**.
- High resolution data on coastal flooding, collected by the USGS during recent hurricanes, will be used by University of Florida researchers to **fine-tune storm surge models** for emergency managers and coastal planners. Accurate models can save lives and minimize economic losses from the tropical storms that impact our coasts.



(Continued on page 2)

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- Field observations and computer models will be used by University of West Florida scientists to more **accurately characterize rip currents** along Pensacola Beach. Improved understanding of rip current behavior will allow better forecasts of conditions that are hazardous to swimmers.
 - Scientists from the University of Florida and Mote Marine Laboratory will identify how beneficial **bacteria protect corals from disease**, contributing to the information needed to sustainably manage Florida coral reefs and their associated \$3 billion-a-year economy.
 - The effects of trap fishing on **transmission of a lethal virus in spiny lobster** populations will be examined by University of Florida scientists. Spiny lobsters are one of the most economically valuable fisheries in Florida. The results of this work will help the fishing industry and state agencies manage lobster populations in a manner that helps control viral infection.
 - **Effects of habitat loss on survival of juvenile snook** will be determined by scientists at Mote Marine Laboratory. Snook are a prized sport fish in Florida coastal waters, and understanding how land development affects their habitat is important to both survival of the species and the marine fishing-related economy.
 - Scientists at Florida International University will **predict and map changes in sea grass** expected to occur in Florida Bay if there are changes in sea level, salinity and nutrient inputs. That information will help water managers successfully implement the Comprehensive Everglades Restoration Plan by guiding decisions about future water flows to the Bay.
 - to support Florida's growing marine sport fishing industry.
 - University of West Florida scientists will evaluate new genetic methods to **identify links between red tides** along the Florida Atlantic coast and specific sources of water pollution.
 - Florida Atlantic University faculty will conduct training workshops for staff of state government agencies on use of new molecular techniques for **assessing the health of coral reef communities**.
 - University of Florida scientists are **investigating the genome of the bacteria *Vibrio vulnificus***, the leading cause of death from seafood in the U.S. Little is known about how this organism causes disease, and this new research, when combined with results of ongoing work sponsored by the National Institutes of Health, will lead to improved detection, treatment and seafood safety.
 - Researchers at the University of Florida also are **developing a rapid genetic test for the pathogenic protozoa *Perkinus***, recently found in certain shellfish imported from Asia. The test will allow the USDA to implement rapid screening to protect consumers from being infected by contaminated seafood.
 - UF researchers are also collecting preliminary data for a potential new method to **determine how *Salmonella* colonize oyster beds** - information that ultimately will be used to protect the safety of this important marine food resource.
- Source:*
- *Florida Sea Grant Impacts and Accomplishments.*

Research Development Projects

These short-term pilot studies are funded in areas where small investments of Sea Grant dollars have large potential for either immediate practical applications, leveraging of other external funds, or preliminary data to support full-scale research in mission critical areas.

- University of Florida scientists are developing methods to **raise marine baitfish** year-round

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