At a Glance

The EPA-ORD laboratory in Gulf Breeze is recognized as a leader in advancing scientific knowledge concerning the effects of human-made stressors on the ecosystems of the Gulf Coast, and the impacts of those effects on the health and well-being of people and communities. The laboratory contributes to the local economy in the Greater Pensacola region. Staff are active participants in the local community.

Science: ORD is a world-class research organization, and the research conducted by scientists in Gulf Breeze has far-reaching significance, including structured decision making at local, regional, and national levels. Gulf Breeze scientists are leaders in ecosystem modeling to inform watershed management decisions, and experimental and modeling approaches to predict toxicity of chemicals on wildlife populations. A unique emphasis of work in Gulf Breeze is the development of tools and metrics to characterize the role of the environment in human health and well-being. Laboratory staff also participate in ecological crisis response, including hurricanes and oil spills, with expertise in methods development, survey design, data analysis and interpretation.

***Community Engagement*:** Laboratory scientists led a community sustainability workshop in Pensacola to help identify sustainability priorities for the community using their innovative Human Well-being Index. Scientists also worked with the Escambia County (FL) Water Quality and Land Management Division and West Florida Regional Planning Council to develop a Pensacola Bay Environmental Quality Report to inform future resource management and rehabilitation.

Economic Impacts: The $6.9 million in disposable income from federal jobs and over $3.2 million in expenditures on contracts and supplies and equipment that are injected into the local economy have broader impacts as that spending supports additional jobs and spending, and as workers buy goods and services in the community using their disposable income.

Did you know?

- In addition to federal scientists, there are 53 additional on-site jobs including post-doctoral researchers, student contractors, and facility staff.
- Scientists developed techniques using satellite data to support Florida water quality management.
- Laboratory scientists work with STEM students at Florida universities and take part in local educational events like the Seagrass Awareness Celebration and Earth Day.

Gulf Breeze Laboratory Impacts by the Numbers

Gulf Breeze (Escambia County), FL		
122 Total jobs at the laboratory	**$9.25 million** Annual payroll, on-site contracts, and grant dollars supported by lab	**68** Federal jobs on-site
Top 50 Employer[1] In Greater Pensacola, FL	**24** Post-doctoral, student, and visiting researchers on-site	**7 EPA Organizations** With employees in Gulf Breeze
	4 counties, 2 states Where Gulf Breeze lab employees live	

[1]FloridaWest Economic Development Alliance

GULF BREEZE, FL LABORATORY US EPA OFFICE OF RESEARCH AND DEVELOPMENT

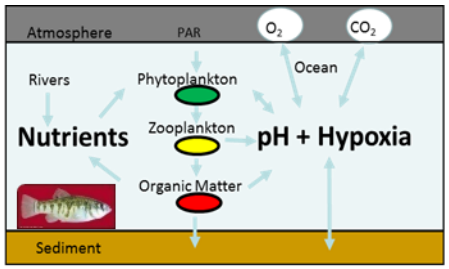
The Gulf Breeze research facility is home to the EPA Office of Research and Development's Gulf Ecology Division. It is located on a 16-acre man-made island on the Gulf of Mexico and occupies 92,400 square feet of laboratories, offices, and support operations.

Mission and Science Facilities

Scientists at the Gulf Breeze laboratory form an interdisciplinary team that uses state of the science knowledge and techniques and leverages its unique Gulf location to develop regional and national approaches to achieve a sustainable environment and enhance human well-being.

The Gulf Breeze facility has unique capabilities, including: a 14,000 ft2 wet laboratory for evaluating impacts of various stressors to a diversity of fresh and saltwater species. Facilities include a coral culture and experimental system; a 19,000 ft2 chemistry, microbial and molecular laboratory supporting analytical activities for each major research area; and a research fleet that includes three offshore and two nearshore vessels capable of deployment for field research and assessment throughout the Gulf coast region. A few examples of research conducted by Gulf Breeze scientists are summarized below.

Nutrient Pollution and the Gulf of Mexico Dead Zone



When too many nutrients are added to any body of water, it can lead to algal growth and low levels of oxygen (hypoxia) in the water. Gulf Breeze scientists developed and applied hydrodynamic models to link the flow of nutrients from the Mississippi River basin to areas of low levels of oxygen (the 'Dead Zone') in the Gulf of Mexico. By understanding this link, local and regional managers can make informed environmental decisions to minimize the input and impact of nutrient pollution.

Coral Reefs Assessments

Coral reefs worldwide are declining at an alarming rate and are under continuous threat from both natural and man-made environmental stressors. Scientists at the Gulf Breeze facility are providing tools to support healthy water and coral reefs in the Gulf of Mexico and the Caribbean. Research is focused on measuring the cumulative effects of good and poor environmental conditions on the biological community of the coral reefs. In addition, scientists at the Gulf Breeze laboratory are quantifying the market (fisheries and tourism) and non-market (shoreline protection) benefits of coral reefs.

Inform Community Planning Decisions

Gulf Breeze scientists have led community sustainability workshops in five communities in the Gulf States to devise methods for making science useful for community decision makers. These methods will assist community and environmental managers to understand the social and economic costs and benefits associated with different decisions. Decision trade-offs can range from business-as-usual to adopting innovative wastewater technologies or restoring wetlands.

For more information, please visit: https://www.epa.gov/aboutepa/about-gulf-ecology-division-ged-epas-national-health-and-environmental-effects-research