

Helping the nation meet current and future water resource challenges



National Water Extension Program

The National Oceanic and Atmospheric Administration (NOAA), The University of Alabama, and the Mississippi-Alabama Sea Grant Consortium have combined efforts to create a National Water Extension Program based at the National Water Center in Tuscaloosa, Alabama. The goal of the National Water Extension Program is to facilitate the delivery of resources that will allow communities and organizations to accurately and efficiently make vital short- and long-term planning decisions regarding the safety and security of their citizens and water resources.

Meet Karen Bareford, Sea Grant Water Extension Liaison



As the National Water Extension Liaison, Bareford is working to ensure

communities and organizations know about the National Water Model as well as to understand the water challenges they face and the associated needs for information and tools.

Clean, affordable water is critical for human, animal, and environmental health as well as for industry productivity. Sea Grant invests in science, outreach, and education connected with water resources to help the nation meet current and future water resource challenges.



The U.S. uses
355 billion
gallons of water
per day

Sea Grant's work on water resources includes specific research and outreach in the areas of contaminants, flood risk, harmful algal blooms, hypoxia, nutrient cycling, ocean acidification, risk communication, sea level rise, sediment loading, stormwater management, water supply and water quality.



151
clean marina
certifications*



51
research projects
on water*

Partnership Highlight: Sea Grant and USGS

Several Sea Grant programs are actively working and strengthening partnerships with the U.S. Geological Survey (USGS) through the association of many Sea Grant directors with the USGS Water Resources Research Institute (WRI) program. Joint regional meetings of Sea Grant and USGS are being held around the country to further explore partnership opportunities.



More information at seagrant.noaa.gov/water

*Reported in June 2017 for work completed Feb 2016 to Jan 2017

Florida Sea Grant makes positive progress on marine debris removal and microplastics detection



Florida Sea Grant trains citizen scientists to sample and analyze coastal water for microplastics. Photo: Florida Sea Grant

- Last year, the Florida Microplastics Awareness Project, funded by Florida Sea Grant and the NOAA Marine Debris program, reported 1,263 hours of volunteer training. Volunteers collected and analyzed 800 water samples for microplastics contamination from more than 300 locations, an effort valued at \$27,900. As a result of the program, 893 people have pledged to reduce their use of single-use plastic, a major contributor of microplastics pollution. Additionally, Florida Sea Grant hosted marine debris cleanup events resulting in more than 4,100 pounds of trash, 74 derelict crab traps, 5.2 pounds of used fishing line and 7 illegal lobster casitas being removed.

Ohio Sea Grant researchers develop low-cost sensor to improve harmful algal bloom detection



A harmful algal bloom contaminated the water outside Stone Laboratory in 2015. Credit: Justin Chaffin, Ohio Sea Grant

- The presence of cyanotoxins in water is an indicator for a potential harmful algal bloom. In 2014, a harmful algal bloom left 500,000 residents in Toledo without drinking water. In 2016, Ohio Sea Grant researchers successfully developed a low-cost sensor that can be used by water treatment utilities to promote better water quality and provide early warning capabilities to areas prone to the damaging effects of harmful algal blooms. Today, Ohio Sea Grant researchers continue to develop new ways to keep algal toxins out of drinking water.

Green is the new gray in stormwater infrastructure



To address local flooding concerns, Lake Champlain Sea Grant researchers study “green” stormwater infrastructure. Lake Champlain Sea Grant explored one method of green infrastructure called bioretention, which uses vegetation and soil to manage and treat stormwater runoff by slowing the speed of stormwater into nearby streams. Results have shown that bioretention removes excess nutrients responsible for increased algae growth (nitrogen and phosphorus) as well as reduces flash flooding.

Keeping Unwanted Medicine Out of Waterways



In 2016, Illinois-Indiana Sea Grant provided technical assistance to Clinton County, Illinois on starting a medicine collection program and supplied collection boxes to two local law enforcement offices. Sea Grant now supports a total of 51 permanent medicine collection programs across the Great Lakes. In 2016, these programs collected and properly disposed of 24,330 pounds of medication.

Using low-cost tech to detect toxic marine algae



Washington Sea Grant-supported researchers provided 45 teachers and 2,080 students with hands-on tools, curricula and assistance to use 3-D printers, micro-controllers, and cellphone imagers in order to produce transformative sensors for real-time, networked monitoring of toxic algae and other marine phenomena. Through instructional materials and training, they developed data-logging sensors coded with user-friendly software that is easy for students to program and operate.