ABOUT THE USM FOUNDATION

The University of Southern Mississippi Foundation is a non-profit organization committed to serving the University community by overseeing fundraising efforts to raise private support for scholarships and other academic needs at Southern Miss. The Foundation manages donor dollars to provide the most advanced educational opportunities available to students, faculty, staff, alumni and friends of Southern Miss.

The Foundation is governed by a volunteer Board of Directors whose members serve as advocates for the University, its colleges and programs. Foundation board members are committed to building successful partnerships with Southern Miss and its many generous supporters.

CONTRIBUTE

Making a gift online to the USM Foundation is fast, easy and secure through our online giving form.


SCHOLARSHIPS

The USM Foundation is dedicated to helping students find a way to achieve their higher education goals.


CAMPAIGNS

From building projects to program development, you can support a wide variety of areas at Southern Miss.


MISSION STATEMENT

The mission of The University of Southern Mississippi Foundation is to build relationships with alumni and friends in order to secure private funds and other resources for the benefit of The University of Southern Mississippi. As a non-profit organization, the Foundation receives, invests and distributes private gifts in support of the University’s mission. The Foundation provides service to our donors, our University and our community by encouraging commitment and investment in the future of the University.

Bennie A. Rohr GCRL Summer Field Program Scholarship Endowment (1573)

Douglas R. Cooper Scholarship Endowment (1445)

Dr. John R. Sharp Gulf Coast Research Lab Endowment (1168)

Drs. Julia and Thomas Lytle Coastal Sciences Scholarship (1154)

Grimes Distinguished Lecturer Fund (1049)

Gulf Coast Research Laboratory Development Fund (0183)

Gulf Coast Research Laboratory Recreational Fisheries Development Fund (2045)

Judith Bostwick Ocean Engineering Scholarship Endowment (2274)

Marine Education Center Development Fund (1307)

Marine Science Enhancement Fund (0113)

Miss Peetsy B Development Fund (1988)

Nick Baron Memorial Marine Science Education Endowment (1266)

Robin M. Overstreet Coastal Sciences Endowment (2022)

School of Ocean Science and Technology Development Fund (2262)

Tom McIlwain GCRL Fisheries Endowment (2038)

Whale Shark Research Fund (1966)

Alumna Enhances New Ocean Engineering Program Through Scholarship Endowment

Southern Miss alumna Judith Bostwick established the School of Ocean Science and Technology’s first scholarship endowment for the ocean engineering program with a gift of $27,000.

For more information, contact Pamela.moeller@usm.edu.

Each donation helps steer us forward in our mission to be the leader in marine education and research along the Gulf of Mexico!

To view all options and to make a donation to your choice of categories, just scan the QR codes below and go directly to the website.

Making a donation is a simple process that can be achieved online. Whether it be a one-time donation like the example shown here or a monthly $10 deduction from your paycheck, all contributions have an impact that keeps our mission moving forward. For your convenience, listed below are the SOST-related categories. To view the categories listed on our website, just scan this QR code.

SOST Specific Opportunities for Giving

From the Director

SOST - Making of a School

Division of Coastal Sciences

Division of Marine Science

Thad Cochran Marine Aquaculture Center

Marine Education Center

Center for Fisheries Research and Development

Year at a Glance

Hydrographic Science Research Center

Center for Gulf Studies

SOST Vessels

Our Locations

On the Horizon

Publications
Welcome to the inaugural Annual Report of the School of Ocean Science and Technology (SOST)! It seems a bit odd to call the SOST ‘new,’ when there are literally over 100 program-years standing behind this 2016 review. In these pages, you will see just a snapshot of the most recent activities from a 12-month period. Go back, however, to the 1930s as the country emerged from a Great Depression to understand the roots of the Gulf Coast Research Laboratory. Go to the 1980s as Mississippi Sen. John C. Stennis made what is now NASA’s Stennis Space Center home to the world’s largest gathering of professional oceanographers. These are the roots of USM’s School of Ocean Science and Technology, and while we are new in name, we are by no means new in reputation.

As you review the SOST 2016 activities, make special note of the stories scattered throughout the pages. These are only a highlight of the successes. Most of our story is not in these pages but found when you talk to our 350 faculty, staff and students spanning the Mississippi Gulf Coast. Most importantly, our work is not simply spread across the coastal counties but truly extends from satellites in space to vehicles in the deepest parts of the Gulf of Mexico. To adequately appreciate all that we are, we invite you to visit our campuses in Ocean Springs, at Stennis Space Center and at our emerging presence at the Port of Gulfport. I hope you see the level of pride I have in our SOST family as you review 2016... and SMTTT!

Monty Graham, Director
School of Ocean Science and Technology
The Making of a School

The University of Southern Mississippi has taken transformative steps to fortify its reputation as the leader in marine education and research along the Gulf of Mexico with the formation of the new School of Ocean Science and Technology.

The new school, housed within the College of Science and Technology, brings together marine-related research and education programs under one administration and harnesses elements from key areas of the University, including the Division of Marine Science based at the John C. Stennis Space Center in Hancock County; the USM Gulf Coast Research Laboratory (GCRL) and Division of Coastal Sciences in Ocean Springs, Miss; and the University’s fleet of five research vessels.

The fleet includes the new 60-foot R/V Jim Franks, completed in February 2016, and the 135-foot R/V Point Sur, acquired by the University in February 2015. The R/V Point Sur is the only oceanographic-class research vessel home-ported in the northern Gulf of Mexico, east of the Mississippi River.

“The creation of the new School of Ocean Science and Technology is perhaps one of the most significant events from this past academic year,” said Dr. David Hayhurst, dean of the University’s College of Science and Technology. “It is both timely and significant as the state of Mississippi is focusing on growth along the Gulf Coast, both industrial and fisheries. Our new school aligns incredibly well with the state’s economic development plan for the coastal area, as we are the academic and intellectual resource needed to help move this growth ahead.”

Benefits of SOST include increased educational opportunities for students such as the University’s unique degree offerings in the field of hydrographic science. SOST holds the distinction of being the only school in North America that offers an undergraduate degree in marine science with an emphasis in hydrographic science.
Majority of research funds support the experimental oyster aquaculture trials at Aqua Green.

Instruction includes all of the Division of Marine Science funds.

Plant operation & maintenance funds only support the Gulf Coast Research Laboratory.

Additionally,

To lead the newly formed school and the departments within, four University employees were appointed to leadership positions within the School of Ocean Science and Technology.

Upon the creation of the new school in June 2016, Dr. William (Monty) Graham was appointed to serve as director. Graham previously served as chair of the Division of Marine Science and interim director of GCRL. Graham received his bachelor’s degree in marine biology from the University of North Carolina, Wilmington; his master’s in marine science from the University of California, Santa Cruz; and his doctorate in biology with an emphasis in oceanography from University of California, Santa Cruz.

Currently serving as interim chair for the Division of Marine Science and associate director of SOST is Dr. Jerry Wiggert, associate professor of marine science. He has been with the University since 2007. He will serve in this position until a national search has been completed for the position of chair.

Wiggert received his bachelor’s degree in mechanical engineering at Case Western Reserve University; his master’s degree in aerospace engineering from the University of Southern California; and his doctorate in earth sciences from the University of Southern California.

Dr. Read Hendon was named associate director of GCRL. Prior to this new role, Hendon served as director of GCRL’s Center for Fisheries Research and Development.

Hendon is an alumnus of Southern Miss, earning his bachelor’s degree in biological science and his master’s and doctorate degrees in fisheries ecology. He has been employed with the University for 20 years, serving in the capacity of graduate research assistant to technician, research associate, and, now, associate director.

Assuming the position of chair for the Division of Coastal Sciences and associate director of SOST is Dr. Robert Griffitt, former interim chair of Coastal Sciences, who joined the Division of Coastal Sciences in 2008.

Griffitt received his bachelor’s degree in marine biology at the University of North Carolina, Wilmington; his master’s degree in marine science from the University of South Carolina; and his doctorate in environmental health sciences from the University of South Carolina.

Assuming the position of chair for the Division of Coastal Sciences and associate director of SOST is Dr. Robert Griffitt, former interim chair of Coastal Sciences, who joined the Division of Coastal Sciences in 2008.

Griffitt received his bachelor’s degree in marine biology at the University of North Carolina, Wilmington; his master’s degree in marine science from the University of South Carolina; and his doctorate in environmental health sciences from the University of South Carolina.
Overview

The Division of Coastal Sciences (COA) consists of 17 tenure-track faculty positions covering a wide range of disciplines within GCRL’s four core research areas. Presently, 13 of those faculty positions are filled, and a hiring plan is in place to return the division to full force. Our faculty is nationally recognized in their respective fields, having authored hundreds of scientific publications and serving on regional, national and international councils and advisory panels. Currently, 31 resident graduate students are working toward graduate degrees under the direction of the COA faculty.

Division of Coastal Sciences

Educational offerings through the division include both M.S. and Ph.D. degrees in coastal sciences. Students receive focused academic and hands-on training in a variety of marine-based fields. Graduates of this program have gone on to successful careers in the private and public sectors in the fields of research, education, management and aquaculture.

GCRL’s Summer Field Program provides undergraduate and graduate students an opportunity to learn about coastal environments in an intensive field and lab-based setting. On-site amenities include research vessels, dormitory, dining hall, research labs, library and a specimen museum.

Highlights

FACULTY

• Dr. Mark Peterson was appointed as a new associate editor of *Estuaries & Coasts* in late January.

• Dr. Eric Powell was appointed to the Atlantic Surfclam Working Group, the Ocean Quahog Working Group, and the Survey Design Working Group by NOAA NMFS.

• Dr. Richard Heard and Dr. Mark Peterson were granted professor emeritus status after their 2016 retirements.

• Dr. Leila Hamdan co-edited a special issue in *Limnology and Oceanography* titled “Methane emissions from oceans, coasts, and freshwater habitats: New Perspectives and feedbacks on climate.” While the issue was only published on November 9, 2016, a review article authored by Hamdan, and Dr. Kimberly Wickland (USGS) has already been cited twice, and articles contained in the issues have collectively received nearly 40 citations already indicating the depth of quality papers published and the timelines and significance of this topic. This was the first special issue published by *Limnology and Oceanography* since 2009.

• Dr. Leila Hamdan was also asked to co-chair the Coastal and Estuarine Research Federation’s 2019 conference in Mobile, Ala. During this two-year commitment, Hamdan will draw upon the expertise and energy at USM to develop a conference and scientific program that advances study, stewardship and education about estuarine, coastal and marine habitats.

The division has two new faculty members we are pleased to have on board.

Zachary Darnell, Ph.D.
Assistant Professor

Leila Hamdan, Ph.D.
Associate Professor
Our students come from across the nation and around the globe to...

Conduct research in the north-central Gulf of Mexico, one of the most biologically productive environments in the world. Study coastal and marine habitats at a lab strategically located on the Gulf of Mexico near salt marshes, estuaries, barrier islands and the Pascagoula River. Use the most advanced technologies and instruments available. Conduct research under nationally and internationally recognized scientists.

STUDENTS

- Trevor Moncreif won the 2016 Gulf and Caribbean Fisheries Institute (GCFI) Ron Schmeid Scholarship ($1,500) and the 2016 GCFI Best Oral Paper Award ($1,500) at the annual meeting in November in Grand Cayman.
- Danielle Simning won
  - The 2016 James D. Watkins Student Award for Excellence in Research at the GoMRI conference; and a
  - Travel award to present her research at the 2016 SETAC conference in Orlando.
- Jeremy Johnson won an NSF Graduate Research Fellowship.
- Elizabeth Jones won
  - The Student Presenter Award to attend/present research at 2017 Gulf of Mexico Research Institute (GOMRI) conference;
  - Nick Baron Scholarship to offset travel costs to national/international conference;
  - Third place in The University of Southern Mississippi’s Graduate Student Symposium in Health, Nursing, and Life Sciences.
- Sara Pace won an International Council for the Exploration of the Seas (ICES) early career scientist travel award to attend the annual meeting in Riga, Latvia in September 2016.
- Virginia R. Fleer. (3rd Place - Mike deGruy Student Presentation Award): Mississippi-Alabama SUMMER FIELD PROGRAM

GCRL’s Summer Field Program offers a unique, hands-on field experience. Established in 1947, our classes focus on studies of plants and animals in their natural habitats and physical processes in marine and coastal environments. Most classes are conducted in a focused laboratory and field setting. Courses utilize the GCRL fleet of research vessels to explore the Mississippi Sound and barrier islands. In addition to local boat and field trips, some classes take overnight trips to other areas of the Gulf of Mexico.

16 courses offered 140 students from 28 states and 45 different institutions 1887 credit hours generated
Overview

The Division of Marine Science (DMS) was established in the mid-1980s when the state assigned the University the leadership role in marine science research and education. Located at Stennis Space Center in Hancock County, DMS is situated among the largest community of oceanographers and hydrographers in the world. Researchers and students regularly interact with scientists from the National Aeronautics and Space Administration, the Naval Meteorology and Oceanography Command, the Naval Oceanographic Office, the Naval Research Laboratory, the National Data Buoy Center, and the U.S. Geological Survey.

Marine science degree programs (B.S., M.S., and Ph.D.) emphasize a cross-disciplinary approach in which all students obtain a working understanding of the four major fields of marine science: physical oceanography, geological oceanography, biological oceanography and marine chemistry. The division also offers a M.S. program in hydrographic science, which has received Category A certification from the International Federation of Surveyors/International Hydrographic Organization. The division currently has 13 tenure-track faculty, three research faculty, three research scientists, two instructors and seven postdoctoral scholars, whose research interests cover a broad range of marine sub-disciplines including physical oceanography and data assimilation; ocean optics; marine coastal sedimentary processes and micropaleontology; ocean productivity; geochemistry and trace chemical analysis; hydrographic science; coupled physical-biogeochemical modeling; development and application of ecosystem models; remote sensing, ocean acoustics; and numerical modeling. The following are a few of the locations in which faculty are conducting research: the Gulf of Mexico, including its major rivers and estuaries, the Mississippi Sound and Bight, the Chesapeake Bay, the Arabian Sea, the Indian Ocean, the northern Pacific Ocean, including the Japan Trench, and the western Antarctic peninsula.

Highlights

FACULTY

• Dr. David Wells was inducted into The Hydrographic Society of America’s (THSOA) Hydrographer Hall of Fame, which honors hydrographers who have had distinguished careers, contributed to the advancement of hydrographic science and provided exemplary service to THSOA.

• A paper co-authored by Dr. Vernon Asper and Dr. Arne Dieckes was chosen for inclusion in the 10th anniversary collection of the peer-reviewed Environmental Research Letters.

• Dr. Scott Milroy recently released a textbook entitled Field Methods in Marine Science: From Measurements to Models. His publisher, Garland Science (Taylor and Francis), featured it at the 2016 Ocean Sciences Conference in New Orleans, La.

• Dr. Alan Shiller received the USM College of Science and Technology, Outstanding Faculty Research Award for 2016.
In 2016, Division of Marine Science researchers received 25 awards for externally funded research projects totaling nearly $7.6 million.

**STUDENTS**

- Laura Whitmore, master’s student, marine chemistry
  - Received the 2016 Marine Scholar Award
  - Marine Technology Society Graduate Scholarship, 2016
  - Marine Science Scholar Award, Division of Marine Science, 2016
  - Outstanding MS Student, College of Science and Technology, 2016
  - Second Place Poster, Physical Sciences and Math, Susan A. Siltanen Graduate Student Research Symposium, 2016

- Lauren Quas, master’s student, hydrographic science
  - Selected as a Gulf of Mexico Research Initiative Scholar, which recognizes outstanding graduate students on a GoMRTI-funded project
  - Awarded the Hydrographic Society of America’s Southeast Chapter Scholarship

- Justin Blancher, master’s student, biological oceanography
  - Awarded first place for his poster presentation at the 2016 Bays and Bayous Symposium Mike deGruy Student Presentation Awards

- Stephan O’Brien, doctoral student, hydrographic science
  - Received the 2016 Outstanding Graduate Award
  - Received the Marine Technology Society Gulf Coast Chapter Scholarship

- Ashley Boyce, undergraduate, marine science
  - Received the 2016 Outstanding Undergraduate Award

- Peng Ho, doctoral student, marine chemistry
  - Gulf Coast Chapter of Marine Technology Society, Honorable Mention, 2016

- Dennis Wilson, master’s student, hydrographic science
  - Awarded a national scholarship from The Hydrographic Society of America

- Katriona Aleksa, doctoral student, biological oceanography
  - Awarded best poster at the 5th International Jellyfish Bloom Symposium in Barcelona, Spain.

- The student section of the Marine Technology Society received the 2016 Outstanding Student Section Award at the Oceans16 IEEE MTS conference in Monterey, Calif.
Overview
The Thad Cochran Center for Marine Aquaculture is located at the Cedar Point research site in Ocean Springs, Miss. Facilities include over 100,000 square feet of building space dedicated to aquaculture production and research. Facilities include 50,000 square feet of culture space for animals and algae and approximately 10,000 square feet of experimental space designed to accommodate isolated and replicated disease, nutrition, and genetics/reproductive physiology research. The facility contains isolated small-, medium-, and large-scale systems with single-pass climate control.

Welcome
In late November 2016, Southern Miss announced that Kelly Lucas, Ph.D., would serve as the new director for Thad Cochran Marine Aquaculture Center (TCMAC). Lucas joined TCMAC after serving as the chief scientific officer for the Mississippi Department of Marine Resources (MDMR).

Production Highlights
The center continued its partnership with the Mississippi Department of Marine Resources, producing spotted sea trout, Atlantic croaker, red snapper and blue crab for restoration and commercial development.

Atlantic Croaker
The center produced 1,554 post larvae Atlantic croaker in early spring 2016. About 1,232 Atlantic croaker juveniles were transferred to MDMR ponds for further development and to pond trials before being harvested and used for bait tests with retailers and charter captains.

Red Snapper
The center produced 3,521 post larvae red snapper during the 2016 summer run. About 1,232 Atlantic croaker juveniles were transferred to MDMR ponds for further development and to pond trials before being harvested and used for bait tests with retailers and charter captains.

Spotted Sea Trout
The center produced over 150,000 spotted sea trout in 2016. Over 100,000 of the spotted sea trout were transferred to lined ponds at MDMR’s Lyman facility for growth experiments. Additional experiments testing commercial development in recirculating systems were performed at TCMAC, and some of the spotted sea trout were transferred to Ocean Springs High School.

Blue Crab
There were two production runs for blue crabs in 2016 yielding over 100,000 larvae. Juveniles were used in pond studies to compare yield results and cost efficiency from artificial saltwater as opposed to pondwater with added ions. Additional experiments focused on the effects of disease on survival of crab larvae compared with healthy populations.

Oyster Production
TCMAC was pleased to work with state legislated funds to test pilot oyster larvae production at Aqua Green, a private hatchery in Wiggins, Miss., using artificial sea water in recirculating aquaculture systems. As part of the test pilot, approximately 166 million eyed larvae were produced, set and placed in the Mississippi Sound using leased reef areas, state reefs and academic test plots to gather needed restoration information. The Aqua Green trial was successful in developing techniques to optimize protocols for rearing oyster larvae in recirculating systems using artificial sea water and development of water treatment and maturation systems. Additionally, state-of-the-art microalgal culture technologies were developed onsite to output a premium feed product to optimize nutrition for growing oyster larvae. In November 2016, Gov. Phil Bryant announced the acquisition of the Aqua Green facility for an oyster hatchery and research center to be operated by USM using RESTORE funds.

Thad Cochran Marine Aquaculture Center

Dr. Kelly Lucas
Director - TCMAC
Outreach and Community Highlights

- The annual Ernie Zimmerman Live Catch CCA tournament was held in early December. This annual event organized by the Bay St. Louis CCA chapter brought in over 100 spotted sea trout that will replenish spawning stock at TCMAC.

- TCMAC staff, in conjunction with MDMR staff, set up learning labs at in the 38th Annual Peter Anderson Arts and Crafts Festival in Ocean Springs, Miss; the Pathways to Possibilities interactive career fair for eighth-grade students, held in Biloxi, Miss.; the annual Hurricane Bowl in Ocean Springs, Miss.; and the Biloxi, Miss.; Boat show. Tanks of juvenile red snapper and spotted sea trout always draw crowds and help staff educate the public about the importance of aquaculture.

- Additional outreach and community engagement has been garnered from an arrangement with MS-AL Sea Grant for extension specialist, Bill Walton, Ph.D., to assist with advancing oyster aquaculture in Mississippi.

- The TCMAC worked with the Ocean Springs High School (OSHS) Aquaculture program to supply spotted sea trout and oysters in 2016. This continued partnership between TCMAC and OSHS is important for education and training of students in the field of aquaculture.

Aquaculture students release 2,500 hand-raised trout into bayou

Students taking classes in aquaculture at Ocean Springs High School release trout into Halstead Bayou that they have been raising and caring for.
Overview

The Marine Education Center (MEC) is the education and outreach arm of The University of Southern Mississippi’s Gulf Coast Research Laboratory. Through its broad array of educational and outreach programs, the MEC provides an understanding of both the roles the Gulf of Mexico plays in our daily lives and how a science-based understanding of the fundamental issues of ecosystem health, resiliency and restoration will allow us to develop policies and frameworks necessary to sustain a healthy Gulf.

Our Vision

MEC’s vision is to support a career-based working environment, utilizing formal, non-formal, community engagement and higher education strategies to promote careers in marine science and foster community involvement.

We are a professional learning community and its programs reflect current coastal science research conducted within the Gulf of Mexico. While the MEC implements worldwide marine education outreach, the center’s primary focus is on the Gulf of Mexico with local audiences. MEC programs are designed to provide participants with a better understanding of the Gulf of Mexico and the diverse ecosystems found along the Mississippi Gulf Coast. This approach advances the understanding of coastal and marine sciences within the public sector, provides the tools coastal residents can use to become effective stewards, and advocates for the Gulf of Mexico through innovative educational experiences.

2016 saw major steps forward in the construction of the replacement of the J. L. Scott Marine Education Center at the University’s Cedar Point teaching site. The new Marine Education Center will be home to the School of Ocean Science and Technology’s informal education and outreach programs. The new facility will continue the legacy of providing educational opportunities to students, teachers, community leaders and the public at large. Construction is scheduled for completion in September 2017.

The 2017-2020 MEC Strategic Plan expands the primary objective of outreach to a focus on programs that fill the USM pipeline with potential undergraduates, graduate students, future educational staff, and School of Ocean Science and Technology students that graduate and seek STEM based careers.

2016 Highlights

During 2016, MEC continued to strive to meet its mission and worked to incorporate a broader mission with the formation of the School of Ocean Science and Technology. Below are a few of the highlights from 2016:

• New Construction

The new MEC construction project made significant progress and is scheduled to be completed in September of 2017. The facility will be a great example of how to build a resilient structure in a sensitive coastal environment and stay within budget.

• Sponsorship

This year marked the first time MEC entered into a corporate sponsorship. Shaggy’s restaurant agreed to donate $15,000 over a three-year period and sponsor Shaggy’s Angler Camp. Shaggy’s Angler Camp is for youth in the seventh through 12th grade and is designed to introduce them to saltwater angling along the Mississippi Gulf Coast and the biology and management of the fishery.

• Expanding Locations

Sea Camp, Shark Fest and our Catch More Fish with Science seminar series all expanded to the Gulf Park campus in Long Beach, Miss. All three programs were well received and will be expanded further in 2017.
**Growing Popularity**
Shark Fest, a weeklong summer day camp for youth in the seventh through 12th grades, continued to be a very popular offering. In 2016, the summer camp hosted students from 15 states and one participant from Guatemala, which demonstrates the popularity of the program.

**New Program**
Since a newly constructed pier was established for public use on Deer Island, the MEC designed a program that would utilize this new resource. The new program was developed in late 2016 and is called the Deer Island Discovery Program.

The program is designed for students from the fifth through 12th grade and will introduce participants to the island’s history, the Coastal Preserves Program, water quality and field ornithology. The program will be launched in early 2017.

**Future Partnership**
Early discussions are moving forward with the MEC taking a major role in the development and implementation of educational programs in the new Mississippi Aquarium that is planned for Gulfport. Mississippi Aquarium is projected to be open to the public in early 2019.

<table>
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<th>Strength in Numbers</th>
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<tbody>
<tr>
<td>1,363 Coastal Science Camps</td>
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<tr>
<td>1,905 Miss Peetsy 8 Tours</td>
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<tr>
<td>528 Marine Biologist in My Classroom</td>
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<tr>
<td>453 Summer Camps</td>
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<tr>
<td>140 Summer Field Program</td>
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<tr>
<td>300 Catch More Fish Seminars</td>
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<tr>
<td>138 Hurricane Bowl</td>
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<tr>
<td>40,000 Events and Festivals Participants - 44,827</td>
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Overview

For more than 40 years, the Center for Fisheries Research and Development (CFRD) has conducted independent scientific research to gain a better understanding of the biology and ecology of important fishery species, from brown shrimp, blue crabs and spotted seatrout in our coastal waters to red snapper, tunas and sharks offshore. All of the research is done in support of our overall mission: to develop and conduct research that promotes productive and sustainable fisheries (at state, regional and federal levels) and fosters academic excellence and public education.

2016 Research Highlights

• The Mississippi Stock Assessment Panel, composed of USM and Mississippi Department of Marine Resources (MDMR) scientists, conducted an assessment on the status of the state’s most popular coastal finfish species—spotted seatrout (a.k.a. speckled trout). The Commission on Marine Resources recently used this independently reviewed model to modify fishery regulations and promote long-term productivity and sustainability of the stock.

• CFRD and MDMR scientists completed the first year of sampling for the NFWF GEBF-funded Red Snapper and Reef Fish Assessment for Mississippi Coastal and Nearshore Gulf Waters project. This project is providing comprehensive data (numbers, age, growth, reproduction, diet, etc.) on the reef fish off Mississippi to support management of those fisheries vital to the Mississippi coastal economy through recreational, charter and commercial fishing.

• CFRD members attended the 1st Conference on Coastal Ecosystems Science and Management (EcoCIEC) hosted by Cuba’s Center for Coastal Ecosystems Research (CIEC), a department within the Cuba Ministry of Science, Technology and Environment, in Cayo Coco, Cuba. CFRD presented at the conference on the ecology and management of resources and models for achieving sustainable development. This meeting provided a formal opportunity to collaboratively conduct a scientific exchange of ideas on Cuba’s marine resources.

• The presence of Pelagic Sargassum in Caribbean and Gulf waters has been a topic of concern in recent years. CFRD scientists are some of the key researchers working on this algae to try to learn more about its biology, ecology, life history and transport mechanisms. Our researchers have engaged in collaborative summits with Woods Hole, the Sargasso Sea Commission and scientists from several Caribbean nations.

• GCRL chose to honor one of CFRD’s senior research scientists by naming its newest research vessel after him, the R/V Jim Franks. James S. Franks has more than 35 years of experience as a fisheries biologist and has over 50 publications. CFRD proudly participated in the commissioning of the vessel and the celebration of its namesake’s dedication to the marine environment.

• CFRD members served on the following committees during 2016: Mississippi Stock Assessment Panel; Southeast Area Monitoring and Assessment Program; NOAA’s Southeast Data Assessment and Review Panel; NOAA’s Marine Fisheries Initiative Advisory Panel; National Recovery and
Damage Assessment Fish Technical Working Group; Gulf of Mexico Fishery Management Council’s Scientific Statistical Committee; Gulf of Mexico Fishery Management Council’s Coastal Migratory Pelagics Panel; Western Central Atlantic Fishery Commission Advisory Committee; MDMR Blue Crab Taskforce; Wildlife Federation Board of Directors; Gulf States Marine Fishery Commission Crab Subcommittee; Western Central Atlantic Fishery Commission Advisory Committee; Gulf and Caribbean Fisheries Institute Pelagic Sargassum Panel.

**Outreach Highlights**

- The CFRD annual Marine Fisheries Workshop invites the public to come and hear about the research being conducted in our coastal waters. This workshop, funded by the MDMR and U.S. Fish and Wildlife Service Sport Fish Restoration Program, is a very popular event and features a panel of speakers from CFRD and MDMR. Topics covered at the 2016 event were juvenile tarpon, movements of cobia and tripletail, acoustic telemetry of red drum and bull sharks, and a review of the MDMR Tails ’n Scales program.

- Each year, our staff collaborate with the Mississippi Gulf Coast Billfish Classic to obtain critical biological information on the pelagic species encountered.

- Jill Hendon was highlighted as a scientist of the month by the Gills Club, hosted by the Atlantic White Shark Conservancy. The Gills Club encourages young girls to engage in science, technology, engineering and math by being “smart about sharks.”

- CFRD members encourage students in our region to learn about our coastal ecosystem by participating in events such as Peter Anderson, Pathways to Possibilities, Hurricane Bowl, judging local science fairs, offering shadowing opportunities for all age students, and developing educational presentations for visiting school groups.

The CFRD’s Shark Research Program collaborated with the Audubon Aquarium of the Americas to create an outreach event during Discovery Channel’s Shark Week. CFRD staff designed hands on activities educating visitors on sharks and their role in our oceans. Visitors also got an up-close look at the actual research currently being conducted by the Shark Research Program. Over 14,000 visitors came to experience Shark Week with CFRD.
2016 Year at a Glance

**OCEAN SPRINGS HIGH SCHOOL AQUACULTURE**

February 4, 2016 — The second-year program received 3,600 gallons of salt water and 200 sea trout from DMR and SOST on Feb. 4 to prepare for their expansion into a sea trout program.

**REEF FISH ASSESSMENT COLLABORATION**

April 2016 — SOST scientists initiated sampling for Mississippi’s first comprehensive red snapper and reef fish assessment, in collaboration with MDMR through funding by NFWF.

**R/V JIM FRANKS COMMISSIONING**

June 18, 2016 — SOST’s newest vessel, named after long-time GCRL employee Jim Franks, was commissioned at a ceremony in Biloxi, Miss.

**POINT SUR BONNET CARRE SPILLWAY**

January 9, 2016 — In response to the earliest opening of the Bonnet Carré Spillway, in its 85-year history on January 9, researchers with the CONsortium for oil spill exposure pathway in Coastal River-Dominated Ecosystems led a three-day research effort aboard The University of Southern Mississippi’s R/V Point Sur to address key ecological questions regarding the impact of a large freshwater plume within Mississippi coastal waters.

**PELAGIC PARTNERSHIP**

February 19, 2016 - The University of Southern Mississippi Research Foundation and Pelagic Research Systems announced the signing of a joint asset and expertise collaboration. The pairing of resources in the Gulf of Mexico will greatly expand ocean research capabilities for offshore works.

**SOST ANNOUNCEMENT**

June 13, 2016 — The University of Southern Mississippi took transformative steps to fortify its reputation as the leader in marine education and research along the Gulf of Mexico with the formation of a new School of Ocean Science and Technology.
HYDROGRAPHIC SCIENCE
August 4, 2016 — Thirteen graduates of the Joint International Hydrographic Applied Science Program at The University of Southern Mississippi were recognized during a special ceremony held by the Division of Marine Science at John C. Stennis Space Center.

OCEAN ENGINEERING CURRICULUM APPROVED
November 17, 2016 — The State Institution of Higher Learning Board of Trustees approved the University’s request to offer a Bachelor of Science in Computer Engineering and a Bachelor of Science in Ocean Engineering.

AQUA GREEN
December 2016 — In a project proposed by Gov. Phil Bryant, the state of Mississippi will provide $7.7 million in funding from requested BP settlement dollars for USM to acquire the Aqua Green hatchery facility located in Perkinston, Miss.

WICKER TOURS VESSELS

GROUND BREAKING AT PORT
November 14, 2016 — With State officials and Mississippi State Port Authority faculty, SOST celebrated the groundbreaking of the new Marine Research Center, which will be completed in early 2018.

LUCAS HIRED
November 2016 — SOST named Dr. Kelly Lucas director of the Gulf Coast Research Laboratory’s Thad Cochran Marine Aquaculture Center.
The Hydrographic Science Research Center (HSRC) was established in 2001 to assess emerging trends in hydrography and implement the most promising trends into operational use. To that end, the HSRC has provided innovative solutions to precise positioning, water level measurements, sensor development, and novel uses for hydrographic data.

Overview

The HSRC has had Airborne Lidar Bathymetry (ALB) as one of its primary focus areas since its inception. Projects that were completed in 2016 with the ALB focus include:

- Under funding from the U.S. Army Corps of Engineers (USACE), graduate student Johnson Oguntuase evaluated the relative accuracies of various real-time and post-processing methodologies for precise positioning airborne lidar bathymetry (ALB) measurements. The ultimate goal was to determine if baseline distance between Global Navigation Satellite System reference stations could be extended, thereby increasing the efficiency and reducing the cost of ALB surveys.

- Also under USACE funding, graduate student Dennis Wilson compared contemporaneously collected shipboard multibeam echo sounder (MBES) survey to an ALB survey. Frequently, non-rigorous comparisons of MBES surveys to ALB surveys lead to anecdotal reports, calling into question the accuracy of ALB surveys. Wilson’s comparison highlighted many of those discrepancies are due to differences in how the vertical datum are referenced between the two surveys.

- As the custodian of the Environmental Acoustic Recording System (EARS), the HSRC is supporting the GOMRI-IV consortium lead by University of Louisiana, Lafayette. The EARS buoys are deployed to record sperm and beaked whale activity in the vicinity of the Deep Water Horizon oil spill. Dr. Danielle Greenhow is the data manager for the consortium.

- A NOAA Office of Coast Survey grant to investigate the feasibility of incorporating ALB data onto navigational
charts was initiated in 2016. Under the leadership of research scientist Mick Hawkins, graduate students Johnson Oguntuase, Dennis Wilson, Joshua Bergeron and Denis Karamagi investigated ALB surveys that were favorable candidates for inclusion, quality assured the data and formatted the data for processing by NOAA’s Atlantic Hydrographic Branch.

- Under the focus area of novel uses for hydrographic data, graduate student Kandice Gunning is preparing to use MBES data collected by our industry partner, David Evans & Assoc., to monitor the changes in oyster reefs over a three-year period. This National Fish & Wildlife Foundation-funded project will assess the different development rate of three reefs constructed of different substrate. While volumetric analysis is sufficient to accomplish the analysis, acoustic waveform and backscatter analysis will also be performed to determine if those signals provide an indication of reef vitality.

- Also, a novel use of hydrographic data is supporting the GOMR-IV CONCORDE project by analyzing the water column return from MBES to correlate phytoplankton density detected via imaging and trawling. Graduate students Maxwell Williamson and Lauren Quas, under the guidance of Dr. Ian Church, are performing the analysis.

- New for 2016 is a NOAA Office of Coast Survey Grant that establishes a Mapping Center at USM. The Mapping Center is executing a number of tasks to enhance hydrographic science.

- In the ALB focus area, graduate student Shara Gemillion is using existing ALB data along the Gulf Coast to highlight shoreline changes. Denis Karamagi and Joshua Bergeron are preparing ALB surveys in the Great Lakes for inclusion on navigational charts. Dennis Wilson is analyzing ALB data to evaluate the ability to detect small objects proud of the seafloor.

- Graduate student Johnson Oguntuase is analyzing the new characteristics of the GPS constellation and new international GNSS constellations to determine if novel processing techniques would yield enhancements in precise positioning.
Overview

The Center for Gulf Studies was established to address a central scientific purpose — to establish a comprehensive and integrated observing, monitoring and mapping program to understand and forecast ecosystem dynamics in the northern Gulf of Mexico. Here, the ecosystem broadly includes all components of the coastal and ocean system, including human use.

2016 Priorities

The Center for Gulf Studies was organized to help address research priorities identified in the RESTORE Act and the Mississippi GoCoast 2020 Report, as well as those identified through existing collaborations such as the Gulf of Mexico Alliance and the Gulf of Mexico Coastal Ocean Observing System. The main goal for 2016 was to codify the designation as the Center of Excellence under the RESTORE Act by submitting a successful proposal for funding through the Mississippi Department of Environmental Quality.

Our Focus

- Gaining a comprehensive understanding of the productive northern Gulf ecosystem, including humans, as it relates to environmental forcing
- Adaptive and deployable platforms, sensors and mapping systems to improve studies, monitoring (such as monitoring to help measure the success of RESTORE-funded restoration projects in Mississippi), and forecasts
- Development of a vertically structured observing system from sub-seafloor to satellites
- A breadth of spatial and temporal scales from basin depth to coastal and the geologic past to the forecast future
- Development and application of new, integrated ocean monitoring and observing technologies and data processing strategies for enabling improved ecosystem knowledge and prediction
- Exploratory approaches utilizing observing and mapping platforms to identify and characterize novel biotechnologies
- Event-driven impacts such as storms, earthquakes and other geologic events (e.g. new oil and gas seeps, oil spills and other incidents)
- Integration of social and economic drivers with new data and technological resources
- Visualization tools and data products for scientists, the public and decision-makers
- Supporting development of integrative computational tools used in coastal resource Management Strategy Evaluation approaches

Under the RESTORE Act, 0.5 percent of the Clean Water Act fines levied for the Deepwater Horizon oil spill directed to the Gulf Coast Restoration Trust fund will be made available to the Center for Gulf Studies as the designated Center of Excellence for the State of Mississippi. The MBRACE Executive Steering Committee, and the Core Research Program that will be established under MBRACE, will use these funds to support some of the above focus areas as determined.

This Core Research Program is an important opportunity for the Center for Gulf Studies as it will enable the establishment of an active, center-driving science for the public good in the northern Gulf of Mexico. An advantage of the Core Research Program is that it will also build strong

Faculty Affiliates

All faculty members at USM and partner institutions have an opportunity to become faculty affiliates of the Center for Gulf Studies. During 2016, Mr. Robert Arnone, research professor of marine science, became an official affiliate of the center.
collaborations among researchers at the four state research universities. Once collaborators at the four universities have had an opportunity to work together, there should be future opportunities for collaboration in seeking other joint research initiatives.

During 2016, a chief scientist was employed for MBRACE, Mr. Landry Bernard. Mr. Bernard was previously associate executive director of the Gulf of Mexico Coastal Ocean Observing System. Under his leadership, the Science Plan for MBRACE was drafted in 2016 and submitted to the MBRACE Executive Steering Committee for review. Approval is anticipated in early 2017.

The primary challenge in 2016 was in working with MDEQ in a collaborative manner to establish MBRACE and secure funding. We anticipated this process would go smoothly and funding would be in place by the mid-2016. Our team did an outstanding job developing the proposal and submitting it to MDEQ. MDEQ submitted the proposal to the Department of Treasury by incorporating our proposal into theirs. Treasury funded the proposal for MBRACE, effective September 1, 2016. By the end of 2016, USM had yet to successfully negotiate an agreement to receive the funds.

Outreach and Service Activities
- Mr. Landry Bernard represented the center at various public meetings related to the oil spill throughout the year.
- Dr. Denis Wiesenbarg and Mr. Robert Arnone participated in the RESTORE Summit hosted by the Mississippi Department of Environmental Quality at the Convention Center in Biloxi, Miss., on November 15, 2016. MBRACE hosted a booth that highlighted some of the research plans for MBRACE. In addition, we showed some of the equipment to be used by MBRACE researchers (gliders, ROVs) and had a display screen running a numerical model of the Mississippi Bight area. Many state leaders attended the RESTORE Summit, including Gov. Phil Bryant.

Students and Post-docs Supported
No students were supported as the center has not yet received the anticipated funding from the RESTORE Act. Robert Arnone supports post-doctoral fellows Inia Soto Ramos and Brooke Jones in the Ocean Weather Laboratory.

Goals for 2017
- Finalize the funding for MBRACE by successfully negotiating an agreement with MDEQ regarding funding and operation of MBRACE
- Employ a deputy director for MBRACE to manage the day-to-day operations
- Develop a strong working relationship with our partners at the four Mississippi research universities
- Develop a Request for Proposals (RFP) to be used as the basis for funding the MBRACE Core Research Program and award funding to partner universities
- Seek other opportunities for research funding for Center for Gulf Studies affiliates
- Organize a Faculty Affiliates initiative and recruit faculty and research scientists to become affiliates with the Center for Gulf Studies
SOST Vessels

Overview
Vessel operations at The University of Southern Mississippi act as a nonprofit support center with the multi-mission goal to provide additional resources that will aid in research, education and outreach programs along the Gulf Coast.

Our Fleet

- **Miss Peetsy B**
The *Miss Peetsy B* is a 34-foot passenger vessel with a capacity of 34. The boat was originally donated to The University of Southern Mississippi by Jimmy Buffet and his sisters, in honor of their mother who had a passion for education. This vessel is used primarily by GCRL’s Marine Education Center for their outreach programs with local schools and summer camps. *The Miss Peetsy B Bayou Tours* explore the marsh habitats of the Mississippi Sound through specimen collection, water quality testing and observation.

- **R/V Hermes**
Christened in 1955, *R/V Hermes* is a 38-foot steel trawler with a capacity of 20 passengers. The vessel has provided transport to thousands of passengers for field excursions and in-house research projects. A day onboard *R/V Hermes* entails trips to the barrier islands, dolphin watching, and trawling for fish, shrimp and bottom dwelling marine life.

- **R/V Jim Franks**
The 60-foot research vessel (*R/V) Jim Franks* is the newest addition to The University of Southern Mississippi’s fleet. Equipped for both day cruises and overnight trips, the *R/V Jim Franks* enhances and expands the high-quality education and research opportunities the University provides as a leading marine science institution. The vessel also provides valuable benefits to our community and associated marine economy.

It features both wet and dry laboratories, which allow University researchers to conduct projects such as water testing, trawling, long-lining, surveying and research trips to the Mississippi barrier islands. For day cruises, the *R/V Jim Franks* has a maximum capacity of 40 passengers, and it sports a cruising speed of 18 knots and a top speed of 24 knots.

The vessel was named in honor of James S. (Jim) Franks, one of GCRL’s most recognized scientists, who has been with the laboratory for over 35 years.

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**Research - 2.9%**

**Education - 2.9%**

**Outreach - 94.2%**

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**Research - 31.5%**

**Education - 37%**

**Outreach - 31.5%**

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**Number of Days at Sea - 377**

- **R/V Point Sur**: 117 days
- **R/V Tommy Munro**: 81 days
- **R/V Jim Franks**: 92 days
- **Miss Peetsy B**: 68 days
- **R/V Hermes**: 19 days
- **R/V Tommy Munro**
  The *R/V Tommy Munro* is a 97-foot oceanographic research vessel used primarily for offshore research in the Gulf of Mexico. The *R/V Tommy Munro* has conducted a variety of research activities to include: trawling surveys, side-scan work, seismic research, oceanographic surveys, and deployment of structures, buoys and moorings.

- **R/V Point Sur**
  In February 2015, The University of Southern Mississippi purchased the Point Sur research vessel from San Jose State University through a $1 million grant provided by the Mississippi Department of Environmental Quality. After making a three-week journey from San Jose, Calif., to the Mississippi Gulf Coast through the Panama Canal, the Point Sur is now docked at the Port of Gulfport. It is the only oceanographic class research vessel home-ported in the northern Gulf of Mexico east of the Mississippi River.

Built in 1980, the 135-foot-long vessel accommodates 13 researchers and technicians and a crew of eight, while housing a 1,110-square-foot deck that includes a primary laboratory and a wet laboratory. For day cruises, the Point Sur has a capacity of 40 researchers. The vessel sports a cruising speed of 9.5 knots and a range of 6,800 nautical miles at 10 knots.

- **Gulf Coast Research Laboratory**
  Research and academics at GCRL’s 275-acre site focus on coastal ecology, aquatic health, fisheries and fisheries ecology, marine aquaculture, and outreach and education through the Division of Coastal Sciences, the Center for Fisheries Research and Development, the Marine Education Center, and the Thad Cochran Marine Aquaculture Research Center.

- **Halstead**
  This 50-acre site is the original GCRL location on Davis Bayou in Ocean Springs, Miss. Numerous academic, research and administrative units are located at this site, including dormitory, dining and classroom facilities supporting the long-running Summer Field Program. The harbor at the Halstead harbor is home to the *R/V Jim Franks, R/V Hermes* and *Miss Reetsy B*, and its boat launch supports small boat research and academic operations.

- **Cedar Point**
  Acquired in the 1990s to support GCRL’s emerging marine aquaculture program, Cedar Point encompasses 225 acres adjacent to the National Park Service’s Gulf Islands National Seashore in eastern Ocean Springs. Two current construction projects at Cedar Point will further expand this site’s capabilities with the Toxicology Building and the Marine Education Center coming online in 2017.

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**2016 Highlights**

- In Jan. 2016, GCRL’s Harbor Restoration Project began by outfitting the harbor with new decking, pilings for mooring the vessels, lighting and electrical work to support a much larger vessel.

- In Feb. 2016, the *R/V Jim Franks* returned home after a year of construction at Geo Shipyard in New Iberia, La. Planning of the vessel began in 2013, construction started in 2015, and took one year and $2.5 million dollars to construct.

- On March 21, 2016, the *R/V Tom McIlwain* was retired after 16 years of service at GCRL and a total of 38 years on the water. The vessel was named after one of GCRL’s former directors, Tom McIlwain, who passed away in 2012.
The University of Southern Mississippi plans to obtain an existing hatchery and aquaculture facility that will allow the University to lead oyster restoration efforts in an effort to boost the state of Mississippi's oyster population and grow the state's Blue Economy.

In a project proposed by Gov. Phil Bryant, the state of Mississippi will provide $7.7 million in funding from requested BP settlement dollars for USM to acquire the Aqua Green hatchery facility located in Perkinston, Miss. The purchase of this facility will provide Southern Miss with the resources to work toward producing an expected goal of 10 billion oyster larvae annually. The Mississippi Legislature is providing the remaining $3.0 million for the facility.

“This is a tremendous opportunity for The University of Southern Mississippi to utilize scientific research and oyster aquaculture as a remedy to aid in the restoration of Mississippi's depleted oyster reefs,” said Dr. Gordon Cannon, Southern Miss Vice President for Research. “We are grateful to Gov. Bryant and the Mississippi Legislature for continuing to support our scientific and academic efforts, which positively impact the Gulf Coast.”

Commercial oyster landings in Mississippi have declined from more than 400,000 sacks in 2004 to less than 27,000 sacks in 2015. The state of Mississippi, through the Governor's Oyster Restoration and Resiliency Council (Council), has identified aquaculture as a way to help restore Mississippi's oyster reefs.

The new Marine Education Center will open to the public and students in early 2018. The $16.1 million center is located at the Cedar Point campus on Davis Bayou in Ocean Springs, adjacent to the Gulf Islands National Seashore Park. USM's funding partners for the project include the Federal Emergency Management Agency and the Mississippi Department of Marine Resources. It is expected that the Marine Education Center will host 30,000 visitors and another 9,000 students annually.

The marine education team is focused on creating an experiential learning environment where participants have a come-and-do “rather than solely a come-and-see” experience. Both visitors and students can learn about coastal estuaries by paddling with marine educators in kayaks on the bayou or boarding the Miss Peetsy B to pull a trawl, sampling and learning about marine organisms like shrimp, oysters, squid, jelly fish and flounder. Participants will utilize the site's trail system to access key points on the bayou, taking water samples and returning to the Citizen Science Laboratory at the center to process their samples and record the results. The center has classrooms for shark dissections, constructing and launching ROVs (Remotely Operated Vehicles), modeling the impact of sea-level rise or demonstrating how aquaculture supports replenishing the Mississippi oyster population.

The center provides a focal point for the University where the innovative scientific research undertaken by USM scientists and partners is shared and communicated to visitors and students forming a connection to the Mississippi Gulf Coast and The University of Southern Mississippi's School of Ocean Science and Technology.
In an effort to expand strong academic programs in high-demand Science, Technology, Engineering and Mathematics (STEM) fields, The University of Southern Mississippi will soon offer two new Bachelor of Science degrees through its College of Science and Technology.

The State Institutions of Higher Learning Board of Trustees approved the University’s request to offer a Bachelor of Science in computer engineering and a Bachelor of Science in ocean engineering on Nov. 17, 2016. After receiving approval from the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC), both programs are on track to launch this fall.

Amid national dialogue about the demand for more STEM graduates, industries in Mississippi have conveyed the need for more engineers, resulting in the University initiating these new degrees to meet critical business and educational needs in south Mississippi.

In support of the state’s ongoing economic development opportunities and Gov. Phil Bryant’s emphasis on the “Blue Economy,” Southern Miss has planned these academic programs with coastal students and business needs in mind.

Commissioners of the Port Authority authorized advertisement for the $10 million structure, which will serve as the marine operations and research facility for USM’s School of Ocean Science and Technology, as well as enhance and beautify the industrial “front door” of the Port of Gulfport.

“The facility will play a significant role in growing Mississippi’s Blue Economy, which is a strong economic driver for the Gulf Coast region and the entire state,” said Gov. Phil Bryant. “I congratulate the leadership of the Mississippi State Port Authority and USM on this milestone event and look forward to visiting this state-of-the-art research center once construction is complete.”

The addition of a research center further solidifies the partnership between the two state institutions and allows for far-reaching benefits well beyond the waters of the Mississippi Sound.

Construction on SOST’s new Toxicology building located at Cedar Point is nearing completion. The 11,000-square-foot building will replace the old Toxicology building that was heavily damaged during Hurricane Katrina in 2005.

The new state-of-the-art facility will be one of the few in the country, which allows totally controlled long-term exposure projects.

SOST’s Toxicology program will gain possession of the building in mid-April with completion in May.
2016 Publications

THAD COCHRAN MARINE AQUACULTURE CENTER


CENTER FOR GULF STUDIES


MARINE EDUCATION CENTER


CENTER FOR FISHERIES RESEARCH AND DEVELOPMENT


DIVISION OF COASTAL SCIENCES


Hedgpeth, B. and R.J. Griffitt. 2016. Simultaneous exposure to chronic hypoxia and dissolved PAHs results in reduced egg production and larval survival in the sheepshead minnow (Cyprinodon variegatus). Environmental Toxicology and Chemistry 35(3): 645-651.


DIVISION OF MARINE SCIENCES


Transactions of the Royal Society A 374(2081):20150285.


Each donation helps steer us forward in our mission to be the leader in marine education and research along the Gulf of Mexico!

Alumna Enhances New Ocean Engineering Program Through Scholarship Endowment

Southern Miss alumna Judith Bostwick established the School of Ocean Science and Technology’s first scholarship endowment for the ocean engineering program with a gift of $27,000.

SOST Specific Opportunities for Giving

- Bennie A. Rohr GCRL Summer Field Program Scholarship Endowment (1573)
- Douglas R. Cooper Scholarship Endowment (1445)
- Dr. John R. Sharp Gulf Coast Research Lab Endowment (1168)
- Drs. Julia and Thomas Lytle Coastal Sciences Scholarship (1154)
- Grimes Distinguished Lecturer Fund (1049)
- Gulf Coast Research Laboratory Development Fund (0183)
- Gulf Coast Research Laboratory Recreational Fisheries Development Fund (2045)
- Judith Bostwick Ocean Engineering Scholarship Endowment (2274)
- Marine Education Center Development Fund (1307)
- Marine Science Enhancement Fund (0113)
- Miss Peetsy B Development Fund (1988)
- Nick Baron Memorial Marine Science Education Endowment (1266)
- Robin M. Overstreet Coastal Sciences Endowment (2022)
- School of Ocean Science and Technology Development Fund (2262)
- Tom McIlwain GCRL Fisheries Endowment (2038)
- Whale Shark Research Fund (1966)

For more information, contact Pamela.moeller@usm.edu.

To view all options and to make a donation to your choice of categories, just scan the QR codes below and go directly to the website.

CONTRIBUTE
Making a donation is a simple process that can be achieved online. Whether it be a one-time donation like the example shown here or a monthly $10 deduction from your paycheck, all contributions have an impact that keeps our mission moving forward. For your convenience, listed below are the SOST-related categories. To view the categories listed on our website, just scan this QR code.

SCHOLARSHIPS
The USM Foundation is dedicated to helping students find a way to achieve their higher education goals. For more information, contact Pamela.moeller@usm.edu.

CAMPAIGNS
From building projects to program development, you can support a wide variety of areas at Southern Miss.

ABOUT THE USM FOUNDATION
The University of Southern Mississippi Foundation is a non-profit organization committed to serving the University community by overseeing fundraising efforts to raise private support for scholarships and other academic needs at Southern Miss. The Foundation manages donor dollars to provide the most advanced educational opportunities available to students, faculty, staff, alumni and friends of Southern Miss.

The Foundation is governed by a volunteer Board of Directors whose members serve as advocates for the University, its colleges and programs. Foundation board members are committed to building successful partnerships with Southern Miss and its many generous supporters.

MISSION STATEMENT
The mission of The University of Southern Mississippi Foundation is to build relationships with alumni and friends in order to secure private funds and other resources for the benefit of The University of Southern Mississippi. As a non-profit organization, the Foundation receives, invests and distributes private gifts in support of the University’s mission. The Foundation provides service to our donors, our University and our community by encouraging commitment and investment in the future of the University.