



Louisiana NASA Space Grant & EPSCoR (LaSPACE)
in partnership with
Louisiana Sea Grant (LSG)

2021 Louisiana Space + Sea Grant Meeting Primer

**Connections & Collaboration Opportunities between
NASA Space Grant and NOAA Sea Grant**
<https://laspace.lsu.edu/laspace-meetings/>

Friday, March 12, 2021 | 11:00 am – 5:00 pm CST (12-6 pm EST)

Zoom Meeting Link:

<https://lsu.zoom.us/j/96309518281?pwd=eEt2NGk1M2FjYjZreklwRExjN1BBdz09>

Meeting ID: 963 0951 8281 | Password: 025550

2021 Louisiana Space + Sea Grant Meeting Agenda

- 11:00 am** **Opening Remarks (15 min)**
Sam Bentley, Vice President, LSU Office of Research & Economic Development (ORED)
- 11:15 am** **Introduction to NASA EPSCoR, Space Grant, & Sea Grant Programs (45 min)**
LaSPACE & NASA EPSCoR Program Overview, Greg Guzik, LaSPACE Director
LA Sea Grant Program Overview, Robert Twilley, LSG Director
NC Space & Sea Grant Program Overview, Susan White, NC Space & Sea Grant Director
- 12:00 pm** **NASA EPSCoR Research Implementation Project 1 (30 min + 15 min Q&A)**
Cross the boundaries: Inter-disciplinary Studies of Coastal Hazards using Coupled Numerical Modeling, Z George Xue, LSU, Associate Professor, Department of Oceanography and Coastal Sciences (Center for Computation and Technology, joint)
- 12:45 pm 90 Minute BREAK**
- 2:15 pm** **NASA EPSCoR Research Implementation Project 2 (30 min + 15 min Q&A)**
Artificial Intelligence-Enhanced Space Surveillance for Sea Resources Safety, Zhiqiang Deng, LSU, Professor, Department of Civil and Environmental Engineering
- 3:00 pm** **NASA & NOAA Panel Discussion (25 min + 50 min Q&A)**
Four-person panel (2 from each agency) with brief introductory presentations regarding current research and funding opportunities for work that is a priority to both agencies.
Jeppie Compton, NASA EPSCoR National Program Manager
Nikola M. Garber, NOAA National Sea Grant College Program, Deputy Director
Laura Lorenzoni, NASA SMD, Program Scientist, Ocean Biology & Biogeochemistry Program
Trevor Meckley, NOAA Effects of Sea Level Rise, Program Manager
- 4:15 pm** **Louisiana & North Carolina Sea & Space Grant Leadership Panel (45 min Q&A)**
Review of current opportunities and open discussion about next steps for collaborations across our programs.

NASA Space Grant

The National Space Grant College and Fellowship Program (NASA Space Grant) was established by Congress in 1989. It is a competitive, highly effective national partnership program responsive to NASA-aligned state, regional, and national priorities. Programs are tailored and administered by State consortia as catalysts to enhance STEM literacy and prepare students for careers in STEM fields to meet future national workforce needs. NASA Space Grant has active programs in all 52 jurisdictions (all 50 states plus D.C. and Puerto Rico) with a combined affiliate network in excess of 1000 institutions.

All consortia engage students in authentic STEM-based learning experiences. Programs comprise internships, fellowships, and apprenticeships involving NASA staff and facilities and industry partnerships. Hands-on experiences consist of launch vehicle and payload development, engineering challenges, space flight operations, UAVs, remote sensing, and direct participation in STEM research. Space Grant also offers some support for K-through-12 educator professional development and public scientific literacy events. Space Grant relies on state-based networks in partnership with NASA to cultivate a diverse, inclusive, and broad-based high-technology workforce in academia, industry, and government.

NASA Space Grant in Louisiana

The Louisiana Space Grant Consortium (LaSPACE) is a statewide consortium of academic institutions and other organizations that was established in 1991 under the National Space Grant College and Fellowship Program. LaSPACE is a consortium of institutions of higher education, state education boards, and non-profit organizations that coordinate statewide programs to strengthen aerospace research, education, and public outreach throughout the State of Louisiana.

Each NASA Space Grant jurisdiction has a designated lead institution, which manages both the fiscal and programmatic elements of the Space Grant award. In Louisiana, the lead institution is Louisiana State University and A&M College (LSU) in Baton Rouge. Since its inception, LaSPACE has been housed in the Department of Physics and Astronomy at LSU, with additional campus support and oversight from the College of Science and the Office of Research & Economic Development.

NASA's National Space Grant College and Fellowship Program is a federal-state partnership. Base funding is awarded via Cooperative Agreement Notice Solicitations issued by the NASA Office of STEM Engagement (OSTEM). State support for the partnership is partially fulfilled with a combined cash match from the Louisiana Board of Regents and LSU. Further match funds are generated by our affiliates posting a cost-match on some of our program subawards.

NASA Space Grant Funding Opportunities in LA

For nearly three decades, LaSPACE has provided a customized state-based program that addresses the evolving priorities of NASA and state of Louisiana objectives. We are an open consortium, which means membership is open to all institutions in Louisiana interested in supporting the development of aerospace infrastructure, capability, and workforce in Louisiana aligned with NASA and state needs. No fee is charged for LaSPACE affiliate membership, but the institution must agree to support and promote LaSPACE programs locally. A majority of the LaSPACE federal and state cost share funding is used exclusively for competitive awards. Detailed information and proposal guidelines for all of our programs are included on our website: laspace.lsu.edu. Summaries are included here:

- **[HIS \(LaSPACE HBCU Institutional Scholars\)](#)**
 - This program is exclusive to our HBCU affiliates, including Dillard, Grambling, Southern, SUNO, and Xavier.
 - This program aims to mentor undergrad STEM students and engage them in space/aerospace science and technology research or experiential experiences. We typically see great resume-building and early professional-development opportunities through these programs. Each campus does things differently and the Principal Investigator manages which students work on the project.
- **[LURA \(LaSPACE Undergraduate Research Assistantship\)](#)**
 - This program is directed at undergrad science and engineering students who are interested in space/aerospace science and technology. The funds are meant to provide a hands-on, mentored research experience relevant to NASA.
 - This program is a joint effort between a faculty researcher who serves as mentor and project Principal Investigator and an undergraduate research assistant. The proposal is co-written by the undergrad student and faculty member, but the faculty member submits it to LaSPACE.
- **[GSRA \(Graduate Student Research Assistance\)](#)**
 - This program is designed to augment low compensation levels available to graduate students. The funds can be used for augmenting the student stipend, defraying dissertation related research expenses, field work, and travel for research presentations at national meetings. Like the LURA, a faculty mentor is required and is responsible for submitted the proposal and managing any resultant subawards.
- **[REA \(Research Enhancement Awards\)](#)**
 - This program is aimed at the emerging researcher or an established researcher who wishes to pursue new research directions, for the development of projects, contacts, and collaborations that will bring Louisiana scientists into the mainstream of NASA related research activity.
 - The REA Program is funded by state matching funds, through the Louisiana Board of Regents Support Fund.
- **[Senior Design Program](#)**
 - This program offers supplemental funding for high-level student-led research and design projects. The funding is meant to supplement the cost of materials and supplies and/or travel to competitions related to the student project.

- **LaACES (Louisiana Aerospace Catalyst Experiences for Students)**
 - This is a full-academic year program that combines a series of lectures and hands-on activities to help students build a small balloon payload that is flown to 100,000 feet at the end of the academic year. Skills learned include basic electronics, sensor interfacing, real-time programming, mechanical development, & project management, along with the design, development, fabrication, & flight of the payload. The program is done as a group project.

- **Louisiana RockOn! Teams Program**
 - LaSPACE supports several teams to attend the [RockOn! workshop](#) which is organized and run by the Colorado and Virginia Space Grant Consortia with NASA Wallops Flight Facility. When not in a pandemic, it is a one-week workshop that leads teams through the process of building, testing, & flying a sounding rocket payload.
 - The workshop normally takes place in mid to late June. LaSPACE funding for the 2021 workshop teams has already been committed.

- **HASP (High Altitude Student Platform)**
 - This program provides a “space test platform” for advanced student teams to build a balloon payload that will be flown to an altitude of ~36km for 15-20 hours. The payloads will be designed and built by students and will be used to flight-test compact satellites or prototypes and to fly other small experiments. Student teams are not charged for the flight, however, they must provide their own funding to support payload development and integration.
 - HASP flies once a year in September; applications are requested the fall prior to flight year. The application period for the 2021 flight has closed.

- **SAFOS (Support for Advanced Flight Opportunities for Students)**
 - This program was developed to provide funds for the development of student satellite payloads and other space-engineering products which have a seat to fly via advanced flight programs like HASP, RockSat-C, and RockSat-X. Senior Design projects do not fall under this category.
 - SAFOS accepts proposals on a rolling basis, as funds are available.

- **K-12 & Outreach**
 - The primary focus of LaSPACE is to support STEM research and development in Higher Education across the state, but we also maintain a small, targeted program to fund complementary K-12 and Informal Education projects.
 - The LaSPACE K-12 & Outreach program was developed to support two kinds of activities in the state: 1) K-12 Programs (typically teacher development), and 2) Informal Education Programs (targeting the general public via special events or at museums/science centers).

Individuals interested in receiving notifications when these programs open, as well as other NASA-related opportunities open to faculty, staff, and students in Louisiana can email laspace@lsu.edu to request they be added to the appropriate LaSPACE email listserv.

NASA EPSCoR

The NASA Established Program to Stimulate Competitive Research (EPSCoR) is a program designed to allow more states to participate in space and aeronautics research. Despite the fact that taxpayers from all 50 states and territories should benefit from a share of federal research and development (R&D) funding, outlays from Washington tend to be concentrated in a few states. Half of the states plus two territories receive less than 10 percent of all federal R&D funding. EPSCoR addresses this imbalance and fosters high-tech growth in these areas.

There are seven national EPSCoR Program Agencies: NSF, NIH, Department of Defense, Department of Agriculture, Department of Energy, EPA, and NASA; NASA EPSCoR was established in 1992. Like several other EPSCoR Programs, NASA EPSCoR eligibility is based on federal funding published annually by NSF. Any of 54 jurisdictions (all 50 states + D.C., Puerto Rico, Guam, & the Virgin Islands) averaging 0.75% or less of total R&D dollars (calculated over 3 years) are eligible for EPSCoR programs. The 2020 NSF eligibility table identifies 27 eligible jurisdictions (with one “graduated” jurisdiction still eligible to compete for 3 years).

NASA EPSCoR has four key components: 1) Research Infrastructure Development (RID) awards provide \$175k annually in core funding to the participating states to improve research capacity. 2) Research Implementation Awards (Implementation) competitively provide up to \$750k over a 3-year period for research projects. 3) EPSCoR International Space Station, or ISS, Flight Opportunity Awards provide up to \$100,000 for a three-year period. 4) EPSCoR Rapid Response Research or R3 awards enables EPSCoR researchers to work for one year with NASA researchers research problem important to NASA’s mission. Awards are up to \$100,000 for a one-year performance period. Cost-share from the jurisdiction is required for NASA EPSCoR programs.

NASA EPSCoR in LA

The goal of the Louisiana NASA EPSCoR program is to foster the development of an academic research enterprise in the State of Louisiana directed toward long-term, self-sustaining, nationally-competitive capabilities in aerospace and aerospace related research. NASA requires that the Space Grant Director of each designated EPSCoR jurisdiction also serve as the NASA EPSCoR PI. LaSPACE is housed at the consortium’s lead institution, LSU in Baton Rouge, and so the management of EPSCoR is also based (partially) at LSU. Like all EPSCoR programs in Louisiana, the NASA EPSCoR program also runs through the LA Board of Regents (BoR). Collectively, the LaSPACE team and the La BoR manage the technical and financial requirements of both major NASA EPSCoR programs. More info at lanasaepscor.lsu.edu.

Highlights of Current NASA EPSCoR Funded Research in Louisiana

Funding from NASA EPSCoR Research Implementation and RID awards are supporting research in the following areas (and others) on university campuses across the state of Louisiana.

Large-Scale Implementation Research Projects

IN-SPACE MANUFACTURING *(ULL WITH LSU & LATeCH)*

Sustainable, long-duration human spaceflight missions require on-demand manufacturing capabilities that provide solutions for fabrication and repair of components, electronics, consumables, tools, and structures within a zero-gravity environment. The primary objective of this group is to produce robust and high strength aluminum parts with minimum porosities suitable for in-space manufacturing.

CARBON EXPORT TO COASTAL OCEANS THROUGH DELTAIC SYSTEMS *(LSU with Southern BR)*

Researchers are investigating the transport of carbon through the land-sea interface by examining two contrasting Mississippi River Delta sites.

SPACE-BASED BIOCHEMICAL CONVERSION *(ULL)*

This project will develop a waste management system, BIOSYS, which is energy- and oxygen-use neutral and is capable treating wastewater while producing additional life support resources in space.

SELF-HEALING POLYMERS *(LSU with Southern BR)*

New polymer composite panels are being developed that are self-healing when damaged. Materials research will focus on the design, synthesis, characterization, and manufacturing of two-way shape memory polymers; multiscale modeling; and additive manufacturing.

REMOTE SENSING FOR PUBLIC HEALTH *LSU with LSU-HSC, Southern BR, LaTech*

Develop and demonstrate innovative technologies to automatically transfer, sustainably use, and interactively visualize NASA satellite remote sensing products for forecasting safety risks, protecting public health, and promoting economic development focused on oyster harvesting in Louisiana and along other Gulf coast areas.

Seed-funding for Research Infrastructure Development

NEXT-GEN WEARABLE TECHNOLOGIES *(LaTech, Institute for MicroManufacturing)*

This project addresses their need for a field-applicable electromyography (EMG) sensor for kinematic data collection.

HYPERSONIC TECHNOLOGY *(LSU-Mechanical Engineering)*

The research seeks to investigate the evolution of 3D shock-boundary layer interactions in the propulsive flow path of high-speed air-breathing engines, which is considered a key gap in the understanding of isolator shock trains.

REMOTE SENSING FOR LAND MEASUREMENT OF COASTAL WETLANDS *(Tulane-River-Coastal Science & Engineering)*

Develop new algorithms that make use of the remote sensing data from the new Hyperspectral Infrared Imager to better map land change in coastal wetlands.

PHOTOVOLTAIC TECHNOLOGY FOR ENERGY *(Tulane-Physics & Engineering Physics)*

Develop photovoltaic devices which convert solar energy into electricity and present advantages for applications requiring high specific power.

MINEROLOGY ON EARTH & MARS *(ULL, Petroleum Engineering)*

Study the mechanical properties of analog calcium sulfate veins on the Earth using indirect tensile and fracture toughness tests to better evaluate the properties of the Martian surface.

ADVANCED MANUFACTURING *(ULL, Mechanical Engineering)*

Develop the capability to study important engineering alloys of interest in for-space and in-space manufacturing applications through in situ XRD.

Commemorating



years

It was 86 degrees in Baton Rouge on July 1, 1968 – cooler than usual. The median monthly income of a family in the United states was \$719. Gasoline averaged 34 cents per gallon. And with initial funding of \$198,000 from the federal government, Louisiana Sea Grant was born.



Van Lopik



Two years earlier, Congress founded the National Sea Grant College Program which created a university-based system dedicated to the responsible development of the nation's coastal and marine resources through research, education and extension. Officials at Louisiana State University recognized this unique opportunity and pursued establishing a state program under that federal umbrella.

"I was asked if I would like to come back to LSU and help set the thing up," said Jack Van Lopik in a 2006 interview. "So, I came back from Texas Instruments ... on a two-year leave of absence (from TI) just to get the program started." Van Lopik, who earned his doctorate from LSU in 1955, ended up serving as Louisiana Sea Grant's executive director for 37 years - 1968 to 2005. He passed away in 2015.

One of the first hurdles in launching Louisiana Sea Grant was money. State programs had to match federal funds with in-kind services or cash. "Lots of people (were) involved from the standpoint of trying to get matching funds," said Van Lopik. "Hard cash matching ... was one thing that would certainly impress the federal people. So, we did a lot of talking with legislators. This was done not only by myself, but by people like the chancellor and (other) people that were involved at LSU at the time.

"Key people were Sammy Nunez, who was a (state) senator at that time. Then there was Conway LeBleu and Ed Scogin on the House side. They really carried the ball as far as getting coastal people ... to support the program."

But even with support from LSU administration and state and federal funding, there was no guarantee university researchers would buy-into the Sea Grant concept. It's multidisciplinary, applied research approach was not the norm.

"Sea Grant was across all different kinds of disciplines ... not only from the science and engineering part of the university, but also from the law center and sociology and economics ... trying an interdisciplinary approach to (solve) a lot of the problems in the coastal zone," said Van Lopik. "Sea Grant was trying to get involvement of not just people in

“ Louisiana Sea Grant continues to innovate and be a leader in bridging our state's academic expertise with the needs of those who manage, conserve, enjoy and make their living on the coast.

- Robert Twilley

”

after Sea Grant began," said Ron Becker in a 2006 interview. Becker served as Louisiana Sea Grant's associate executive director from 1970 to 2010. He also passed away in 2015.

"Sponsored research really hadn't caught on at LSU at that time, partly because the university didn't push it," Becker said. "A lot of the faculty at LSU that could have been doing research would go off and consult during the summer time, or work for NASA or do various things instead of getting research grants. But Sea Grant, as one of the early programs, gave a lot of researchers an opportunity to try it out and get into the field and really become creative and more aware of grant opportunities.

"I think I figured one time around 1970, or, well, sometime between '70 or '72, ... (Louisiana Sea Grant) was a third of LSU's total sponsored research," Becker noted. "From about 1972 through 1979, we were the AgCenter's major source of extramural funds for crawfish work.

the academic community, but to get people from academia tied into real world problems, coastal zone management problems and things of that nature.

"You are trying to solve real world problems and trying to do things that are important at the local level.... If a business has a problem, they want it solved right away. They don't want somebody to say, 'Ok, we'll write a proposal, do a three-year study of it, and then provide you with the information,'" Van Lopik added.

"Up to that time, LSU hadn't done very much sponsored research. In fact, they didn't even have a sponsored research administrator until probably 10 years



Wilson

"Virtually all of the marine programs in the School of Coast and the Environment ... would have (not) come to pass if Sea Grant hadn't been here to lead the charge. And of course, the Cooperative Extension Service ... had no involvement whatsoever with the marine sector, with the people involved with fisheries and so on," Becker said.

As a new faculty member at LSU in 1984, Chuck Wilson recognized Louisiana Sea Grant's importance to his research and he received his first grant from the program the following year to study the reproductive biology of red drum. Twenty years later, Wilson took the helm as LSG's second executive director – serving in that capacity for eight years, through 2012.

"That first year as Sea Grant director posed a number of challenges," Wilson said. "It was 2005, and communities and businesses along the coast were devastated by Hurricanes Katrina and Rita.

"At that moment, the program took on more of a response and recovery role than it had ever had in the past. We developed models to assess the storms' economic impacts on natural resources. We helped businesses in the commercial fisheries sector get back on their feet by brokering the acquisition of ice machines. We found lifts to get boats stranded onshore back in the water. And we funded architecture students to help communities explore more resilient ways to redevelop.

"When Hurricanes Gustav and Ike came along – as well as the 2010 oil spill – we were in a much stronger position to help coastal communities affected by those disasters. We also were able to share our experiences with other Sea Grant programs dealing with their own natural disasters and help walk them through the processes," Wilson added.

During Wilson's tenure, Louisiana Sea Grant laid the groundwork for a new oyster research lab on Grand Isle, began collecting oral histories and historic photos from commercial fishermen and coastal communities, and hired the program's first female extension personnel. "It can't be stressed enough that Sea Grant is about people – helping solve the problems our



coastal population experiences. And Louisiana Sea Grant's people are some of the best people at finding solutions," Wilson said.

Robert Twilley became Louisiana Sea Grant's third executive director in the summer of 2012. He has encouraged even greater multidisciplinary integration in research projects, the expansion of professional training for commercial fishermen and launched an initiative that expands young researchers' knowledge of coastal concerns while honing their communication skills. As a young researcher, he also benefitted from Louisiana Sea Grant funding, initially in 1987.

"I can't express how excited I am about Louisiana Sea Grant's golden anniversary and how we continue the mission that originated five decades ago," Twilley said. "Granted, many of the issues have changed in 50 years, but the research we fund today is no less important.

"For a program that celebrating a half-century of service, Louisiana Sea Grant continues to innovate and be a leader in bridging our state's academic expertise with the needs of those who manage, conserve, enjoy and make their living on the coast. Louisiana Sea Grant has demonstrated that it is prepared to help coastal communities meet immediate and future challenges," Twilley added.

"Louisiana's coastal communities are experiencing accelerated environmental changes driven by the highest rates of coastal land loss and relative sea level rise, more than any other coastal region in the United States. In response, Sea Grant is creating more focus on strategic adaptations for communities and industry. An innovative research approach that is integrative across the sciences, just as described by our first director, Jack Van Lopik, is necessary to address our coastal issues. And we must continue to improve our ability to communicate that knowledge with strong engagement and outreach efforts.

"Louisiana Sea Grant will continue its leadership role in addressing these issues during our next 50 years," Twilley added. ■

Sea Grant authorized **1966**



October 15, 1966, President Lyndon B. Johnson signed Public Law 89-688 authorizing "the establishment and operation of sea grant colleges ..."



"You are trying to solve real world problems and trying to do things that are important at the local level..."
Jack Van Lopik, Louisiana Sea Grant executive director

1968 Louisiana Sea Grant formed
First research project funded

1970 Law & Policy Program added

1972 Education Department added



Ted Falgout, Sea Grant's first agent, talks to a shrimp fisherman in Dulac, LA.

First Louisiana Sea Grant agent hired **1973**

Louisiana Sea Grant becomes a college **1978**



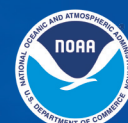
1978: Louisiana Sea Grant gains the highest Sea Grant designation - College Status

2018

LOUISIANA SEA GRANT 50TH ANNIVERSARY



The formation of Louisiana Sea Grant in 1968 was the work of many people. The list includes Cecil Taylor, Chancellor of LSU's main campus; W.G. McIntire, director of the Coastal Studies Institute and Professor of Geography and Anthropology; Richard Russell, Boyd Professor of Geography and Anthropology; James Sinclair, Professor of Botany and Plant Pathology; Harry Bennett, Professor of Zoology and Physiology; Doyle Chambers, Director of the Agricultural Experiment Station; Leo Newsom, Boyd Professor of Entomology; James Gosselink, Director of Science Training Program and Associate Professor of Plant Physiology; John Walker, Associate Professor of Entomology; Elvin Dantin, Director of the Louisiana Water Resources Institute; Joseph Reynolds, Boyd Professor and Vice President of Research and Graduate Studies; Bernard Slinger, Vice Chancellor for Academic Affairs; Quinn Coco, Comptroller; and Max Goodrich, Dean of the Graduate School.



COMPETITIVE RESEARCH PROGRAM (CRP)

Who we are

The National Centers for Coastal Ocean Science’s (NCCOS) Competitive Research Program (CRP) supports the development of actionable information and tools that improve how the nation protects, manages, and conserves ocean and coastal ecosystems. CRP supports sound coastal management decisions by involving resource managers, planners, policymakers, and impacted communities as research project partners or advisors to ensure useful results.

Our priorities

CRP funds regional-scale and targeted research through a competitive, peer-reviewed process to address our Nation’s most pressing issues including harmful algal blooms (HABs), hypoxia, coastal resiliency, sea-level rise, ocean acidification, mesophotic coral ecosystems, and effective ecosystem-based management. CRP, as the extramural arm of NCCOS, directly supports the research needs of National Ocean Service priorities and offices. Research priorities are determined by engaging stakeholders and the scientific community through workshops, roundtables, and policy forums.

CRP is a national leader in HABs and hypoxia research and implements four competitive research programs and the HAB Event Response program, authorized under the Harmful Algal Bloom and Hypoxia Research and Control Act. CRP also supports regional ecosystem research to facilitate adaptation to sea-level rise and sound ecosystem-based management decisions.

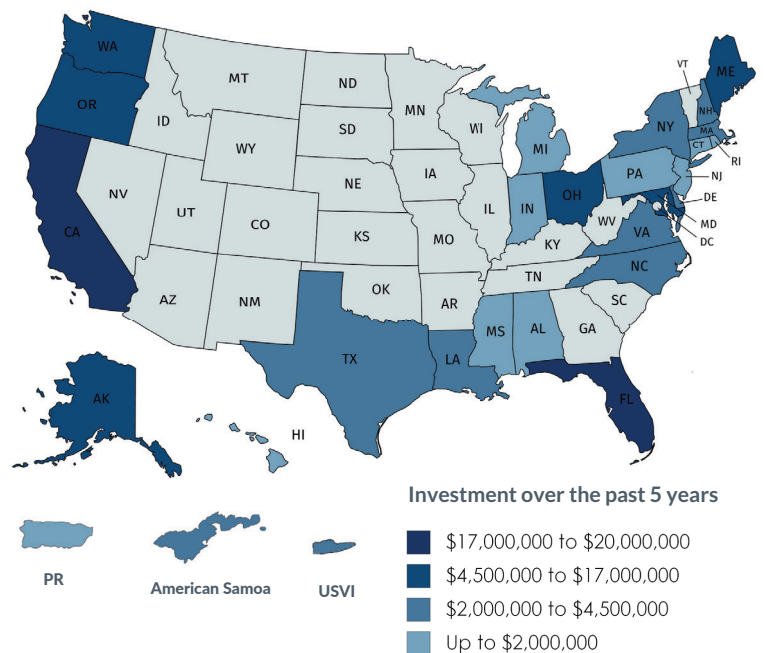
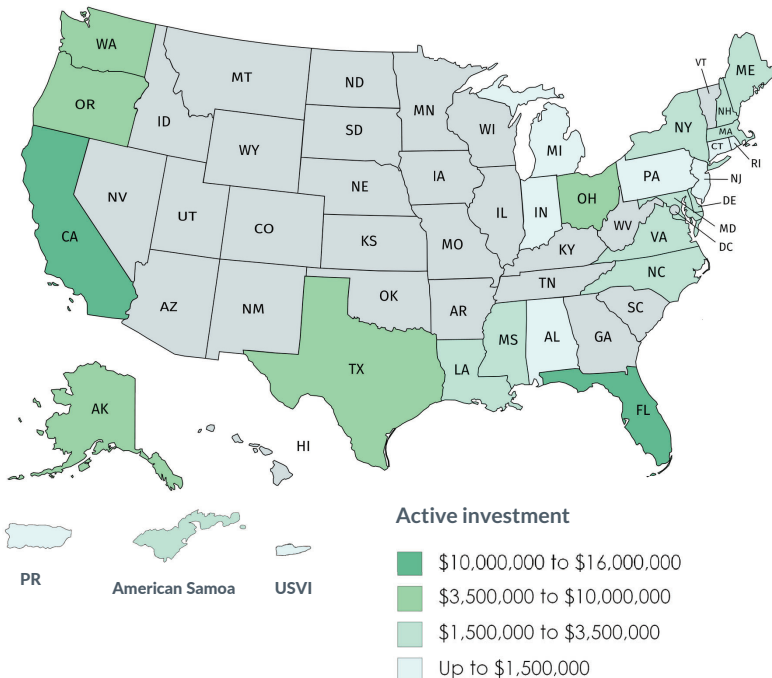
By the numbers

CRP active investment ¹

371 Principal Investigators **83** Projects
153 Partnering Institutions

Investment over the past 5 years ²

511 Principal Investigators **115** Projects
185 Partnering Institutions **392** Publications



¹ Based on spent funds and outyear commitments for projects active in 2020.

² Based on spent funds and outyear commitments for projects active 2016–2020.

CRP supports research in four broad categories:

Harmful Algal Blooms

HABs, occurring in all coastal states, cause adverse public health, socioeconomic, and environmental impacts. CRP funds research on HAB prevention, forecasting, ecosystem and socioeconomic impacts, detection, monitoring, control, and mitigation to provide new tools to Federal, state, local, and tribal managers and industry partners. Forecasts predict bloom size and movement, providing early warning to managers. New methods of detecting HAB cells and toxins are improving monitoring capacity. Field tests of bloom control are ongoing. Together, these efforts are making drinking water and shellfish safer and minimizing impacts to tourism, aquaculture, and wildlife.

Hypoxia

Hypoxia occurs when the amount of dissolved oxygen in water becomes too low to support most aquatic life. Hypoxia is a global problem and the result of both natural events (upwelling) and human activities that degrade water quality. Our goal is to provide scientific results for use by resource managers to restore and protect coastal ecosystems. CRP research focuses on reducing the impacts of hypoxia on ocean and coastal ecosystems by improving our understanding of their impacts, detection, mitigation, and response. CRP supports the Hypoxia Task Force by conducting the annual measurement of the Gulf of Mexico hypoxia zone, which is used to evaluate mitigation efforts.

Coastal Change

Coastal storms, flooding, and rising seas pose a persistent threat to coastal communities. Changes in climate and an increase in extreme events can alter coastal ecosystems and the services those ecosystems provide to support our coastal communities and economy. To address these issues, CRP's sea-level rise program conducts scientific assessments, and provides information and tools that coastal communities can use to make risk management decisions; and CRP's ocean and coastal acidification research advances understanding and predictions of impacts of increasing carbon dioxide in the nation's coastal waters.

Regional Ecosystems

Oceans, rivers, coastal features, and the species that inhabit them do not limit themselves to human perceived boundaries. Thus, management of these resources benefits from scientific study at a regional-ecosystem scale. CRP regional-scale research on ecosystem connectivity develops data, tools, and predictive models to enable ecosystem managers to evaluate and improve spatial management strategies. Our research has brought awareness and expanded the understanding of mesophotic coral ecosystems (reefs at 30–150 meters in depth), which make up ~80% of coral reef habitat.

Key accomplishments over the last five years

- The Effects of Sea Level Rise (ESLR) program developed a storm surge modeling tool for decision-makers, such as the Apalachee Regional Planning Council, to better prepare for future natural disasters.
- The Northern Gulf of Mexico Ecosystem and Hypoxia Assessment (NGOMEX) program has monitored the hypoxic zone for 30+ years, providing the Hypoxia Task Force with the information needed to evaluate whether nutrient reduction goals have been met.
- Regional Ecosystems Research on mesophotic coral ecosystems resulted in the expansion of the Pulley Ridge Habitat Area of Particular Concern, protecting an upstream source of fishes for the Florida Keys.
- HAB research on the linkages between macroalgal blooms off Maui and wastewater nutrients led to a U.S. Supreme Court decision that pollutants added via groundwater require a Clean Water Act permit if it acts as a 'functional equivalent' of a direct discharge.

The Effects of Sea Level Rise (ESLR) Program

ESLR is a multidisciplinary research program that co-develops science products with coastal managers to identify local coastal vulnerability and solutions to mitigate flood risk.

Science to Inform Coastal Ecosystem, Community, and Infrastructure Protection

Program at a Glance

10 active projects
\$8.37 Million Total

Supporting 55 PI's at 38 institutions

Our Focus



Sea level rise
Storm surge
Flooding



NNBFs
Marshes
Barrier islands



Communities

Describe the vulnerability of coastal communities and ecosystems due to sea level rise (SLR) and inundation, based on shoreline conditions

Determine the services and benefits that natural and nature based features (NNBFs) provide for protecting communities and ecosystems from SLR and inundation

Predict the effects of SLR and inundation under varying management strategies using innovative science to inform management solutions

ESLR research uses a collaborative science model, integrating stakeholder input to ensure **relevancy, applicability, and value** to coastal managers.



Benefits of natural features in the Chesapeake Bay under sea level rise (MD)

Analysis of how marshes, aquatic vegetation, and other natural features reduce wave energy and flood risks along the Chesapeake Bay to inform management actions to maintain or enhance marshes and other features.

Determining if older dunes are more resilient to storms and sea level rise (NC)

Determining if long-term vegetated dunes are more robust to storm surge and erosion than bare dunes in NC, while offering guidance on whether dunes planted today will affect future vulnerability and protection.

Impacts of sea level rise on natural and managed beaches and dunes (NC)

Developing a tool to assess barrier island recovery and vulnerability from storms under several sea level rise and management scenarios

How natural features could enhance coastal resilience of urban and natural ecosystems (FL)

Simulating sea level rise and rainfall scenarios to determine how mangroves will be impacted in the future, providing insights for future restoration needs in Southern FL.

Ecosystem and community vulnerability to surface and subsurface flooding with sea level rise (CA)

Identifying the role of natural features and gray infrastructure in controlling local sea level rise – driven flood hazards. This model will be tested in Santa Monica Bay and Humboldt Bay in California.

Sediment management to enhance natural infrastructure and flood protection (CA)

Evaluating sediment management scenarios on natural features (e.g., beaches) and the resulting effects on coastal inundation vulnerability in Southern California.

Tidal wetland adaptation strategies (CA)

Investigating how heavily altered estuaries in Southern CA will be affected by sea level rise, while identifying natural conservation and restoration strategies to mitigate sea level rise impacts.

How to increase the ecosystem services of coastal beaches and dunes in the Pacific Northwest (WA, OR)

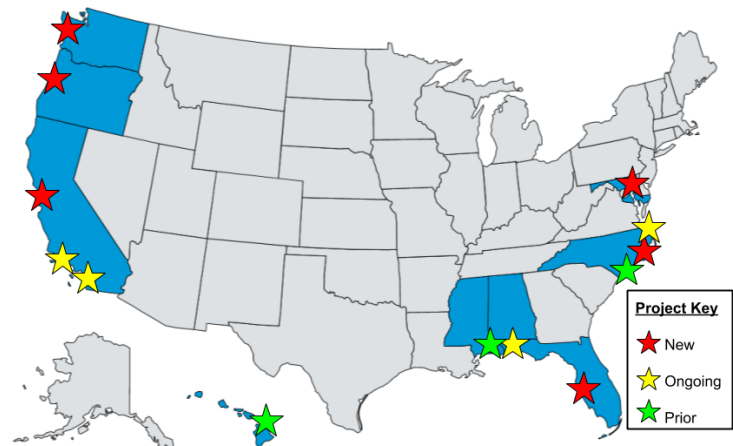
Evaluating the impact of sea level rise and storms on the geomorphology and ecology of beaches and dunes in OR and WA, with an emphasis on the ecosystem services and economic values they provide.

Ecological impacts of sea level rise on flood protection and blue carbon capture in Pacific Northwest wetlands (WA, OR)

Evaluating how restored and natural wetlands buffer flooding impacts in the Coos Estuary (OR) and Grays Bay (WA).

Natural features abilities to mitigate surge and nuisance flooding (AL, FL, MS)

Evaluating the potential for natural features to mitigate flood risk under multiple sea level rise scenarios in the Northern Gulf of Mexico.



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First Name	Last Name	E-Mail Address	Institution / Agency	Department / Division	Classification	Field of Research Keywords
Erica	Alston	erica.j.alston@nasa.gov	NASA Langley Research Center	Office of STEM Engagement	NASA Personnel	Earth Science, Remote Sensing, Aerosols, Air Quality, Radiative Transfer
Stephanie	Archer	sarcher@lumcon.edu	Louisiana Universities Marine Consortium	LUMCON	Faculty	Benthic ecology, oysters, food webs, outreach Sustainable Manufacturing, Environmental Sustainability, Additive Manufacturing
Mehmet	Bahadir	mehmet.bahadir@selu.edu	Southeastern Louisiana University	Southeastern Louisiana University	Faculty	Water, planning, coastal resilience, water management, flooding, extension, social science, stakeholder engagement
Karen	Bareford	karen.bareford@noaa.gov	Sea Grant	Extension	Other	science, stakeholder engagement
Rachid	Belmasrour	rbelmasrour@suno.edu	Southern University at New Orleans	Natural Sciences	Faculty	Networking, education opportunities. Earth Science Research, Coastal Studies, Climate Science, Remote Sensing, Carbon Cycle & Ecosystems, Weather Science, Grant Management, Program Management, Administrative Support
Samuel	Bentley	sjb@lsu.edu	Louisiana State University	ORED	Faculty	Earth Science Research, Community Resilience, Coastal Studies, Climate Science, Remote Sensing, Grant Management, Program Management, Administrative Support
Matthew	Bethel	mbethe3@lsu.edu	Louisiana State University	Louisiana Sea Grant	Staff	Support
Gerard	Blanchard	gblanchard@selu.edu	Southeastern Louisiana University	Chemistry and Physics	Faculty	Space and ionospheric physics
DeWitt	Braud	dbraud1@lsu.edu	Louisiana State University	Coastal Studies Institute	Staff	Remote Sensing, Geospatial, Coastal Studies
Marshall	Bowles	mbowles@lumcon.edu	LUMCON (Louisiana Universities Marine Consortium)	LUMCON	Faculty	Microbial Ecology, Earth Science Research, Coastal Studies, Remote Sensing, Carbon Cycle & Ecosystems, Deep Subsurface
Mary	Caldorera-Moore	marycaldorera@gmail.com	Louisiana Tech University	Biomedical Engineering/College of Engineering and Science	Faculty	Space Biology, biomaterials
Erika	Clark	erika.clark@louisiana.edu	University of Louisiana at Lafayette	Office of Research and Sponsored Programs	Staff	
Soriah	Cleveland	riah13619@gmail.com	Southern University at New Orleans	LaSPACE	Undergraduate Student	Earth Science Research, Coastal Studies, Growth Observations, Data Collection Program Management, NASA EPSCoR Research, ISS & suborbital flight opportunity, Rapid Response Research (R3), and Research Infrastructure Development (RID)
Jeppie	Compton	jeppie.r.compton@nasa.gov	NASA	OSTEM/EPSCoR	NASA Personnel	
Jobi	Cook	jobi_cook@ncsu.edu	NC Space Grant	n/a	Staff	n/a
Lynn	Copeland	lcopeland@usgs.gov	usgs	Coastal restoration and assessment	Other	Coastal Studies, Climate Science, Remote Sensing, Carbon Cycle & Ecosystems, Earth Science Research
Rebekah	Cossaboom	rncossab@uno.edu	University of New Orleans	Office of Research	Staff	grant management, proposal development
Eurico	D'Sa	ejsa@lsu.edu	Louisiana State University	Oceanography and Coastal Sciences	Faculty	Remote Sensing, Carbon Cycle and Ecosystems Ergonomics, safety, industrial engineering, astronauts & health, environment/climate change
Priyadarshini	Dasgupta	priyadarshini.dasgupta@selu.edu	Southeastern Louisiana University	Industrial and Engineering Technology	Faculty	Remote Sensing, Electrical Engineering
Hamzeh	Davarikia	hdavarikia@mcneese.edu	McNeese State University	Electrical Engineering	Faculty	Climate Science, paleoclimate, coastal studies, coral reefs, tree-rings
Kristine	DeLong	kdelong@lsu.edu	Louisiana State University	Geography and Anthropology	Faculty	Earth Science Research, Coastal Studies, Remote Sensing, Ecosystems
Zhiqiang	Deng	zdeng@lsu.edu	Louisiana State University	Department of Civil and Environmental Engineering	Faculty	
Caitlynn	Diggs	caitlynn.diggs@sus.edu	Southern University at New Orleans	Biology	Undergraduate Student	Microbiology, Molecular Biology, Nanoparticles, Microfluidics, Environmental science
John	Doucet	John.Doucet@nicholls.edu	Nicholls State University	College of Sciences and Technology	Faculty	Earth Science Research, Coastal Studies, Climate Science, Remote Sensing, Carbon Cycle & Ecosystems
Hector	Douglas	douglashe@gram.edu	Grambling State University	Biological Sciences	Faculty	Coastal Studies, Aquatic Systems, Remote Sensing, Marine Science
Thomas	Douthat	tdouthat@gmail.com	LSU	ENVS	Faculty	GIS, Coastal Studies, Adaptation Science
Anna	Dugas	dugasa@nsula.edu	Northwestern State University of LA	Physical Science	Faculty	Sensing system design, 3-D printing, robotics, environmental monitorin
Ginny	Eckert	gleckert@alaska.edu	University of Alaska	Alaska Sea Grant	Faculty	Marine Ecology
Lane	Elien	lanee@gram.edu	Grambling State University	Engineering Technology	Faculty	Remote Sensing, Program Management
Nicholas	Enwright	enwrightn@usgs.gov	U.S. Geological Survey	Wetland and Aquatic Research Center	Other	Coastal Studies, Remote Sensing, Wetlands, Barrier Islands
Jafar	F. Al-Sharab	jafar@nsula.edu	Northwestern State University	Engineering Technology	Faculty	Examples include: Earth Science Research, Coastal Studies, Climate Science, Remote Sensing, Carbon Cycle & Ecosystems, Weather Science, Grant Management, Program Management, Administrative Support
Colleen	Fava	colleenf@lsu.edu	Louisiana State University	LaSPACE / NASA EPSCoR	Staff	Grant Writing, Grant Management, Program Management, Administrative Support, Technical/Professional Communication, Space Grant, NASA EPSCoR
John	Fear	jmfear@ncsu.edu	NC State University	NC Sea Grant	Staff	Sea Grant Program Manager, including research and fellowship opportunities
Dhan Lord	Fortela	dhanlord.fortela@louisiana.edu	University of Louisiana at Lafayette	Chemical Engineering	Faculty	Machine Learning for Planetary Science
LaShounda	Franklin	lashounda_franklin@subr.edu	Southern University	Space and Planetary Science at the Timbuktu Academy	Staff	Earth Science Research, Coastal Studies, Climate Science, Remote Sensing, Carbon Cycle & Ecosystems, Weather Science, Grant Management, Program Management, Administrative Support Lifecycle cost analysis for wind and flood hazards and mitigation, homeowner and community loss avoidance decision making, hazard-resistant construction and mitigation, multi-hazard risk assessment, building codes and standards, post-event damage data acquisition, remote sensing of building damage, hurricanes, floods, tornadoes
Carol	Friedland	friedland@lsu.edu	Louisiana State University	Construction Management	Faculty	

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Nikola	Garber	nikola.garber@noaa.gov	NOAA	Sea Grant	NOAA Personnel	Deputy Director, Acting Assistant Director for Partnerships, building coalitions, innovating, implementing change, facilitating, organizing
Rebecca	Giorno-McConnell	rgiorno@latech.edu	Louisiana Tech University	Biological Sciences	Faculty	Bacillus, spores, hypersaline environments, spore resistance, germination, planetary protection Fish Biologist, Coastal Studies and Restoration Planning, Resilient Nature-Based Design/Engineering With Nature, Artificial Reefs, Living Shorelines, Fish Tagging, Acoustic Telemetry, and Climate Science
Craig	Gothreaux	craig.gothreaux@noaa.gov	NOAA NMFS	SERO HCD	NOAA Personnel	Scientific Ballooning
Doug	Granger	dgrang2@lsu.edu	Louisiana State University	LaSPACE	Staff	Science with a bit of engineering and a lot of style!
T. Gregory	Guzik	tgguzik@lsu.edu	Louisiana Space Grant Consortium	Physics & Astronom	Faculty	Earth Science Research, Coastal Studies, Climate Science, Remote Sensing
Ben	Hamlington	benjamin.d.hamlington@jpl.nasa.gov	NASA Jet propulsion Laboratory	Sea Level and Ice	NASA Personnel	Earth Science Research, Coastal Studies, Paleoclimate Science
Achim	Herrmann	aherrmann@lsu.edu	Louisiana State University	Geology and Geophysics	Faculty	Coastal studies, carbon storage, submerged aquatic vegetation, Coastal Studies; Carbon Cycles and Ecosystems
Eva	Hillmann	eva.hillmann@selu.edu	Southeastern Louisiana University	Biology	Faculty	Earth Science Research, Coastal Studies, Climate Science, Remote Sensing
Md Tamjidul	Hoque	thoque@uno.edu	University of New Orleans	Computer Science	Faculty	Public health, health risk assessment
Chihyang	Hu	chu@lsuhsc.edu	Louisiana State University School of Public Health	Environmental and Occupational Health Sciences Program	Faculty	
Haosheng	Huang	hhuang7@lsu.edu	Louisiana State University	Oceanography and Coastal Sciences	Faculty	Numerical modeling of coastal ocean processes
Navid	Jafari	njafari@lsu.edu	Louisiana State University	Civil & Environmental Engineering	Faculty	coastal hazards, flood protection infrastructure, wetland geomorphology
Carl	Johnson	cjohnson@suno.edu	Southern University at New Orleans	Natural Sciences	Faculty	Green Chemistry
Judy	Johnson	judyjohnson@lsu.edu	Louisiana State University	Louisiana Sea Grant	Staff	GRANT MANAGEMENT
Jill	Juneau	juneau1@lsu.edu	Louisiana State University	Physics And Astronomy	Staff	Engineering, Remote Sensing, Automated Construction, Scientific Ballooning Planetary science, martian geochemistry, planetary remote sensing, planetary nuclear spectroscopy, multivariate regression, GIS, computational photoanalysis
Suniti	Karunatillake	sunitiw@lsu.edu	Louisiana State University	Geology and Geophysics	Faculty	
Ali	Kazemian	kazemian1@lsu.edu	Louisiana State University	Construction Management	Faculty	Automated construction; Large-scale 3D printing; Special Concretes
Mitch	Krell	mitch.krell@nasa.gov	NASA	EPSCoR	NASA Personnel	Computer Science
Megan	la Peyre	mlapeyre@agcenter.lsu.edu	USGS/LSU AgCenter	RNR	Faculty	Coastal Studies, Climate Science, Carbon Cycle & Ecosystems
Brian	LaMarre	brian.lamarre@noaa.gov	NOAA/National Weather Service	NOAA Gulf of Mexico Regional Collaboration Team	NOAA Personnel	Coastal Studies, Climate Science, Remote Sensing, Weather Science, Grant Management, NOAA collaboration with Sea Grant and harmful algal bloom research to operations. Coastal Restoration
Summer	Langlois	summer.langlois@la.gov	Coastal Protection and Restoration Authority	Planning and Research Division	Other	Collaboration, Administrative
Kristen	Laursen	kristen.r.laursen@noaa.gov	NOAA	Gulf of Mexico Regional Collaboration	NOAA Personnel	Disaster Resilience, Disaster Recovery, Remote Sensing, City Data Interoperability, Examples include: Earth Science Research, Coastal Studies, Climate Science, Remote Sensing, Carbon Cycle & Ecosystems, Weather Science, Grant Management, Program Management, Administrative Support
Yong-Cheol	Lee	yclee@lsu.edu	Louisiana State University	Construction Management	Faculty	Weather Science, Remote Sensing
Kenneth	Leppert II	leppert@ulm.edu	U. of Louisiana Monroe	School of Science/Atmospheric Science	Faculty	Examples include: Earth Science Research, Coastal Studies, Climate Science, Remote Sensing, Carbon Cycle & Ecosystems, Weather Science, Grant Management, Program Management, Administrative Support
Kyle	Lewis	klewis40@xula.edu	Xavier University of Louisiana	Research and Sponsored Programs	Staff	Acoustics and Vibration
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Hai	Lin	hallin1@lsu.edu	Louisiana State University	Civil and Environmental Engineering	Faculty	Experimental Statistics, Statistical Modeling, Uncertainty Quantification, Statistical Applications
Li-Hsiang	Lin	llin10@lsu.edu	Louisiana State University	Department of Experimental Statistics	Faculty	Grant Management, Program Management, Administrative Support
Frank	Lopez	fmlopez@ncsu.edu	North Carolina State University	NC Sea Grant and WRRRI	Staff	Mars, soils, in-situ resources, geophysics, seismology, acoustics
Juan	Lorenzo	gllore@lsu.edu	Louisiana State University	Dept. Geology and Geophysics	Faculty	Earth Science Research, Coastal Studies, Climate Science, Remote Sensing, Carbon Cycle & Ecosystems, Grant Management, Program Management
Laura	Lorenzoni	Laura.lorenzoni@nasa.gov	NASA	HQ	NASA Personnel	Biomaterials/Tissue Engineering
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Joan	Lynam	lynam@latech.edu	Louisiana Tech University	Chemical Engineering	Faculty	Earth Science Research (Materials), Coastal Studies (Resilience), Climate Science (Carbon Sequestration), Carbon Cycle
Ephraim	Massawe	ephraim.massawe@selu.edu	Southeastern Louisiana University	Industrial and Technology Department	Faculty	Oil Spills, Public Engagement, NOAA National Centers for Environmental Information (NCEI)
Emily	Maung-Douglass	edouglass@lsu.edu	Louisiana State University	Louisiana Sea Grant	Staff	Effects of Sea Level Rise Program Management, Storm Surge, Tidal Flooding, Grant Management, Natural and Nature Based Solutions, Coastal Management, Reducing Flood risk, Extension
Trevor	Meckley	Trevor.Meckley@noaa.gov	NOAA	NOS/NCCOS	NOAA Personnel	atmospheric science
Paul	Miller	pmiller1@lsu.edu	Louisiana State University	Oceanography and Coastal Sciences	Faculty	Ecology, environmental science, molecular biology, data science
Mary	Miller	millerm2@mybrcc.edu	Baton Rouge Community College	Science/STEM	Faculty	

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Rubayet Bin	Mostafiz	rbinmo1@lsu.edu	Louisiana State University	DOCS	Graduate Student	Coastal Hazard, GIS, Risk Communication, Earth Science Research, Coastal Studies, Climate Science, Remote Sensing, Weather Science
Ridgely	Myers	ridgely@scienceforourcoast.org	Pontchartrain Conservancy	Director	Staff	Coastal Studies, Climate Science, Grant Management, Program Management, Administrative Support
Jamie	Newman	jnewman@latech.edu	Louisiana Tech University	Biological Sciences	Faculty	Space Biology, Molecular Biology, Regenerative Medicine
Debora	Nielson	debora.nielson@uah.edu	The University of Alabama in Huntsville	Alabama Space Grant Consortium	Staff	Grant Management, Program Management, Administrative Support shoreline management, nature-based shorelines, public trust, hazard mitigation, floodplain management, flood insurance, ocean and coastal law, land use law, climate mitigation for local governments, living shorelines, takings litigation, fisheries management, coastal zone management
Niki	Pace	nlpace@lsu.edu	Louisiana State University	Sea Grant	Staff	Earth Science Research, Coastal Studies, Climate Science, Remote Sensing, Grant Management, Program Management, Administrative Support
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Jessica	Patton	jessica.patton@laregents.edu	Louisiana Board of Regents	Sponsored Programs	Staff	N/A
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Joanna	Rivers	jrivers@dcc.edu	Delgado Community College	Mathematics and Science	Faculty	Program Management, Atmospheric science, project-based learning
Elizabeth	Rohring	elizabeth.rohring@noaa.gov	NOAA	Sea Grant	NOAA Personnel	Grant Management, Program Management, Administrative Support, Climate Engagement
Aaron	Ryan	aryan21@lsu.edu	Louisiana State University	Physics and Astronomy	Staff	Scientific Ballooning
Kelly	Samek	kelly.samek@noaa.gov	NOAA	National Sea Grant Office	NOAA Personnel	grant administration, program management, Gulf of Mexico
Jyotsna	Sharma	jsharma@lsu.edu	Louisiana State University	Petroleum Engineering	Faculty	Hydrocarbon mapping, Earth Science Research, Remote Sensing
Marc	Simard	marc.simard@jpl.nasa.gov	NASA Jet propulsion Laboratory	Radar Science and Engineering	NASA Personnel	Earth Science Research, Coastal Studies, Climate Science, Remote Sensing, Carbon Cycle & Ecosystems, hydrology
Nebiat	Sisay	nsisay@suno.edu	Southern University at New Orleans	Natural Sciences	Faculty	Nuclear Chemistry, Inorganic Chemistry
Brady	Skaggs	brady@scienceforourcoast.org	Pontchartrain Conservancy	WQ Programs	Other	
Deirdre	Smith	dsmi229@lsu.edu	Louisiana State University	Geography and Anthropology	Faculty	Research, Climate
Chao	Sun	csun@lsu.edu	Louisiana State University	Civil and Environmental Engineering	Faculty	Coastal Studies, Remote Sensing
Aimee	Thomas	akthomas@loyno.edu	Loyola University New Orleans	Biology/Environment	Faculty	Green Infrastructure, Sustainable Living, Educational Technology, Environmental Issues, Coastal Studies, Climate Science
Denise	Thorsen	dlthorsen@alaska.edu	University of Alaska Fairbanks	Alaska Space Grant Program	Faculty	Remote Sensing, satellite development
Illya	Tietzel	itietzel@suno.edu	SUNO	Natural Sciences	Faculty	Coastal Studies, Climate Science, Weather Science, Extreme Statistics, Tropical Cyclones
Jill	Trepanier	jtrep3@lsu.edu	Louisiana State University	Geography and Anthropology	Faculty	Space Science, Instrumentation, Earth Science Research, Coastal Studies, Remote Sensing, Grant Management, Program Management
Georgios	Tsakyridis	giotsakiridis@gmail.com	German Aerospace Center (DLR)	Relativistic Modelling	Staff	Coastal Systems Ecology, Nutrient Biogeochemistry, Mangrove Ecosystems, Carbon Cycle & Ecosystems
Robert	Twilley	rtwilley@lsu.edu	Louisiana State University	Louisiana Sea Grant	Faculty	Coastal Studies, Climate Science, Remote Sensing, Coastal Restoration, Carbon Cycle & Ecosystems, Weather Science,
Nan	Walker	nwalker@lsu.edu	Louisiana State University	Oceanography and Coastal Sciences	Faculty	
Hongqing	Wang	wangh@usgs.gov	USGS	WARC	Other	
Ying	Wang	ywang@lsu.edu	Louisiana State University	Mechanical & Industrial Engineering	Faculty	Energy technology for space applications
Matthew	Ware	waremf@gram.edu	Grambling State University	Department of Mathematics and Physics	Faculty	Condensed Matter Physics
Susan	White	snwhite3@ncsu.edu	NC Sea Grant/NC Space Grant	N	Staff	Coastal Studies, Water Resources, Natural Resources Management
Kristopher	White	kris.white@noaa.gov	National Weather Service & NASA	NWS Huntsville Weather Forecast Office /		Weather Science, product development, and applications of experimental products
Clint	Willson	cwillson@lsu.edu	Louisiana State University	NASA SPoRT	NOAA Personnel	
MEaghin	Woolie	mwooli2@lsu.edu	Louisiana State University	LSU Center for River Studies	Faculty	Earth Science Research, Coastal Studies, Climate Science, Outreach & Education
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Xiuping	Zhu	xzhu@lsu.edu	Louisiana State University	Math and Science	Faculty	
				Civil and Environmental Engineering	Faculty	water and wastewater treatment