

# RESTORE ACT CENTER OF EXCELLENCE FOR LOUISIANA (LA-COE) QUARTERLY NEWSLETTER



NOVEMBER 2024

## Updates from LA-COE

Congratulations again to the RESTORE Act Center of Excellence RFP3 recipients! Throughout the next two years, as the 12 projects are ongoing, the LA-COE will highlight researchers and their work in our quarterly newsletters.

### RFP3 Award Project Update - Dr. Rachael Hunter

The RFP3 project led by Dr. Rachael Hunter and Dr. Robert Lane, "Measurement of greenhouse gas emissions and carbon dynamics across a hydrologic gradient in Louisiana coastal freshwater forested wetlands," began productively following the receipt of the RFP3 funding, utilizing the Coastwide Reference Monitoring System (CRMS), greenhouse gas emissions and carbon storage data from freshwater forested wetlands sites to calculate net ecosystem carbon balance. Focusing on the Forested Floristic Quality Index (FFQI) and in collaboration with CPRA, 12 sites around Lake Maurepas were selected—four healthy, four degraded, and four transitioning to marsh or open water, with alternates. CPRA provided critical information about site accessibility, and permissions were obtained from both CPRA and private landowners.

This innovative project relies on a five-chambered tool for measuring greenhouse gases, which includes floating bases for flooded areas. These chambers feature airtight designs, fans, and internal thermometers connected to phones for monitoring.

On September 18 and 24, 2024, sites CRMS0065 and CRMS5167 were visited to assess accessibility by canoe, mudboat, or outboard. CRMS0065 posed challenges due to water hyacinth barriers, but it was accessed on September 24 using a mudboat. On October 8, 2024, the first greenhouse gas sampling was completed at CRMS0039 using the new floating chambers, with the process going smoothly.

A key milestone was the mini-workshop held on September 20, 2024, at Sankofa Wetland Park, where Dr. Rachael Hunter, Dr. Robert Lane, and Mr. Jason Day trained students from

Delgado and Nunez community colleges on field methods. Four students from each college attended.

The team is excited about the innovative approach to greenhouse gas measurement, using remote-deployable, cost-effective chambers. This method aims to provide insights into an understudied area, while collecting baseline data before the Maurepas diversion is built is both timely and important.









## RFP3 Award Project Update - Bentao Li

Bentao Li is a Ph.D. student at LSU, working alongside JunHong Liang on LA-COE RFP3 project "Projecting future estuarine hypoxia and habitat in Louisiana." Originally from Eastern China, Li credits his Ph.D. pursuit to his interest in global climate change and its impacts on marine environments, as well as an impactful advisor. Li is focused on his modeling research, observing and monitoring data to explain the mechanisms or the impacts of the global changes of coastal regions.



Li's LA-COE-funded project focuses on marine hypoxia and the oxidation in the marine environment. The project will use hindcast modeling to show the environment changes over the past several decades to find the interaction between the physical and geochemical processes and how the hypoxia is developing. Li will also focus on forecast modeling to see how the hypoxia will develop based on several different scenarios of future climate change (i.e., the global temperature rising to four or five degrees Celsius).

"Scientific research is something that I'm really good at. So I want to develop a framework to explain the outputs that show how much or how soon we will get these hypoxia developments," Li said.

Li is passionate about public communication and education. During his undergraduate program, Li spent time in Europe at primary and middle schools introducing both his research and his culture to the students.

Li hopes his research from this project, and his future work, can contribute to both the scientific communities and the general public. "We need to contribute to our community. I think it's a responsibility for me to help them understand what we are doing... I want to make people aware that our environment is changing and what we can do to try to maybe stop it or mitigate it."



## Resources for RFP3 Subrecipients

The LA-COE offers a quick reference guide for PIs, as well as a performance progress report template and a link to the LA-COE portal system at the link below.

Resources

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**Why did the pelican start a business along the Louisiana coast?**

**He had a big bill to pay!**

**Why did the seagull fly over the ocean?**

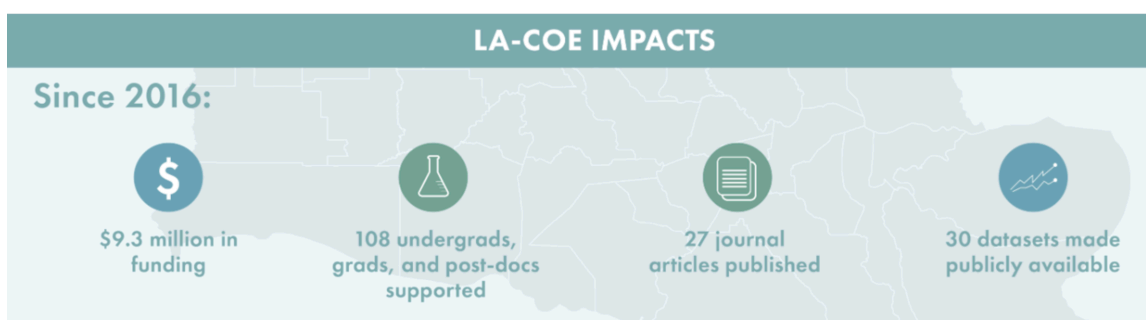
**Because if it flew over the bay, it would be a bagel!**

**Why did the seaweed blush?**

**It saw the ocean's bottom!**



## Impacts



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