STATE OF THE COAST

Detailed Agenda

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Wednesday, May 31, 2023

11 AM- 6:30 PM	**Exhibit Hall**
11:30 AM-1:15 PM	**Opening Lunch Plenary**

Session Block I 1:30 PM - 3 PM

ROOM	Room 204	Room 213	Room 211-212	Room 210	Room 209	Room 206
	1	2	3	4	5	6
	Introducing the Mississippi River Delta Transition Initiative - Panel	**The NASEM Gulf Research Studios: Building on Lessons from the Pilot Year - Panel**	**Building Resilient Communities and a Regenerative Blue Economy for our Gulf Coast Communities - Panel**	**Bipartisan Infrastructure Law: Accessing Federal Funds for Resilient Coasts and Communities - Panel***	**Understanding Influences of Biogeochemical Cycles in the Coastal and Offshore Environment**	**Ecological and Social Dynamics of Natural and Restored Coastal Ridges**
	The National Academies Gulf Research Program has asked LSU and Tulane to form an integrated research consortium to carry out the Mississippi River Delta Transition Initiative (MissDelta). This five year program, anticipated to begin in late 2023, will be focused on the future of the lowermost delta plain area adjacent to the Mississippi River: this encompasses the river corridor below the end of east bank MR&T levee, the birdsfoot subaerial delta, and the subaqueous delta front. The consortium will address four objectives: future projection of the evolution and stability of the system between now and 2100, a management evaluation that includes strategizing about how negative impacts of the degradation of the lower river promontory can be forestalled or minimized, workforce diversity, and socioeconomic resilience. To date, while there has been significant investment and extensive research conducted on the Mississippi River Delta, led by the Louisiana CPRA and the U.S. Army Corps of Engineers, there are limited studies focused on projections for the terminus of the Mississippi River Delta, including the subaqueous platform. As this region experiences rapid physical changes, understanding the rates, intensity, and consequences of impacts like sea level rise, subsidence, land loss, ecological health, channel shoaling, and other processes is pivotal in building a resilient coastline and protecting Gulf ecosystems. MissDelta will also dovetail with existing and planned technical and resilience efforts being carried out on the region by government agencies, NGO's and the academic community. The goal of this session will be to (1) report on troubling trends on the stability of this region that suggest its future is problematic and the need for MissDelta, (2) report on the significance of this region to the health of the delta and wider surrounding areas of the northern Gulf, and (3) outline a proposed consortium workplan to address the objectives.	For the 2022-2023 academic year, the National Academies of Sciences, Engineering, and Medicine's (NASEM) Gulf Research Program (GRP) awarded five universities funding for creating interdisciplinary architectural and landscape architectural design studio courses that engage with the unique features of the Gulf of Mexico region. The five schools, Auburn University, Louisiana State University, Mississippi State University, University of Florida, and Tulane University, each offered studios for graduate and undergraduate students that provided the opportunity for students to apply creative design approaches to address major regional issues in three GRP areas of focus: Future of the Energy Transition, Future of a Changing Gulf Coastline, Future of Healthy and Resilient Communities. While each school took on a different scope and scale of work within the studios, they all used collaborative, interdisciplinary approaches that incorporated design, science, and engineering to think critically about the design opportunities in coastal communities. Moderated by Gulf Research Program Executive Director Lauren Alexander Augustine, this panel will engage faculty members from each of the five schools in a conversation about: - Their unique approaches to this initial interdisciplinary studio - The value of design research in the Gulf of Mexico - Lessons learned from the pilot year and - Next steps for future iterations of this multi-year endeavor.	As goes the resiliency of our gulf coast communities, so goes the future of Louisiana. I am proposing a panel discussion on the status and potential of the Blue Economy and Blue Tech development, deployment, and scaling in the Louisiana Estuary. In this context the Blue Economy includes initiatives related to 'regenerative' ocean industries, ecosystem services, and environmental restoration, e.g.: - Sustainable aquaculture and mariculture, including fisheries management, algae, and seaweed farming for food, feed, and energy; - Renewable 'Blue' energy such as ocean-based biofuels, wind, hydrogen, wave, current, thermal ocean-tech, and tidal generation; - Coastal bulwark protection, engineering, and reinforcement including waste water assimilation wetlands, habitat and wetland restoration, protective oyster reefs, mangroves, and wetland forest planting; - Regenerative floating infrastructure, including "rigs to reefs", floating communities (residential and civic buildings), and utility services; - Algae bloom prevention and mitigation, including nutrient harvesting, deepwater biomass sequestration, and upriver sustainable agriculture initiatives. The discussion would contextualize our regional outlook within the global climate crisis, tie together the component roles of key Blue Technology verticals with a keen eye toward the potential of Regenerative Marine Infrastructure models, describe the interplay of critical components of developing an integrated supportive Innovation Ecosystem, and layout an economic development-based roadmap towards the region establishing global leadership in community-based climate resilience solution sets, and Disaster Risk Reduction initiatives (applicable around the world).	Recent years have seen significant federal investment in coastal restoration and resilience through the 2021 Bipartisan Infrastructure Law (with $3 billion for coastal restoration), the 2022 Inflation Reduction Act (with $2.6 billion to protect and restore coastal ecosystems), and the 2022 Omnibus Spending Bill (with $926 million for RAE priorities), as well as funds that are going to infrastructure more broadly. In this panel, you will hear from NOAA's Office of Habitat Conservation's Restoration Center (RC) discuss on four funding opportunities managed by the RC (Fish Passage; Tribal Fish Passage; Transformational Habitat Restoration and Resilience; and Coastal Habitat Restoration and Resilience Grants for Underserved Communities). This panel will also include a discussion on lessons learned for funds that have already been awarded and other funding opportunities ahead, with a focus on how to identify projects, staffing plans, scientific approaches, and monitoring approaches to use to submit successful proposals for high-impact projects.	Information on coastal and open ocean to better constrain carbon budgets and understand carbon capture and storage in these systems. In this session, speakers will present on the implication of the planned Mid-Barataria Sediment Diversion on carbon accumulation, explore carbon export to the Gulf of Mexico from wastewater treatment plants, assess factors driving carbon dioxide air-sea fluxes and variability, the impact of the Caernarvon Freshwater Diversion on bacterioplankton, and an investigation into the potential role of mangroves and submerged aquatic vegetation in carbon sequestration in the coastal environment.	Ridges are historically important coastal landforms in Louisiana that provide ecosystem services, such as primary production, habitat provision, carbon sequestration, and mitigation of erosive forces. Creation and restoration of ridges has become an increasingly important component of coastal restoration in Louisiana, as evidenced by the increasing inclusion of these projects in the state's Coastal Master Plan. However, there is a dearth of knowledge regarding trajectories in vegetation community composition and associated ecosystem functions of ridges in coastal Louisiana. These data gaps hinder general restoration planning as critical information is lacking on appropriate target vegetation community composition and productivity, as well as supported faunal assemblages. In addition, there is minimal understanding of how coastal ridges differ from analogous coastal landforms, such as spoil banks, in vegetation community composition and ecosystem functions, making difficult the simple act of defining a coastal ridge and differentiating the role of similar landforms. This is further exacerbated by the myriad environmental settings (e.g., salinity gradients, soil types) under which ridges historically developed and where they are likely to be constructed during coastal restoration activities. The collection of data gaps must be addressed to inform effective coastal ridge restoration efforts in Louisiana. This session provides updates on a year of sampling natural and restored ridges, as well as spoil banks, of varying ages and salinity regimes in the Terrebonne and Barataria Basins. Terrestrial, emergent, and submerged vegetation associated with the ridge, soil characteristics, and elevations of the vegetation communities are being sampled. In addition, we will present on the history of Smith Ridge, a historically Black community in Terrebonne Parish, and the changing patterns in housing and migration in and out of the community.
Moderator	Samuel Bentley Department of Geology & Geophysics Louisiana State University	Lauren Alexander Augustine Gulf Research Program National Academies	Gregory Delaune Deep Blue Institute	Daniel Hayden Restore America's Estuaries	John White Louisiana State University	Giovanna McClenachan Nicholls State University
Presenters / Panelists	Mead Allison Department of River-Coastal Science and Engineering Tulane University	Traci Birch Coastal Sustainability Studio Louisiana State University	Jon Atkinson CEO and President of the Board at The IDEA Village	Carrie Selberg Robinson NOAA Fisheries	Anamika Dristi Louisiana State University CULTURAL CARBON EXPORT TO THE GULF OF MEXICO FROM THE MISSISSIPPI RIVER	Angelina Freeman CPRA The Concept of Land Bridge Marshes in the Mississippi River Delta and Restoration Implications
	Ehab Meselhe Department of River-Coastal Science and Engineering Tulane University	Liz Camuti School of Architecture Tulane University	Rebecca Conwell The Beach at UNO	Marc Wyatt EPA Director Gulf of Mexico Division	Bingqing Liu The Water Institue Integrating deep learning, remote sensing, and field observations to study blue carbon capture	Erik Nati-Johnson Nicholls State University Determining drivers of community composition in ridge-associated marsh communities
	George Xue Department of Oceanography and Coastal Sciences	Jeffrey Carney University of Florida - School of Architecture, Florida Institute for Built Environment Resilience	John Day School of the Coast & Environment Louisiana State University	Chad Kacir NRCS State Conservationist (LA)	Brian Matherne Louisiana State University A Multi-year Freshwater Diversion Impact Study on Bacterioplankton in Breton Sound	Balaji Ramachandran Nicholls State University Coastal ridge characterization using lidar and hyperspectral sensors mounted on a small Uncrewed
	Carol Wilson Louisiana State University	Rob Holmes School of Architecture, Planning and Landscape Architecture Auburn University	Mark Kulp The University of New Orleans	Mark Berte Alabama Coastal Foundation	Claire McGuire The University of Southern Mississippi Assessment of factors driving CO2 air- sea flux on the Louisiana Shelf	Shae Smith Cox Kevin McQueeney Nicholls State University A Community History of Smith Ridge, Louisiana
	Barbara A. Kleiss Tulane University	David Perkes Gulf Coast Community Design Studio Mississippi State University	Harry Vorhoff Governor's Office of Coastal Activities	Michael Biros Coalition to Restore Coastal Louisiana	Kelly Sanks Tulane University Implications of the Mid-Barataria Sediment Diversion for carbon accumulation	Carissa Thiel Nicholls State University Ecological characteristics and soil processes in terrestrial forest habitats on coastal ridges
				Zach Monroe Office of Resilience and Sustainability, IIJA Task Force - City of New Orleans		
				Ron Howard USDA Gulf Coast Ecosystem Restoration Team		
Session Organizer	*Mead Allison* *Department of River-Coastal Science and Engineering* *Tulane University*	*Liz Camuti* *School of Architecture* *Tulane University*	*Gregory Delaune* *Deep Blue Institute*	*Program Committee*	*Program Committee*	*Giovanna McClenachan* *Nicholls State University*

ROOM	Room 208	Room 205	Room 207	Rivergate	201/202
	7	8	9	10	11
	Coastal Resiliency Efforts in Texas Chenier Plain - Panel	**Ida Over Lafourche**	**Understanding Stormwater Flood Risk in New Orleans - Panel**	**Offshore Wind in Louisiana: Planning for the Future - Panel**	**A Bird's Eye View of Changes to the Mississippi River Delta Region**
	The focus of the State of the Coast (SOC) Conference, has historically for the most part, concerned itself with the future of the Louisiana coast, however this SOC 2023 Conference expanded the focal point to include the Coastal Chenier Plain, thereby including the southeastern Texas coastline. The intent of this "Inaugural" session (1.5 hours) is to provide the audience with an overview of the scope of coastal resiliency efforts that Southeast Texas has been planning and developing, with the intention of launching a collaboration to share and learn from each other. The panel would provide the opportunity for session attendees to actively engage with key agencies involved in executing high-profile resilience projects in Texas. Moderators- Greg Grandy and/or Scott Kirkpatrick will introduce and provide a short biography of each of the five panelists.	The panel team for "Ida Over Lafourche" consists of four individuals involved in preparation for, response to, and recovery from August 2021's Hurricane Ida as it impacted Lafourche Parish and surrounding areas. Leaders from Lafourche Parish Government, the South Lafourche Levee District, the North Lafourche Levee District, and Nicholls State University, each of whom are also residents of Lafourche Parish, describe the impact of Hurricane Ida on the parish from a variety of perspectives and present progress on future projects, like the Morganza-to-the-Gulf levee project.	New Orleans faces significant challenges in managing flooding from extreme rainfall events – including the capacity of the drainage and pumping system, aging infrastructure with deferred maintenance, and fragmented governance. Future climate change and demographic trends are likely to exacerbate these challenges in the decades to come. The Water Institute has partnered with the Iowa Flood Center and SCAPE to undertake a research effort using integrated modeling and Robust Decision-Making methods to: 1.Better understand and communicate the key drivers that exacerbate stormwater flood risk 2.Provide more rigorous estimates of future stormwater flood risk 3.Help decision makers and residents plan for stormwater flood risk under a range of uncertain future conditions The project team explored how variables like rainfall, climate change, pipe conveyance, pumping outages, storm surge, and sea level rise impact stormwater flooding in New Orleans. The team also conducted vulnerability analyses at both the city and the neighborhood scale in New Orleans using three discrete methods: CART to identify the combination of factors that produced vulnerable scenarios, PRIM to identify the scenarios in which a neighborhood or the city is vulnerable, and Logistic regression to understand the importance of each uncertain factor in predicting vulnerability or invulnerability. The team also explored the most effective ways to communicate flood risk to decision makers and residents and developed graphics and visualizations to make sense of the research findings. In this session, project team members will present findings and outputs from this research effort. Following these short presentations, a panel including representatives from the City of New Orleans and the Sewerage and Water Board of New Orleans will reflect on how these findings can inform future decisions about investments in the city's stormwater	This panel discussion will explore the current status of offshore wind in Louisiana and topics specific to the growth of the industry in Louisiana. Conversation will focus on an overview of both state and federal leasing processes, environmental considerations specific to each, and scientific needs for the advancement of the industry. After this panel, the audience will have a complete picture of the status of offshore wind development in the Gulf of Mexico and an awareness of upcoming events that will dictate the future of offshore wind in Louisiana. This panel will cover regulations expected in the months between this submission and the conference. Specifically, the State of Louisiana is expected to promulgate rules for development in state waters that will have a notice and comment period and the Bureau of Ocean Energy Management (BOEM) will release a Proposed Sale Notice (PSN) for the two Wind Energy Areas in the Gulf of Mexico. It is impossible to anticipate what these items will look like once released, but our panelists are all subject matter experts who are well-versed in the potential outcomes and their ramifications. This panel will also provide background information on the specific technological needs for wind turbines in the Gulf of Mexico, information on the environmental impacts of development in state waters and federal waters, and supply chain needs for the development of an offshore wind industry in Louisiana.	Remote sensing is an important tool that can be used to evaluate large-scale changes to coastal and riverine systems. In this session, presenters will discuss how remote sensing has been used to better understand the damage and recovery of wetlands to tropical storm impacts, changes in vegetation over time in the outfall area of Mardi Gras Pass, multi-year monitoring of vegetation dynamics in the Atchafalaya and Terrebonne Basins, the evolution of Neptune Pass in the lowermost river, and a new method to monitor and classify rapidly changing coastal habitats.
Moderator	Greg Grandy CPRA	Gary LaFleur Center for Bayou Studies Nicholls State University	Colleen McHugh The Water Institute	Jenny Netherton Southeastern Wind Coalition	Natalie Snider Environmental Defense Fund
Presenters / Panelists	Kelly Burks-Cope Galveston District US Army Corps of Engineers	Dwayne Bourgeois North Lafourche Levee District A Look Back at Hurricane Ida and the Future of Morganza-to-the-Gulf Hurricane Protection System	Patrick Kane The Water Institute	Helen Rose Patterson National Wildlife Federation	Alexandra Christensen Jet Propulsion Laboratory NASA Wetland Vegetation Dynamics in Coastal Louisiana Using Satellite Remote Sensing
	Ray Newby Maritime Division Texas Department of Transportation	Archie Chiasson Lafourche Parish Government Lafourche Parish: Managing a Working Coast Through Response, Recovery, and Resiliency	Nastaran Tebyanian The Water Institute	Amy Reed Environmental Law Institute	Michael Hopkins Pontchartrain Conservancy Vegetation changes in the Mardi Gras Pass outfall area from 2008 to 2021
	Caimee Schoenbaechler Texas Water Development Board	Windell Curole South Lafourche Levee District Katrina Illusions, Ida Solutions	Nans Voron SCAPE Studio	James Martin Gulf Wind Technology	Christopher Potter NASA Ames Research Center Remote sensing of damage afflicted on coastal wetlands of southeastern Louisiana from tropical storms
	Nicole Sunstrum Gulf Coast Protection District Texas	John Doucet Nicholls State University Beneath Ida's Gyre: Storm-Borne Villages of Coastal Lafourche	Tyler Antrup Sewerage and Water Board of New Orleans	Joseph Orgeron Louisiana House of Representatives Restore or Retreat	Elizabeth Prior Virginia Tech Straying from the Mississippi River: A Case Study on Avulsion at Neptune Pass
	Tony Williams Texas General Land Office		Meagan Williams The City of New Orleans		Christy Swann RCOAST Monitoring and classification of rapidly changing habitats in the Lower Mississippi
Session Organizer	*Augusto Villalon* *Freese & Nichols, Inc*	*John Doucet* *The Coastal Center* *Nicholls State University*	*Colleen McHugh* *The Water Institute*	*Jenny Netherton* *Southeastern Wind Coalition*	*Program Committee*

Block		12	13	14	15
Session Block II 3:30 PM - 5 PM		**Lower Mississippi River Science Symposium: State of Knowledge & Future Challenges - Panel**	**Seeds of Innovation: Resilient Design Competition - Panel**	**Place Based Adaptation Strategies in New Orleans**	**Legal Ramifications Surrounding the Latest Scientific Evidence in Pipeline Canals and Land Loss - Panel***
		Unlike the Upper Mississippi River, where state and federal agencies are highly coordinated, there are no science conferences which gather academic and government researchers and managers from across the lower Mississippi valley to discuss science issues associated with the river. This has been due in part to the general lack of resources of many state and local governments. In 2020, a Lower Mississippi River Science Symposium has been established through a donation from the Charlotte Beyer Hubbell Foundation. An interagency steering committee from state, federal, non-profit and academic institutions have been organizing annual symposiums focusing on the Lower Mississippi River. The symposium covers topics related to the existing hydro, sediment and water quality monitoring system; future plans to address gaps in the monitoring system; existing predictive numerical modeling and forecasting tools. Some of the objectives of the symposium include dissemination of scientific information about the Lower Mississippi River, fostering collaboration among the various government agencies and academic institutions; and identifying opportunities for enhancing the monitoring system and numerical models of the Lower Mississippi River. This panel session will present a synthesis of main findings and outcomes of the 2023 Science Symposium. The panel will also solicit input from the attendees on future topics to be addressed through the Science Symposium in upcoming years.	This panel would cover the different partners and aspects of the 2022 Seeds of Innovation: Resilient Design Competition that helped design floating planter boxes for the Grand Bayou Tribe. Panelist would include representatives from the Water Collaborative (TWC), Louisiana's Coastal Protection and Restoration Authority (CPRA), Grand Bayou Tribe, Attakapa Ishak and other competition partners. TWC is a New Orleans based non-profit that works to ensure water management is climate resilient, accessible, affordable, and clean for all residents living in the Greater New Orleans Region. In 2022 TWC led their second Edible Planter Box Competition in partnership with CRPA and the Grand Bayou Tribe. This competition worked to support the Mid-Barataria Sediment Diversion mitigation efforts by encouraging professional landscape architects to design floating planter boxes. During previous outreach by CPRA it was identified by the tribe that increased flooding and salt water intrusion was preventing them from growing food and ceremonial plants. This competition brought together a diverse group of partners to think creatively about address this issue. The winning design will be installed in Grand Bayou this spring with hopes that they may one day be used across the coast. This panel would cover the competition itself, land loss and restoration impacts on native communities, and innovative partnerships that are creating real tools for our changing coast.	The session opens with a brief and powerful video, "The New Possible: New Orleans", which introduces how community-driven stormwater resilience projects work synergistically with large-scale drainage and pumping systems, combining grey and green infrastructure to reduce flooding and improve community resilience. The film also features a solar + battery microgrid affordable housing project that supported residents through the nine-day power outage after Hurricane Ida in 2021. After the film, detailed presentations show where these New Orleans-based projects are now and their influence on new projects, including a network of community resilience hubs rolling out across the city and the state. The session concludes with a visionary look at how we might inhabit New Orleans and the south Louisiana coast far into the future. These provocative architectural designs evolved as a follow-on to an award-winning installation at the Venice Biennale entitled "Submerged Experience", drawing and draws inspiration from the challenges and opportunities in New Orleans and Venice. These designs lay out visions of urban resilience hubs and adaptive coastal communities that work on and with the water.	There's no denying it: Pipeline canals are causing land loss across Louisiana. This panel provides a review of the scientific analysis and data from recent court cases, proposes viable approaches to combatting land loss, and offers insight on the legal issues surrounding the land loss caused by pipeline canals. According to Louisiana's Coastal Protection and Restoration Authority, there are more than 125,000 miles of pipelines running across the state. As an environmental attorney at Fishman Haygood, E. Blair Schilling has brought several actions against the pipeline industry seeking restoration of the land loss caused by the pipeline canals. Through such cases, Schilling has worked with experts, including esteemed scientists Dr. John Day and Dr. Joseph Suhayda. Drs. Day and Suhayda will present their scientific analysis of how the pipeline canals have caused significant erosion based on comprehensive data to support such findings. What will this mean in terms of coastal law and policy? Schilling will explore the legal landscape around the pipeline industry's liability for and defenses to restoring this land loss. Environmental attorney Tad Bartlett will moderate the panel. In addition to being part of a team teaching coastal law issues at Tulane Law School, he also was an integral part of a multi-firm team that developed the coastal litigation practice regarding land loss.
	Moderator	Mead Allison Tulane University	Kellyn LaCour-Conant Taproot Earth	Christina Fisher Autodesk, Inc.	Tad Bartlett Fishman Haygood, LLP
	Presenters / Panelists	Barb Kleiss Tulane University	Jessica Dandridge The Water Collaborative	Terri Dreyer NANO LLC Sustaining the Unsustainable	John Day School of the Coast & Environment Louisiana State University
		Jonathan (Andy) Ashley U.S. Army Corps of Engineers	Joel Franske Green Theory	Megan Williams City of New Orleans Community-driven stormwater resilience	E. Blair Schilling Fishman Haygood, LLP
		David Welch National Weather Service NOAA	Rosina Philippe Atakapa-Ishak/Chawasha Tribe Lowlander Center	Dan Grandal Stantec Designing to Thrive: Empowering Coastal Louisiana Communities Through Place-Based Design Solutions	Joseph Suhayda Consulting Coastal Oceanographer
		Ehab Meselhe Department of River-Coastal Science and Engineering Tulane University	Gaylan Williams Landscape Architecture	Z Smith Eskew Dumez Ripple Resilient affordable housing	
	Session Organizer	*Ehab Meselhe* *Department of River-Coastal Science and Engineering* *Tulane University*	*Samantha Carter* *National Wildlife Federation*	*Dan Grandal* *Stantec*	*Callie Kamath* *Fishman Haygood, LLP*

Block		16	17	18	19
Session Block II 3:30 PM - 5 PM		**Looking Below the Surface to Inform Better Restoration Outcomes**	**Coastwide Avian Restoration Facilitated by Interdisciplinary Collaboration: Louisiana's Success**	**Communicating the Coastal Master Plan: Graphic Accessibility in the 2023 Edition - Panel**	**Update on Deepwater Horizon NRDA Restoration in Louisiana**
		The success of coastal restoration efforts depends on understanding processes that happen below of the surface. In this session, presenters will discuss high-resolution monitoring of subsidence in the outfall of the planned Mid-Barataria Sediment Diversion, dynamics and factors that influence the marsh subsurface and resiliency, measurements to understand if subsidence measurements at Coastal Reference Monitoring Stations are capturing both shallow and deep subsidence, quantifying live root biomass and structure and the marsh's ability to withstand hurricane disturbances, and an evaluation of difference in organic matter caused by a salt-induced normal fault in southwest Louisiana.	Following the Deepwater Horizon oil spill and the formation of the Louisiana Trustee Implementation Group (LATIG), restoration, conservation and adaptive management of bird nesting and foraging habitats was prioritized as one of the principal programmatic goals throughout coastal Louisiana and the broader northern Gulf of Mexico. As an initial step, a thorough understanding of past actions and lessons learned was required, and team members were sought out to aid in the identification of informational needs to support future restoration efforts. Strong interdisciplinary collaboration continues to play a critical role in our team's capacity to accomplish stated programmatic goals. Through active engagement, sometimes highly spirited conversations, and intentional blending of institutional knowledge, our team continues to both identify and address informational needs which directly support future restoration efforts. Further, unforeseen opportunities, often identified by individuals well outside the initial project scope, continue to bolster our team's ability to develop necessary and pragmatic tools to assist resource managers in addressing ongoing and proposed environmental issues. In this session, the four project presentations will highlight our team's ongoing efforts to restore Louisiana's impacted avian resources and the critical habitats they rely upon. Each presentation will highlight project-specific activities as well as emphasize the strong linkages between all projects. The moderator is biologist Jon Wiebe from the Louisiana Department of Wildlife and Fisheries (LDWF), and presenters include avian and restoration specialists from The Water Institute (Eva Windhoffer and Jessica Henkel), the Coastal Protection and Restoration Authority (Katie Freer), and Louisiana State University (Aylett Lipford). The session will be 90 minutes including a moderator introduction, 4 oral presentations of 12 minutes each, and discussion time.	The Coastal Master Plan has many audiences. As a state mandate, it functions as both a clearinghouse and guiding light for long-term investments in risk reduction and restoration projects. To the public, it's a crucial source for understanding the future of coastal life in Louisiana—where projects are planned, what has been accomplished already, and, more existentially, what their communities, economies, and patterns of habitation will look like in decades to come. For the 2023 Coastal Master Plan, CPRA collaborated with a multi-disciplinary team led by Arcadis and SCAPE to craft an updated visual communications strategy across the document's fourth edition—from overall graphic identity to in-the-weeds decisions about maps, regional project views, data visualizations, engagement collateral, and general reading comprehension. In this panel, join two members of the Coastal Master Plan team—a representative from CPRA and a designer from SCAPE—alongside an environmental journalist and a member of Louisiana's environmental advocacy community to discuss design decisions in this latest iteration of the plan and how it is interpreted by its stakeholders across the coast. Learning goals for this session include a targeted discussion on how graphics, visualizations of all kinds, and written descriptions of restoration and risk reduction projects can be honed to maximize accessibility to the broadest possible audience, helping to demystify often complex processes; lessons learned from producing more accessible content for in-person engagement in coastal communities across the state; and how these skills and tactics can be applied in the everyday work of coastal professionals of all backgrounds.	The Deepwater Horizon Spill began 13 years ago, but the historic Natural Resource Damage Assessment settlement wasn't finalized until 6 years later, with payments beginning in 2017 and scheduled to continue until 2032. The Louisiana Trustee Implementation Group has committed over $3 billion to habitat and resource restoration, with planning and implementation efforts keeping pace with available funds. This session will provide an overview of the work of the Louisiana Trustee Implementation Group and highlight projects restoring habitat, birds, water quality, and recreational use.
	Moderator	Michael Hopkins Pontchartrain Conservancy	Jon Wiebe LDWF	Nans Voron SCAPE Studio	Maury Chatellier CPRA
	Presenters / Panelists	ClaireBrovold University of Louisiana at Lafayette Organic Matter Quantity and Composition After a Storm Surge Event in Coastal Louisiana	Eva Windhoffer The Water Institute An Overview of the Guidance Document for Avian Habitat Restoration and Monitoring	Krista Jankowski CPRA	Sarah Clardy U.S. Fish and Wildlife Services Restoration of North Breton Island
		MarkByrnes Applied Coastal MOVEMENT OF UNANCHORED BENCHMARK RODS IN CONSOLIDATING DELTAIC SEDIMENT IN SOUTH LOUISIANA	Jessica Henkel The Water Institute Gulf of Mexico Colonial Waterbird Data Monitoring Portal	Simone Maloz Restore the Mississippi River Delta	Scott Graham Ducks Unlimited, Inc. NRDA Nutrient Reduction Projects in Southwest Louisiana Agriculture
		ElizabethHarris LSU Department of Oceanography and Coastal Science Evaluating subsurface wetland dynamics and marsh resiliency to RSLR in coastal LA	Aylett Lipford Department of Renewable Natural Resources LSU If you build it, will they come? Assessing habitat quality for birds at created marshes in LA	Halle Parker WWNO New Orleans Public Radio	Mel Landry NOAA Restoration Center The Louisiana Trustee Implementation Group: An Overview
		MohamedHassan Louisiana State University Quantification of live root biomass and structure, necromass, and macro pores in Coastal Wetland	Katie Freer-Leonards CPRA Bridging the Gap between Biologists and Restoration Project Teams		Joe Wyble CPRA Restoration of Recreational Use
		Torbjörn Törnqvist Tulane University High-resolution subsidence monitoring in the Mid-Barataria Sediment Diversion region			
	Session Organizer	*Program Committee*	*Eva Windhoffer* *The Water Institute*	*Jackson Rollings* *SCAPE Studios*	*Mel Landry* *NOAA Restoration Center*

Block		20	21	22
Session Block II 3:30 PM - 5 PM		**Major Infrastructure Initiatives Progress: Bayou Region's Flood & Economic Resiliency**	**Developing Offshore Wind that Prioritizes Workers and Communities - Panel**	**Eternal Flow- Film**
		Hurricane impacts and ongoing land loss have increased flooding in rural communities, not always protected by major infrastructure. These stresses are combined with those associated with legacy oil and gas infrastructure across the coastal zone, that often impact disadvantaged communities and environmental justice areas. This session discusses several recent initiative that target the provision of new infrastructure to reduce flooding, the economic vitality of rural and ongoing emissions from abandoned industrial facilities. Presentations will discussion social, environmental, and engineering challenges of implementing these initiatives across coastal Louisiana, highlighting the need for continued attention to communities outside of the state's major urban areas.	This summer the federal government will lease the first offshore wind areas in the Gulf of Mexico to investors. It is no longer a question of if or when offshore wind will come to the Gulf South. The questions are how will offshore wind impact our communities and who will benefit. Without input from the public, there is little reason to believe offshore wind will be different from the offshore oil and gas industry. Absent a demand of justice and equity, profits will flow to large companies and a lucky few will get high paying jobs with benefits, while other communities--especially Black and Indigenous--are left behind. This panel will bring together advocates who are working to organize communities who might otherwise be left out of the offshore wind boom. While they come from different sectors representing organized labor, oil and gas workers, and climate/environmental justice, they all have one thing in common: developing a new industry that puts workers and communities in the center of the conversation.	What do you think you know about the Mississippi River? For those who live on, in and next to it, does it flow through their lives differently? What does it communicate to and through them? Here is a community previously unaware of themselves as a community of the river.
	Moderator	Dwayne Bourgeois North Lafourche Levee & Conservation District	Kendall Dix Taproot Earth	
	Presenters / Panelists	Henri Boulet Morganza Action Coalition Flood Risk Reduction Projects in the Bayou Region	Leo Lindner True Transition	
		Scott Hemmerling The Water Institute A Community-Informed Approach to Coastal Restoration Planning in Port Fourchon, Louisiana	Scott Eustis Healthy Gulf	
		Sean Walsh Eustis Engineering Geotechnical Challenges of the Maurepas Freshwater Diversion and West Shore Levee Projects	Michael Esealuka Healthy Gulf	
		Leah Reed AECOM Overview of Engineering Challenges of Integrating the Maurepas Freshwater Diversion Project with the West Shore Levee Risk Reduction Project	Jackson Voss Alliance for Affordable Energy	
	Session Organizer	*Henri Boulet* *Morganza Action Coalition*	*Kendall Dix* *Taproot Earth*	*Program Committee*

11:30 AM- 1:15 PM	**Opening Reception**

Thursday, June 1, 2023

8 AM- 6:30 PM	Exhibit Hall

Session Block III — 8:30 AM- 10 AM

ROOM	Room 204	Room 213	Room 211-212	Room 210
	23	24	25	26
	Mississippi Sound Impacts of Bonnet Carré Spillway Openings and Other Freshwater Inputs.	**The Bayou Culture Collaborative: Integrating Community Voices into the Human Dimension - Panel**	**What Does Success Look Like? Perspectives on the Societal Impact of Coastal Restoration - Panel**	**An Overview of Grant and Other Nontraditional Financing Opportunities for Coastal Projects***
	The Bonnet Carré Spillway (BCS) is the final flood defense structure on the Mississippi River protecting the levee system of the New Orleans area from flooding during high Mississippi River flow regimes. Opening the BCS in Louisiana flushes the Mississippi Sound with river waters that are low in salinity and high in nutrient levels and suspended sediment loads, which can potentially lead to ecosystem shifts, harmful algal blooms, and hypoxia. Climate change has increased the frequency of BCS operations such that for the first time ever it was opened for three years in succession (2018, 2019 and 2020) as well as twice in a single calendar year (2019). After the double BCS openings in 2019, intense cyanobacteria blooms were observed in Lake Pontchartrain and along the Mississippi coast, causing extended beach closures and marine mortality, with detrimental effects on coastal fisheries and local tourism. Notably, harvest oyster reefs in the Mississippi Sound suffered nearly 100% mortality in summer 2019. This session seeks to understand the chronic and acute stressors to the Mississippi Sound ecosystem and its coastal fisheries and shellfisheries of historic and hypothetical (modeled) spillway openings, and other sources of freshwater input into the Mississippi Sound.	Coastal researchers often note the rich cultural value of the Louisiana coast; however, action plans often focus more on landscape and waterways than the heritage and community of the people. The Bayou Culture Collaborative offers a deeply intentional model for planners to include community members in planning on all levels, rooted in the idea that we need to build community in order to create a shared understanding of our coastal problems and move forward together. Our model also provides a structure allowing research scientists to network with a wide range of people involved in cultural, historical, and community work on the Coast. After our first year of work, we crafted a position statement providing a concise framework to more effectively address the human dimension in environmental planning. This panel is an introduction to and overview of the project, which launched in January 2022. The panelists, representing multiple components of the Collaborative, will explain the group's mission, how it functions (including monthly gatherings and working groups), the development of a position statement, and our vision for ongoing collaborative projects.	Louisiana's coastal restoration projects are a key component of creating a thriving coast for Louisiana's communities, ecosystem, and economy. While there is existing research on some of the potential benefits to communities from these projects, limited research has evaluated the long-term societal impact on coastal communities from constructed restoration projects. This session will include perspectives from three groups with an interest in improving how Louisiana engages with and evaluates the impact of coastal restoration on communities. In this session, we focus on how we can learn from and evaluate restoration projects completed at least 5 years ago. First, graduate students from UL Lafayette's interdisciplinary Coast in Crisis course will share outcomes from History Harvests collected during the Spring 2023 semester. History Harvests are a social science collection method used to engage a diverse group of community members at public events to recall their understanding of a particular topic or event (e.g., the restoration project). Second, researchers from the Blanco Public Policy Center will discuss best practices for evaluating the societal impact of coastal restoration projects based on a literature review of relevant journal articles and environmental program evaluation reports. Finally, leaders from Restore the Mississippi River Delta, a coalition of non-profit organizations focused on rebuilding Louisiana's coastal landscape to protect people, wildlife, and jobs, will share best practices for supporting community understanding of and efforts to engage in coastal restoration. Collectively, this panel will provide an overview of different types of community engagement and a framework for evaluation of the impact of coastal restoration on Louisiana's communities.	The restoration of coastal ecosystems is a national priority. Studies have estimated losses to economic activity, potential infrastructure rebuilding costs, and impacts further inland due to coastal erosion in the amount of $138 billion annually. Carbon sequestration and ecosystem services generated by these coastal systems can easily generate several additional billion dollars. The draft 2023 Coastal Master Plan lays out projects that are critical to the restoration of the coast and estimates restoration costs in several billion dollars over multiple years, and there are many projects in the Master Plan that will need to secure funding. This panel will explore financing and crediting mechanisms for projects that can supplement the financial shortfalls to keep the restoration activities on track with the Master Plan timeline, including how these financing and credit mechanisms may interplay with blue carbon credits; the potential to incorporate other ecosystem values, the legal mechanisms in Louisiana for financing coastal restoration through non-carbon credits; and what baseline technical and social information should be considered for choosing projects. This panel will also include a discussion of the National Fish and Wildlife Foundation's (NFWF) annual National Coastal Resilience Fund (NCRF) grant program, which provides opportunities for Louisiana communities and organizations to invest in sustainable, nature-based resilience solutions. Participants will leave this presentation with a clear understanding of the NCRF program, insight as to how to leverage NCRF funding for the greatest impact, and the ability to identify nature-based opportunities with the potential to catalyze larger resilience efforts. Finally, this panel will present a novel approach and model to quantifying social benefits for flood mitigation projects. The approach, developed by researchers at Texas A&M and Virgina Tech with support from the Harris County Flood Control District and USACE-Galveston, focuses on the habitation benefits of flood mitigation to due to impacts on shelter flooding and other critical infrastructures. The model produces behavior over time graphs that allow policy makers to consider the improvement to habitation from protecting individual specific infrastructure assets, including homes.
Moderator	Kim de Mutsert The University of Southern Mississippi	Gary LaFleur Center for Bayou Studies Nicholls State University	Anna Osland Blanco Public Policy Center University of Louisiana at Lafayette	Chris Dalbom Tulane University
Presenters / Panelists	Kemal Cambazoglu The University of Southern Mississippi Modeling freshwater impacts on the water quality, habitat suitability, and ecosystem dynamics	Lanor Curole United Houma Nation	Katie Gruzd Restore the Mississippi River Delta	Valerie Black The Water Institute An overview of nontraditional financing opportunities for restoration and sustainability project
	Adam Skarke Mississippi State University Impact of Submarine Groundwater Discharge on Water Quality in Mississippi Sound	Theodore Hilton Tulane University	Devon Parfait Restore the Mississippi River Delta	Kyle Gray Throwe Environmental National Coastal Resilience Fund: Grant Opportunity for Coastal Louisiana
	Inia Soto Morgan State University Goddard Space Flight Center - NASA Spatial and temporal characterization of cyanobacteria blooms in the Mississippi Sound and their	Shana Walton Bayou Culture Collaborative Nicholls State University	Chenhan Shao Blanco Public Policy Center University of Louisiana at Lafayette	Mark Jernigan Jacobs Engineering Managing the Risk of Cost Escalation during Delivery of Coastal Restoration Projects
	Xiaodong Zhang The University of Southern Mississippi Assessing effect of freshwater release and food supply on oyster larvae through optical observation	Maida Owens Louisiana Folklife Program	Emma Willis Department of History University of Louisana at Lafayette	Chuck Wolf Freese and Nichols Modeling Residential Habitation to Quantify Mitigation Project Social Benefits
Session Organizer	*Kim de Mutsert The University of Southern Mississippi*	*Shana Walton Bayou Culture Collaborative Nicholls State University*	*Anna Osland Blanco Public Policy Center University of Louisiana at Lafayette*	*Program Committee*

ROOM	Room 209	Room 206	Room 208	Room 205
	27	28	29	30
	Modeling to Inform Sustainable Oyster Populations in Lousiana's Estuaries	**Novel and Opportunistic Approach to Restoration: River Reintroduction Into Maurepas Swamp - Panel**	**Coastal Master Plan Tools**	**Ethical Considerations of Disaster Preparedness and Response - Panel**
	This session describes the oyster modeling supported by LDWF as the lead implementing agency under the Monitoring and Adaptive Management Implementation Program (MAIP) by the DWH Louisiana Trustee Implementation Group (LA TIG). The coupled modeling framework under development is comprised of a hydrodynamic/water quality (Hydro/WQ) model, an oyster larval transport model, and an oyster reef individual-based model (IBM). The Hydro/WQ model generates outputs that are input to the larval transport model, which simulates oyster larval settlement from releases over space and time. Both the Hydro/WQ and larval transport models provide inputs to the oyster reef IBM that simulates oyster growth, survival, reproduction, and shell maintenance of oyster spat (settlement) to adult life stages. Model outputs will support LDWF in evaluating locations for NRDA-funded oyster reef construction and enhancement and will be used to quantify relative changes in oyster recruitment and production under management scenarios and future foreseeable conditions. The oyster modeling builds on previous oyster studies, as well as a model review, selection, and evaluation, so presenting the model setup is important to demonstrate for oyster restoration scientists and managers that will use these tools. The first presentation provides a project background with a summary of oyster habitat requirements and existing models for Louisiana. The second presentation describes oyster larval transport models, including model testing and verification and outputs for larval recruitment and connectivity among reefs. The third presentation describes modeled reef oyster processes and the reef IBM being set up in Louisiana. The last presentation describes the oyster metapopulation model, with model outputs and simulation scenarios to help support LDWF and partner agencies (CPRA, USGS) in evaluating NRDA-sponsored oyster restoration objectives and adaptive management questions.	Coastal wetland restoration and storm risk reduction are the two goals of the Coastal Protection and Restoration Authority of Louisiana's (CPRA) coastal program. The River Reintroduction into Maurepas Swamp or Maurepas Swamp Project (MSP) is a keystone restoration project with a unique opportunity to synchronize implementation with the United States Army Corps of Engineers (USACE) lead West Shore Lake Pontchartrain Hurricane and Storm Damage Risk Reduction Project (WSLP). Both are major, landscape level projects supporting CPRA's primary goals and implementing them in tandem is mutually advantageous. Typically, the USACE uses mitigation banks to create wetlands that offset the impacts from construction. The MSP is the preferable mitigation option because it restores the ecosystem within the same watershed, and by doing so, also increases the resiliency of the WSLP project. The MSP is a novel project to restore more than 45,000 acres of the Maurepas Swamp and WSLP is a large, critical component to the Hurricane and Storm Risk Reduction System. Implementing any major project is very complex and the additional challenges of implementing two major projects in unison requires robust coordination amongst myriad project teams. CPRA has many dedicated partners from academia, consulting, and other state and federal agencies that have worked hard to identify success criteria, model future scenarios, develop operational regimes, and integrated designs to deliver the projects. The panel session intends to be focused on the MSP but the discussion will naturally include references to WSLP because the two projects are closely linked, particularly following the recent Record of Decision specifying MSP as the recommended plan for WSLP compensatory mitigation. The panel will provide a status update and discuss advantages and challenges from perspectives of partnering agencies, technical advisors, and subject matter experts throughout past and upcoming efforts.	The 2023 Coastal Master Plan employs a variety of advanced models and tools to predict future scenarios for Louisiana's coast and to evaluate the benefits of actions to protect it. Given the dynamic nature of these models and the data that support them, sophisticated planning tools are needed to manage data and to evaluate projects across a range of budgets. This session will highlight advancements in both modelling and planning tools for the 2023 Coastal Master Plan. Specifically, presenters will discuss the use of artificial intelligence to predict storm surge, lessons learned in managing data for the 2023 Coastal Master Plan, accessing this data through the 2023 Master Plan Data Access Portal, and how the 2023 Coastal Master Plan Planning Tool allows for the evaluation of restoration and risk projects alternatives while accounting for multiple decision criteria.	This session will be a panel discussion about the ethical considerations of disaster preparedness and response hosted by Common Ground Relief. We will provide an introduction to a few of the many frontline leaders engaging in disaster mitigation and response in coastal Louisiana, with representation from Southwest, South, and Southeast Louisiana and the River Parishes. We will explore the ethics of the current landscape of disaster mitigation and response in coastal Louisiana, with particular attention on Hurricane Laura and Hurricane Ida impacts and response. Goals of the session are to: (1) identify factors that increase community vulnerability to hurricanes, floods, oil spills, and other disasters, (2) identify communities and populations that are disproportionately impacted by these factors, (3) explore ethics considered in community-led responses to disasters, (4) identify ways for coastal leaders to make ethical decisions to mitigate disaster vulnerabilities, and (5) identify ways for coastal leaders to make ethical decisions during disaster response and recovery.
Moderator	Shaye Sable Dynamic Solutions, LLC	Kent Bollfrass CPRA	Jason Curole The Water Institute	Joshua Benitez Common Ground Relief
Presenters / Panelists	Megan La Peyre U.S. Geological Survey, Louisiana Fish and Wildlife Cooperative Research Unit Evaluation and Models for Representing Habitat and Oysters in Louisiana	Travis Byland CPRA	Mohammad Ahmadi Gharehtoragh Purdue University Surrogate models to predict storm surge hydrodynamics over evolving landscapes and climate forci	Melissa Bright Louisiana Just Recovery Network
	Tim Stephens Dynamic Solutions, LLC Oyster Larval Transport Model Comparison in Barataria Basin	Agnimitro Chakrabarti FTN Associates, Ltd.	Stuart Brown CPRA 2023 Master Plan Data Access Portal	Justin Solet United Houma Nation Healthy Gulf
	Romain Lavaud LSU Agricultural Center Modeling Oyster Reef Population Dynamics: From Individual Bioenergetics to Structural Mechanics	Ken Krauss Wetland and Aquatic Research Center USGS	Heather Sprague Arcadis Lessons Learned in Making Data Management a Little Less Painful for the 2023 Coastal Master Plan	Joshua Trosclair
	Kenneth Rose University of Maryland Center for Environmental Science Oyster Metapopulation Modeling for Louisiana Coastal Basins	Brad Miller CPRA	Michael Wilson RAND Corporation Exploring the 2023 Coastal Master Plan Planning Tool Methods and Results	Sophie Zaken Southwest Louisiana DSA Housing Louisiana
		Nick Sims US Army Corps of Engineers		
Session Organizer	*Shaye Sable Dynamic Solutions, LLC*	*Kent Bollfrass CPRA*	*Program Committee*	*Charlotte Clarke Common Ground Relief*

ROOM	Room 207	Rivergate	Film Room (201/202)
	31	32	33
	Updates on the Louisiana Watershed Initiative - Panel	**Offshore Wind Workforce Development- Panel**	**Eternal Flow- Film**
	The Louisiana Watershed Initiative (LWI) is a $1.2B, HUD-funded program to fundamentally transform water resources management in the state from a geopolitical to hydrologically-based management system based on the state's primary watershed regions. Prompted by chronic statewide flooding problems in recent years, the LWI is a comprehensive, multi-year program based on sound science, extensive modeling and the careful selection, design, and implementation of an array of projects. As one of the nation's largest and most complex watershed management efforts, the LWI approach and outcome will be of great interest to all water resources professionals. Moderated by Derek Chisholm (AECOM), this dedicated session will feature the following five speakers: LWI Overview and Progress to Date (Genea Lathers, LA Office of Community Development); Modeling Approach and Outcomes to date (Billy Williamson, Department of Transportation and Development); LWI Gauge Network and Installation Progress (Emad Habib, University of Louisiana at Lafayette); Regional Steering Committees and Region 5 Progress (Kelia Bingham- Plan Acadiana Watershed Coordinator); and LWI Coastal Transition Zone work and Alignment with the CPRA Master Plan (Brett McMann- The Water Institute of the Gulf). Collectively, these presentations will provide attendees with an excellent update on the large scale watershed management directed at flood mitigation and ecosystem restoration.	The rapid growth of US offshore wind within the last 4 years has resulted in a high demand for professionals and skilled labor with experience to support the Offshore Wind industry. BOEM has 24 East Coast active wind development leases, an additional 5 in Central and Northern California and intends to offer additional leasing opportunities in the Gulf of Mexico, Gulf of Maine, Oregon, and Washington State in the coming years. Government agencies, developers, and consultants currently do not have the experienced workforce necessary to move at the current pace, and certainly not moving forward with additional lease areas. Professional disciplines such as Structural and Electrical Engineering, Geology, Marine and Terrestrial Biology, Marine and Terrestrial Archaeology, Economics, Acoustics and Hydrography are needed at the earliest phases of development to support the planning, design, and permitting stages. Technical disciplines such as welders, cutters, solderers, brazers, tower and crane operators, and service technicians are needed during construction and throughout the lifespan of the facility. The solution to this challenge is through collaboration between academic institutions, federal and state agencies, offshore wind developers, and consultants to build a workforce pipeline. Academic institutions such as universities, technical and community colleges need to develop focused curriculum to address the unique nature of offshore wind permitting, construction, and operation to give the emerging workforce the education needed. Internships should be provided by industry to compliment educational programs. Presenter Bio: J.T. Hesse is the Offshore Wind Planning and Permitting Technical Director with Jacobs. J.T. is a former BOEM employee with over 10 years of environmental permitting experience within renewable energy. Contact Info: J.T. Hesse, Jacobs, Dulles View Dr. Unit 700, Herndon, VA 20171, Phone: 619-213-2617, Email: JT.Hesse@jacobs.com	What do you think you know about the Mississippi River? For those who live on, in and next to it, does it flow through their lives differently? What does it communicate to and through them? Here is a community previously unaware of themselves as a community of the river.
Moderator	Derek Chisholm AECOM	JT Hesse Jacobs Engineering	
Presenters / Panelists	Emad Habib University of Louisiana at Lafayette	Shafin Kahn University of New Orleans	
	Genea Lathers Louisiana Office of Community Development	Alexandra St. Pe Offshore Americas, RWE	
	Brett McMann The Water Institute of the Gulf	Jacqueline Richard Nunez Community College	
	Billy Williamson Louisiana Department of Transportation and Development	Jeremy Stefek National Renewable Energy Laboratory	
Session Organizer	*Derek Chisholm AECOM*	*JT Hesse Jacobs Engineering*	*Program Committee*

Session Block IV
10:30 AM - 12 PM

	34	35	36	37	38
	Lower Mississippi River Physical Model: Operations, Calibration and Cross-Calibration	**Opportunities and Challenges of Dredging Mississippi River Sediment for Large Scale Restoration - Panel**	**Exploring Place: Our History and Our Future**	**Blue Carbon In Louisiana: Who Will Get the Credits and When? - Panel***	**Rockefeller Refuge: Funding Strategies, H&H Modeling, Coastal Protection, and Public Use**
	The Lower Mississippi River Physical Model (LMRPM) is one tool being used by the Louisiana Coastal Protection and Restoration Authority to study the hydraulics and sediment (sand) transport in the lower ~190 miles of the river. This session is aimed at presenting how the LMRPM was designed and is operated; some of the latest experimental research; and how the model results are being used in conjunction with numerical modeling.	Dredging of the lowermost Mississippi River occurs frequently to ensure safe passage of deep draft vessels from the Gulf of Mexico to Baton Rouge, Louisiana. Since the authorization of the Mississippi River Ship Channel, the vast majority of dredging has occurred at Southwest Pass, the river's only deep draft inlet in the shipping channel. In 2009, the Coastal Protection and Restoration Authority (CPRA) began constructing the first ecosystem restoration project to sustainably dredge renewable sources of Mississippi River sediment – the Bayou Dupont Marsh Creation Project. This project involved dredging 3 million cubic yards of sediment from a lateral sand bar at Alliance and ultimately would create 568 acres of wetlands. Since the completion of that project, CPRA and its private and public sector agency partners have designed ten marsh creation, ridge restoration and barrier island restoration projects utilizing Mississippi River sediment (seven have been constructed and three are currently under construction). This work has resulted in thousands of acres of created or restored habitat, involving dredging tens of millions of cubic yards of sediment from Mississippi River sand bars located as far as 20 miles away from the fill sites. This Panel Session will present perspectives from professionals who have worked on several of these projects. Experiences from previously constructed projects will be referenced, but the discussions will focus on challenges, design methodology, innovative approaches, and lessons learns associated with the three most recent Mississippi River dredging projects – Large Scale Barataria Marsh Creation Project: Upper Barataria Component Creation Project, the Bayou Grande Cheniere Ridge Marsh Creation Project, and the Barataria Basin Ridge and Marsh Creation Project – Spanish Pass Increment. Panelists will also discuss current and past modeling efforts that focus on how we can utilize sediment in the river for future projects.	This session explores how ties to place and landscape in Louisiana influence how we response to land loss and flooding. It includes presentations that explore: How the decisions of people who have recently relocated were influenced by human capital and financial capital. Understanding how different coastal residents experience the pushes and pulls of place can inform compensating policies for sending communities to build and maintain resilience to future hazards How tribal ancestors of the Grand Caillou/Dulac band of Biloxi Chitimacha Choctaw (GCDBCC), who are spread across several small towns in the southernmost parts of Louisiana several miles from lands granted to 19th C ancestors, have been formced to migrate inland by coastal land loss. How combined remote sensing methodology that included gradiometer, ground penetrating radar, and the deployment of specially trained HHRD cadaver dogs have been used to identify human burials. This technique could be applicable to other areas of coastal Louisiana as lands previously settled by indigenous and other peoples continue to convert to wetlands.	In addition to providing important ecosystem services and serving a critical role in buffering against rising sea levels and severe storms, Louisiana's coastal wetlands sequester significant amounts of carbon. As the Louisiana Coastal Protection and Restoration Authority (CPRA) continues to implement the state's Coastal Master Plan, it will maintain and restore hundreds of square miles of coastal wetlands that otherwise would be lost to a variety of causes including sea level rise, subsidence, and erosion. These coastal restoration activities should make CPRA eligible for earning verifiable carbon offsets, known as "blue" carbon credits. The magnitude of the state's coastal restoration and conservation program is unparalleled not only nationally but around the world, and it gives Louisiana an opportunity to become a leader in the emerging blue carbon market – both as a generator of credits but also in the development of effective crediting methodologies, monitoring approaches, and markets that have largely eluded policymakers and practitioners to date. If successful, carbon credits could become a new funding source for CPRA to finance coastal restoration projects. The development of an active blue carbon market in south Louisiana may also serve as a financial incentive for the private sector to implement more coastal restoration projects and at greater scale. While the opportunity is significant in Louisiana, a myriad of challenges and uncertainties must be overcome to turn opportunity into reality. These challenges and uncertainties span scientific data gaps, ambiguities in law and policy, uncertain capital markets, and the underlying ongoing complexity of property ownership in Louisiana when privately owned coastal wetlands erode. The proposed panel will discuss the opportunities and challenges in developing a blue carbon market capable of crediting coastal restoration projects in south Louisiana and beyond.	This session is a continuation and expansion of the Rockefeller Refuge session held at the 2018 State of the Coast. This session's intent is to highlight the recent public access work, hydraulic research, and coastal engineering in Southwest Louisiana at Rockefeller Refuge. The Refuge experiences multiple coastal challenges including 40+ ft/yr of erosion, saltwater intrusion, and direct exposure to Gulf conditions. Through the diverse projects discussed here, Refuge management has maintained the property while providing public and commercial access and opportunities for pioneering wildlife, fisheries, and wetlands research. This session highlights important coastal needs in Southwest Louisiana and provides discussion topics for protecting and restoring our coastal resources. Scooter Trosclair (LDWF), the Refuge Manager, will give an overview of the Refuge and will discuss the many stakeholders and funding sources being brought together to preserve the Refuge. Sina Amini (HDR) will discuss the history of the Refuge's Gulf shoreline including erosion patterns, shoreline protection projects, and post-hurricane survey results of portions of the protected and unprotected shoreline after the direct impacts of Hurricanes Laura and Delta. Kazungu Maitaria (Fenstermaker) will discuss hydrodynamic modeling conducted to identify healthy marsh ecosystem management strategies. Lance Ardoin (LDWF) will discuss improvements to facilities for public use and monitoring data of how the Refuge is accessed and used by the public.
Moderator	Clint Willson LSU Center for River Studies LSU Deptartment of Civil & Environmental Engineering	Rudolph Simoneaux CPRA	Michelle Beauregard CDM Smith	Megan Terrell Plauche & Carr, LLP	Erin Rooney HDR Engineering, Inc.
Presenters / Panelists	Emily Fertitta LSU Center for River Studies LSU Deptartment of Civil & Environmental Engineering Incorporation of Hydraulic Structures in the Lower Mississippi River Physical Model	Jonathan Hird Moffat & Nicholl	Abbey Hotard Texas A&M University Galveston Campus Rethinking Relocation and Resilience: How pushes and pulls of place shape relocation decisions	Beaux Jones The Water Institute	Phillip Trosclair Louisiana Dept. of Wildlife & Fisheries Overview and funding sources for Rockefeller Wildlife Refuge Projects
	Thomas McLain CPRA Design, Calibration and Operation of the Lower Mississippi River Physical Model	Adam Linson CPRA	Devon Parfait Restore the Mississippi River Delta GIS ANALYSIS OF HISTORICAL TRIBAL LAND RECORDS AND MIGRATION RESPONSE TO COASTAL LAND LOSS	David Peterson CPRA	Sina Amini HDR Engineering, Inc. Overview of Shoreline Stabilization Measures at Rockefeller Refuge
	Francesca Messina The Water Institute Cross-comparison of physical and numerical models of the Lowermost Mississippi River	Brad Miller CPRA	AmberRobinson HDR Engineering, Inc Welcome to the Dog Show: Using GPR and Cadaver Dogs to Locate an Unmarked Burial Ground in Coastal Louisiana	Jim Bergon Delta Lands LLC	Jeanne Hornsby C. H. Fenstermaker & Associates, L.L.C. H&H Modeling of the Mermentau Watershed
	Julia Mudd LSU Center for River Studies LSU Deptartment of Civil & Environmental Engineering Testing of a magnetic, fluorescent lightweight tracer sediment for use in the Lower Mississippi	Gordon Thomson Baird	Zachary Overfield HDR Engineering, Inc Welcome to the Dog Show: Using GPR and Cadaver Dogs to Locate an Unmarked Burial Ground in Coastal Louisiana	Megan Terrell Plauche & Carr, LLP	Lance Ardoin LDWF-Rockefeller Wildlife Refuge Rockefeller Wildlife Refuge Recreational Usage, Enhancement Projects, and Affiliated Assets
			RonaldMcPherson HDR Engineering, Inc Coastal Erosion from an Alaskan Perspective	Harry Vorhoff Governor's Office of Coastal Activities	
Session Organizer	*Clint Willson* *LSU Center for River Studies* *LSU Deptartment of Civil & Environmental Engineering*	*Rudolph Simoneaux* *CPRA*	*Program Committee*	*Harry Vorhoff* *Governor's Office of Coastal Activities*	*Erin Rooney* *HDR Engineering, Inc.*

	39	40	41	42	43	44
	Project Performance - Marsh Creation, Terraces, Living Shorelines	**Coastal Flood Risk Assessment in Louisiana's 2023 Coastal Master Plan**	**Coastal Communities and Climate Change**	**River Management and Flood Mitigation**	**Louisiana Renewable Energy Forecast - Panel**	**The Precipice- Film**
	This session consists of 5 presentations related to restoration project performannce, covering a variety of project types, sizes, and locations from diverse perspectivies.	This session provides an overview of the coastal flood risk assessment methodology and risk analysis results used to inform the development of Louisiana's 2023 Comprehensive Master Plan for a Sustainable Coast. Specifically, the presenters will describe the hydrodynamic modeling of storm surge and waves, flood depth and damage estimation, and evaluation of potential community-scale nonstructural risk reduction investments. The session also includes an investigation of how modeled risk over time might have disparate impacts on communities with differing demographics, and the distribution of potential risk reduction benefits across these communities. Each presenter will describe key updates to the modeling and analysis approach for the 2023 plan, provide selected results to illustrate potential outcomes in a future without action or with proposed master plan projects in place over the next 50 years, and summarize key insights and implications from the updated and state-of-the-art analysis.	This session explores various aspects of how stress and trauma influence local populations and how they respond. It includes a variety of different data collection strategies from repeated surveys following stressful events to oral histories and Traditional Ecological Knowledge. The Survey of Trauma, Opportunity, and Resilience in the Gulf (STRONG) provides insights on mental health response to Deepwater Horizon Oil Spill, Hurricanes Harvey and Michael, and the COVID-19-pandemic and how Gulf Coast residents' mental health symptoms have been affected by different disaster experiences, after accounting for other potentially traumatic event exposure (e.g., physical assault, car crash). Hurricane Ida's impact on tribal communities is explored in the context of historical marginalization, compounding disruptions, and existential threats to their cultural identity as they draw upon their Traditional Ecological Knowledge to stay connected to each other, the land, and the water and fight to preserve their social and cultural resilience. In August of 2016, widespread flooding occurred across south Louisiana a decade after Hurricanes Katrina and Rita devastated the US Gulf Coast. Come hear what it feels like to have a flood run through your living room, or what the shell-shocked person being evacuated on television is thinking at that moment. What does it feel like to be beholden to charity and FEMA? How long and how much effort does it take to rebuild a home? Another presentation explores how proximity to water and improved overall health has been intuitively known by the residents of coastal Louisiana for generations. Climate change and land loss profoundly threaten this relationship. Vulnerable populations which may rely on the benefits of water proximity to mental health may be particularly impacted.	The increasing frequency of destructive riverine floods along the U.S. Gulf Coastal region coupled with urbanization, drought, and some of the highest rates of relative sea level rise in the U.S. has intensified the demand for innovative flood mitigation and river management activities in vulnerable coastal regions. A major challenge is the need to implement sustainable and practical solutions which minimize adverse impacts and benefit both people and the coastal watersheds and ecosystems. This epic task will require multi-generational planning and perspective supported by creative frameworks and tools capable of describing the benefits while also quantifying unintended consequences as well as opportunities. This session presents recent modeling and management-relevant applications supportive of balanced and sustainable riverine flood mitigation activities in coastal Louisiana and beyond.	Renewable energy growth in Louisiana is anticipated to expand significantly over the next decade. In 2022, 21 GW of solar, 230 MW of wind, 4 GW of batteries, and 5 GW of hybrid resources entered into the MISO generation interconnection queue in Louisiana, the 3rd highest amount of megawatts out of any state in the Midcontinent Independent System Operator. Multiple electric utilities have net zero carbon emission goals and released thousands of megawatts worth of renewable energy procurement plans, just last year including Entergy Louisiana, Southwest Electric Power Company, and the 1803 Cooperatives. The New Orleans City Council has a legally-binding net zero mandate in place which will drive hundreds of megawatts of power procurement over the next decade. Governor John Bel Edward's Climate Initiatives Task Force called for a goal of adding 5,000 megawatts of offshore wind by 2035. The Bureau of Ocean Energy Management recently announced new Wind Energy Areas for offshore wind near Lake Charles, representing approximately 3,000 megawatts worth of potential development opportunity. With the significant opportunities for renewable energy growth in Louisiana, there are still market barriers to the industry. This panel will discuss market opportunities, trends, and barriers for the renewable energy industry in Louisiana.	Louisiana Public Broadcasting has been immersed in this community for the past two years. In this first Louisiana Spotlight Film. we follow a community that is literally on the precipice. From their fight to be a federally recognized tribe, to the battle for educational equality – LPB explores efforts to preserve their unique tribal culture.
Moderator	Ashley Booth Louisiana State University	Jordan Fischbach The Water Institute	Rajeev Ramchand RAND Corporation	Robert Miller University of Louisiana at Lafayette	Jenny Netherton Southeastern Wind Coalition	
Presenters / Panelists	Eva Hillman Pontchartrain Conservancy Bayou St. John Urban Marsh 2013 - 2023	Zachary Cobell The Water Institute Storm Surge and Wave Analysis to Inform Louisiana's 2023 Coastal Master Plan	Melissa Awbrey Tulane University Hurricane Ida's impact on Indigenous Tribes in Louisiana: Resilience, Justice, Maybe Even Love?	Darrel Broussard US Army Corps of Engineers Southwest Coastal, LA - Nonstructural Solutions for Calcasieu, Cameron, and Vermilion Parishes	Tommy Greer Arevon Energy	
	Michelle Lignieres Nicholls State University Using small-bodied fish assemblage to compare constructed terraces and original marsh	David R. Johnson Purdue University Flood Risk and Damage Assessment in Louisiana's 2023 Coastal Master Plan	Kevin Conrad Ochsner Losing Our Blue Mind: The Impact of Climate Change and Land Loss on our Mental Health	Austin Doucet Fenstermaker Title: Louisiana Watershed Initiative Region 4 H&H Modeling Status	Jessica Hendricks Alliance for Affordable Energy	
	Gary LaFleur Nicholls State University Enhancing a Terrace Restoration Project by Combining Hyperspectral and LiDAR Data for High Value	Michael T. Wilson RAND Corporation Exploring the 2023 Coastal Master Plan Nonstructural Protection Evaluation Results	Marlene Friis Tulane University "A river ran through my living room": LSU study audio on Great Flood of 2016	Muhammad Izhar Shah University of Louisiana at Lafayette Modeling the Effects of Hydrologic Forcing Uncertainty on Mitigation	Simon Mahan Southern Renewable Energy Association	
	Wendell Mears Anchor QEA DESIGN, CONSTRUCTION AND MONITORING OF A LIVING SHORELINE PROJECT ALONG THE GULF COAST	Brett McMann The Water Institute Hydrologic Modeling & Drainage Analysis of the Cameron Creole Watershed	Vanessa Parks RAND Corporation The Survey of Trauma, Opportunity, and Resilience in the Gulf (STRONG)	Garland Pennison HDR Engineering, Inc The Changing Paradigm of Modeling the Bayous		
Session Organizer	*Program Committee*	*Jordan Fischbach* *The Water Institute*	*Rajeev Ramchand* *RAND Corporation*	*Robert Miller* *University of Louisiana at Lafayette*	*Simon Mahan* *Southern Renewable Energy Association*	

12 PM- 1:15 PM

Lunch Plenary with CRCL Coastal Stewardship Awards

Session Block V
1:30 PM- 3 PM

	45	46	47	48	49
	Challenges Facing Navigation in Louisiana Rivers - Panel	**Applied Science for Non-structural Adaptation Planning, a Case Study in Mandeville, LA**	**Environmental, Social and Governance Aspects of Decarbonization - Panel***	**Transforming Environmental Review: Getting Restoration Projects on the Ground Faster - Panel***	**Using Modeling to Understand Processes, Inform Restoration Efforts, and River Management**
	The objective of this session is to stimulate discussion on past, present, and future challenges to LMR navigation. Future challenges will include optimizing the balance between future navigation demands in face of increasing traffic, climate change and better managing the river for coastal sustainability including the operation of large sediment diversions.	This session explores how applied science can be used to support community level adaptation planning with a focus on nonstructural flood risk management. Government agencies often require environmental risk mitigation strategies to pass a cost-benefit test. However, these can favor protection of valuable assets, which can produce inequitable outcomes. Distributional equity in efficient risk mitigation is influenced by how efficiency is operationalized, and alternative efficiency measures have been developed which can better satisfies egalitarian and prioritarian equity notions. Homeowner decisions to elevate the foundations of single-family residences are often related to flood insurance that encourages protection from the 100-year flood event. However, it may be more cost-effective in some areas to elevate beyond that standard. Actual decisions were analyzed to show how policies for risk mitigation could be improved. In addition to the direct impact of flooding on houses, indirect impacts such as out-migration due to severe storm and flood events from rural communities can result in reduced access to services which creates a fragile situation. Drive time differences before and after the closest essential facility to each individual shuts down; can be used to assess resilience, as it indicates the degree to which residents would have access to alternative options for meeting essential needs. Quantifying a measure of vulnerability based on alternatives and marginal time can help understand how "fragile" the community's long-term well-being is. The final presentation in the session will discuss how these various challenges and opportunities can be used to consider adaptation options for the City of Mandeville.	This session will begin with a presentation to provide an introduction to carbon capture and storage including an overview of technologies used for capture, transportation and injection. The presentation will be followed by a moderated panel discussion. Topics will include: •An update on developments at the Louisiana legislative level over the 2022 session and ongoing 2023 session; •Discussion of a risk-based approach for energy companies in coastal Louisiana to address CCS/CCUS as part of a comprehensive approach toward decarbonization. •Risks of insufficiently substantiating ESG commitments, including climate and decarbonization goals. •Communication challenges and approaches for a variety of audiences.	Permitting processes for restoration projects can add significant costs and time to those projects. This panel will explore strategies to increase the efficiency of regulatory review for restoration projects. First, an overview discussion will include identification of some of the legal regimes that have slowed projects or significantly increased project costs, building in perspectives from other experts that have published materials on the issue. The first panelist will address "What speeds and slows restoration: Insights from research on mitigation bank timelines and Pay for Success policies." Mitigation banks are an example of restoration projects burdened with delays and permitting costs that can burn up to a third of a project's budget. This panelist will review research results from a quantitative analysis of US Army Corps of Engineers data on timelines of mitigation bank approvals and will also provide a summary of insights from a series of interviews with project developers and Corps Districts on what slows and speeds restoration. The next panelist will provide an overview of Title 41 of the Fixing America's Surface Transportation Act (FAST-41), with particular focus on the role of the Federal Permitting Improvement Steering Council (Permitting Council) in tracking environmental review processes for large or complex infrastructure projects, including large scale ecosystem restoration projects. The Permitting Council's work in implementing FAST-41 is part of a government-wide effort to improve coordination, transparency, and accountability in permitting of these critical projects. The final panelist will legislation adopted in California in September of 2021 that created an exemption from review under the California Environmental Quality Act (CEQA) for fish and wildlife projects that meet certain requirements. The final panelist will explore lessons learned during the first two years of experience under this new program.	Models can be useful in tools to help understand natural processes and exploring options to inform management actions. In this session speakers will present and discuss models that have been developed to examine sediment dynamics across multiple spatiotemporal scales, impacts of in-bay sediment borrow, strategies to optimize operation of planned restoration projects, and impacts of river flood management structure to the coastal environment and a key commercial fishery.
Moderator	David Ramirez US Army Corps of Engineers	David Johnson Purdue University	Harry Vorhoff Governor's Office of Coastal Activities	Samuel Plauche Plauche & Carr LLP	Alisha Renfro National Wildlife Federation
Presenters / Panelists	Jeff Corbino US Army Corps of Engineers	Nathan Gelder Purdue University Efficient Nonstructural Flood Risk Mitigation and Intersectional Equity Implications	Mark Zappi University of Louisiana at Lafayette	Becca Madsen Environmental Policy Innovation Center	Martijn Bregman The Water Institute EFFECTS OF IN-BAY SEDIMENT MINING IN BARATARIA BAY, LOUISIANA
	Sean Duffy Big River Coalition	Utkuhan Genc Purdue University Using Travel-time to Essential Services to Identify Vulnerable and Fragile Communities	Colleen Jarrott Hinshaw & Culbertson LLP	Megan Terrell Plauche & Carr LLP	Mallory Dyson The University of Southern Mississippi The influence of the Bonnet Carré Spillway on the success of the brown shrimp (F. aztecus)
	Michelle Kornick US Army Corps of Engineers	Erin Groll-Barrash Purdue University Comparing Optimal Home Elevations to Reconstruction Decisions and Insurance Standards	Ash Shepherd Talos Energy	Danny Weigand Federal Permitting Improvement Steering Committee	Ahmed Khalifa Tulane University Development and Application of a Simplified Biophysical Model
	Rudolph Simoneaux CPRA	David Lessinger CSRS, LLC Mandeville Flood Risk Resilience Strategy	Bessie Daschbach Hinshaw & Culbertson LLP	Michael Hare RES	Zhengchen (John) Zang Louisiana State University Gulf-COAWST: The Development of Sediment Transport Modelling Framework in the Gulf of Mexico
	Mac Wade Port of Morgan City	Lauren Brinkman City of Mandeville Mandeville Flood Risk Resilience Strategy			
Session Organizer	*Brendan Yuill* *U.S. Army Corps of Engineers*	*David Johnson* *Purdue University* *David Lessinger* *CSRS, LLC*	*Bessie Daschbach* *Hinshaw & Culbertson LLP*	*Samuel Plauche* *Plauche & Carr LLP*	*Program Committee*
	56	57	58	59	60

	50	51	52	53	54	55
	Marsh Creation Design and Assessment	**Using Models to Support the Coastal Master Plan: Looking Ahead to 2029 - Panel**	**Diverse Benefits of Coastal Restoration**	**Flood Risk Management through Actionable Information for Gulf Coast Homeowners**	**What's all the BUZZ About? Creating Pollinator Habitat to Reduce O&M Costs - Panel**	**Legacy Film Session**
	This session consists of 5 presentations related to marsh creation project design and assessment, covering topics such as the effects of design choices on ecosystem dynamics and resistance to hurricane impacts.	Since the 2012 Coastal Master Plan, modeling of project effects has been an integral part of plan development. For the 2023 Coastal Master Plan a number of major changes were made in the models to incorporate new data, improve process representation and increase resolution. These changes are documented in the appendices to the 2023 Coastal Master Plan and have been discussed in many forums. As the 2023 Coastal Master Plan moves through the legislative process, it is time to think about how to adjust, and apply models for analysis to support the 2029 Coastal Master Plan. This panel session includes discussion of potential adjustments on models or their application that the master plan team is already considering. These include using the models to refine projects prior to their evaluation for selection, to explore the future of the coast under a wider array of potential future conditions and consider how project interactions can be used to maximize benefit for the system. The session also provides an opportunity for the broader technical audience at State of the Coast to provide ideas on what they would like to see going forward for the use of the models, and to contribute new developments that could be useful. The expectation is that following some opening remarks, the focus would be on interaction with the audience to explain models and the explication, and how they can be modified and applied for the next Coastal Master Plan.	This session consists of 4 presentations related to the ecologicial benefits of coastal restoration projects, including studies of impacts to communities of various species as well as opportunitiesfor communities to support project benefits.	Flood is one of the most costly and devastating natural hazards in the US. causing over a billion dollars in damage to property and crops in 2020. Ninety-nine percent of all counties in the US were affected by flooding between 1996 and 2019. This session focuses on flood risk quantification and management and the decision-making process of homeowners and the resulting policy implications. This session examines the costs and benefits of elevation of new and existing homes, resulting policy implications, tools to inform homeowner decision making, and risk mitigation through natural and nature-based features. The interdisciplinary team presents multiple perspectives including natural and social science and engineering.	The energy industry has an opportunity to restore and enhance ecosystem services at their facilities that also reduce operation and maintenance costs at installations. SWCA will facilitate a roundtable discussion with panelists representing industry leaders and state agencies. This panel will explore how to generate the economic, ecological, and visual benefits of promoting enhanced habitats on energy installations. SWCA's restoration ecologists have developed a toolbox of innovative methods for soil and vegetation management to create beneficial habitat and ultimately reduce long-term operation and maintenance costs. But these beneficial practices can inadvertently create regulatory risks when protected species are potentially attracted to newly created habitats. Importance – The rapid growth of utility-scale solar throughout the United States has led to growing pollinator regulation at the local level. These regulatory changes present an opportunity for restored habitats on solar installations to provide ecosystem services that benefit operations management and maintenance, including site stabilization, water quality, air quality, pollinator resources, and visual impacts. There are a variety of regulatory compliance tools available to help landowners undertake beneficial actions for federally protected species without creating a regulatory liability. We review these tools and how they may be applied to operational programs, including typical timelines, opportunities for streamlining, and ongoing expectations and management.	This legacy film session focuses on films that laid the groundwork for projects that have since come to fruition. This session will feature: Poetry reading and indtroductory remarks by Ray "Moose" Jackson: "Culture's Role in Coastal Restoration" followed by two legacy films: *Born on the Bayou* and Mr. *Going Going Gone*.
Moderator	Elizabeth Jarrell US Army Corps of Engineers	Denise Reed University of New Orleans	Kristin DeMarco Louisiana State University	Robert Rohli Louisiana State University	Will Norman SOTC/SWCA	
Presenters / Panelists	Daniel Dehon Fenstermaker Targeted Small Scale Marsh Restoration	Denise Reed University of New Orleans	Thomas Cancienne Stantec DESIGN OF A BREAKWATER FOR SAV HABITAT RESTORATION AT JEAN LAFITTE	Carol Friedland Louisiana State University Agricultural Center Benefits and Costs of Freeboard for Louisiana Homes	Nathan Wojcik SWCA Environmental Consultants	Ray "Moose" Jackson: "Culture's Role in Coastal Restoration"
	Gerald Songy Moffat & Nicholl Having The Edge on Marsh Creation	Eric White CPRA	Quenton Fontenot Nicholls State University Comparison of Finfish and Crustacean Assemblages Among Brackish Marsh Terraces and Open Water	Pamela Jenkins University of New Orleans Policy Implications of Residential Freeboard Acceptance	Rob Schultz Senior Associate/Vegetation Management – Invenergy)	
	Kevin Stoner Louisiana State University Impacts of Containment and Elevation on Created Marsh Plant Community and Ecosystem Dynamics	Jordan Fischbach The Water Institute	Skylar Liner School of Renewable Natural Resources, LSU AgCenter Can Gulf Ribbed Mussels Augment Coastal Restoration Projects in a World of Climate Change?	Monica Farris University of New Orleans Actionable Risk Information for Gulf Coast Homeowner Decisions	Brian Early (Habitat Ecologist - LDFW)	
	Kristen Ramsey U.S. Fish and Wildlife Services Michelle Fischer U.S. Geological Survey (USGS) The Resistance of Created Marsh to Hurricane Impacts: Implications for a Sustainable Coast	Krista Jankowski CPRA	Erin Rooney HDR Engineering, Inc. Designing Shoreline Projects for Unexpected Nature-Based Benefits: Lake Pontchartrain Case Study	Md Adilur Rahim Louisiana State University AgCenter Quantifiable Flood Risk Reduction for Homeowners through Natural and Nature-Based Features	Jayme Stotka Williams	
		Stuart Brown CPRA				
Session Organizer	*Elizabeth Jarrell* *US Army Corps of Engineers*	*Stuart Brown* *CPRA*	*Program Committee*	*Carol Friedland* *Louisiana State University Agricultural Center*	*Program Committee*	
	61	62	63	64	65	66

Session Block VI 3:30 PM- 5 PM

	Mississippi River: Navigation Operation, Flooding, and Land Use Management	Encounters with Place-Based Coastal Management	Building Capacity for the Future of the Coast	Disaster Recovery and Planning for Social Resilience*
	The Lower Mississippi River is a key deep draft navigation channel and an active deltaic lobe. Natural crevasses and engineered diversions (current and proposed) from the Lower Mississippi River into adjacent receiving basins has provided freshwater and sediment for wetland restoration in the face of rising relative sea level and supported a broad spectrum of estuarine-coastal species. The Lower Mississippi River is home to five major ports with a combined ~500 million tons of cargo, thereby considered a major economic corridor for Louisiana and the entire US. Further, flood risk and restoration activities have been the focus of much research and analysis from agencies and academic institutions. This session is comprised of four presentations discussing detailed modeling of gated structures used in engineered diversions; numerical modeling of the influence of tides on the water level, discharge and velocities of the Lower Mississippi River; lessons learned from European large navigation flood gates and their potential implementation in South Louisiana; and numerical modeling of compound flooding in the eastern side of the Lower Mississippi River including the Amite-Comite, Maurepas and Breton Sound.	State-sponsored efforts to restore the coast invoke Louisiana's "rich histories, culture, and ecosystems, and natural resources" as attributes worthy of preservation (CMP 2023: 2). Yet the very richness of coastal histories and cultures is largely absent from the broad-scale planning documents and metrics that establish and benchmark visions of coastal restoration. Likewise, coastal communities' ecological knowledge is often omitted from these plans despite generations of practice adapting to coastal change and living with water. This panel brings together Louisiana-based practitioners and scholars to consider place- and culture-centered efforts to preserve the coast. We highlight these local efforts to advance three propositions for coastal planning. First, coastal residents, especially those who have historically been marginalized from the benefits of water management infrastructures, are adaptation experts. Second, this expertise is the product of ecological relationships that are themselves worthy of protection. Third, state-sponsored efforts to protect coastal cultures and histories are made much stronger through including coastal communities from the beginning and by paying close attention to place. We will dedicate the second half of this presentation to an open discussion of these propositions.	During this session, audience will hear from different programs working across the coastal communities in Gulf of Mexico region to build capacity of the future generations and creating caring stewards to foster, restore and revitalize our coastal communities. In this panel, audience will hear about: • CSED Environmental Research Internship – CSED Environmental Research Internship is a year-around education and community beyond the school day initiative to encourage high school students to gain hands-on in STEM and environmental research related experiments and activities. COVID-19 has wreaked havoc in the lives of students and families, as many are pondering next steps. This program provides an exciting line-up of activities and explorations planned that excite and stimulate curiosity to science and expose our "youth scientist and researchers of tomorrow" to experiments in various fields of engineering, biology, chemistry, physics, optics and optical illusion, earth sciences and mathematics. This initiative provides lessons and experiences about the illustrious minority men and women in science and interact with present day professionals, educators and public officials who support the development and restoration of our coastal communities throughout Louisiana. • Brother Martin High School on Raising Coastal Issue Awareness through High School Education - We have created an interdisciplinary unit with our 8th grade honors students in World Geography and English I that is built around the anchor text Bayou Farewell (Mike Tidwell), which is read in the summer before the start of school. Students participate in two field experiences, one near the start of the unit and one as the culminating activity. Initially, we travel to the Caernarvon diversion, bag oyster shells with the Coalition to Restore Coastal Louisiana in Violet, Louisiana, visit a Catholic church in Lake Catherine destroyed by Hurricane Katrina and now rebuilt, and do rudimentary water testing in Lake Pontchartrain. Students read a variety of articles on coastal challenges and proposed solutions and participate in a Q and A with an expert panel that features environmental scientists, wildlife and fisheries experts, and coastal reporters. In groups students research the pros and cons of a variety of coastal restoration strategies and present their findings to their peers. Finally, students tour the Center for River Studies display and the Department of Coast and	In 2022 the City of New Orleans developed its first ever local disaster recovery framework. The recovery framework addresses a major gap in disaster management practice, in which long-term recovery occurs across sectors and outside of the traditional purview of emergency managers. The Hazard Mitigation Office worked with a community advisory committee to develop a flexible, scalable operational framework to guide future recovery efforts. This session will cover the planning process, key framework elements, and how the city has begun using the framework during the Hurricane Ida recovery process. This panel will also discuss home elevation policies across coastal Southeast Louisiana and present the results of preliminary ethnographic research conducted in Lower Plaquemines Parish investigating why coastal community resident hold such antipathy towards home elevation requirements, including the perception that FEMA home elevation policies are a broader government strategy to depopulate the coast and drive out coastal community residents. This panel will present a strategy for a more flexible and locally informed approach building on existing cultural practices, social systems, and inherited knowledge. The panel will also discuss FEMA's Risk Rating 2.0 and discuss a review study using exploratory data analysis and visualization of the rating factors released by FEMA to better understand the risk premium. The information provided in this study can help homeowners, community developers, and government agencies make more informed decisions about their flood insurance policies by understanding the effect of different attributes on risk premiums.
Moderator	Mitch Andrus Royal Engineers & Consultants	David Cheramie Independent Scholar	Arthur Johnson Center for Sustainable Engagment and Development, (CSED) Maeesha Saeed Gulf Research Program - National Academies of Sciences, Engineering, and Medicine	Beaux Jones The Water Institute
Presenters / Panelists	Gongqiang He FTN Associates, Ltd. FLOW-3D Modeling of Tainter Gate Discharge and Head Losses	Simone Domingue University of Oklahoma Culture, Power, and Inequality in Coastal Planning	Brittany Bernik Gulf Coast Ecosystem Restoration Council	Austin Feldbaum City of New Orleans NEW ORLEANS COMPREHENSIVE DISASTER RECOVERY FRAMEWORK
	Robert Miller University of Louisiana at Lafayette Evaluation of climate induced repetitive flood loss potential on a municipal scale	Patty Ferguson-Bohnee Arizona State University Reclaiming Native Ground: The Pointe-au-Chien Indian Tribe's Fight to Maintain Cultural Heritage	Bryce Black CSED Student Intern What We Learned During this Environmental Research Internship	Grant McCall Center for Human-Environmental Research Left High and Dry: Social Impacts of FEMA Home Elevation Policies in Lower Plaquemines Parish
	Soroush Sorourian FTN Associates, Ltd. Numerical Modeling of Tidal Influence on Lower Mississippi River Water Level, Discharge and Velo	Will McGrew Télé-Louisiane Language as a Form of Resilience and a Means of Maintaining Cultural Heritage	Madeline Foster-Martinez University of New Orleans Place-based education for the future of Our Coast: Bay Denesse Living Laboratory	Md Adilur Rahim Louisiana State University AgCenter Communicating Flood Risk Information through Risk Rating 2.0
		Michael Saunders Nicholls State University Culture, Ecological Knowledge, and Landscape Management	Jayden Lewis CSED Student Intern The Scientific Method	
			Bernard Singleton CSED Creating the Environmental Research Internship Initiative	
			Jonathan Smith CSED Student Intern Ongoing Research	
			Phoebe Zito Assistant Professor in the Department of Chemistry at the University of New Orleans	
			Thomas Mavor Brother Martin Raising Coastal Issue Awareness through High School Education	
Session Organizer	*Program Committee*	Simone Domingue University of Oklahoma	*Maeesha Saeed* *Gulf Research Program - National Academies of Sciences, Engineering, and Medicine*	*Beaux Jones* *The Water Institute*

	Factors that Influence the Abundance and Resilience of Wildlife and Fisheries	Research on Sediment Diversions	Developing Integrated Engineering and Design Solutions (DEEDS) for Coastal Louisiana - Panel	Industrial Impacts on the Safety of Coastal Communities - Panel
	Louisiana's and surrounding coastal system supports abundant and diversion wildlife and fisheries. In this session, speakers will explore factors that influence densities of nekton and distribution of invasive species, the breeding success of bird colonies on barrier islands, cutting edge research to support oyster population resilience under changing environmental conditions, and an effort to facilitate interstate collaboration on restoration and management of commercially important fisheries.	This session consists of 5 presentations related to the Mid Barataria Sediment diversion, covering topics from historical context to data collection to anticipated environmental impacts.	Ecosystem restoration is defined as "the action of repairing sites in nature to their former function or condition." Coastal land loss and sea level rise are negatively impacting coastal ecosystem functionality, communities and infrastructures. As a result, ecosystem restoration efforts are proposed that harness natural and nature-based features (NNBF) to build land and protect key assets. However, these restored landscapes will scarcely resemble what previously existed. Arguably, the approaches proposed within restoration frameworks are more design-oriented processes, though designers such as landscape architects and planners are rarely involved in their development and implementation. The LSU Coastal Sustainability (CSS), with support from the USACE Engineer Research and Development Center (ERDC) through the Developing Integrated Engineering and Design Solutions (DEEDS) project, proposes a Collaborative Ecosystem Design (CED) technical approach to the development of NNBF projects in coastal landscapes. The CED framework focuses on how environmental co-benefits are associated with NNBF in the Gulf, and strives to develop 'design-criteria' that quantifies the relationships among ecosystem structure & processes with specific values of goods & services to reduce uncertainty in evaluating social benefits. LSU CSS was developed in 2009 to span the divides between disciplines such as coastal science, engineering, architecture, planning, and economics to 1) conduct research that incorporates ecosystem services into performance measures, and 2) educate the next generation of multidisciplinary coastal professionals. This panel discussion engages faculty and students from across disciplines to 1) highlight working partnerships between LSU CSS, USACE, CPRA and other state and local agencies to develop CED and risk reduction measures; and 2) present site-specific ecosystem designs developed by multidisciplinary student teams during the 2022 CSS Summer Internship Program.	This panel discusses various impacts of coastal industries on communities. It includes environmental analysis of abandoned oil wells in Louisiana, the water demands of petrochemical and liquefied natural gas (LNG) exports, underreporting of pollution fallout from Hurricane Ida, environmental concerns related to the expansion of carbon capture and sequestration (CCS), and how growth of CCS is in competition with the growth of renewables in the medium term.. While abandoned wells, LNG, hurricane-related pollution, and CCS are disparate topics, the topics are intricately related by their connections to the current dangers faced by marginalized communities along the Gulf Coast. It is impossible to analyze underreported pollution thoroughly without discussing which communities have historically received less attention, or to invite new CCS technologies into the state without examining the racially and economically disadvantaged communities that would be most affected by a possible CO2 leak or drinking water infiltration. Energy, economy, and ecology are impossible to separate in Louisiana and Texas, and the presentations in this session collectively show that a holistic view of Gulf Coast's current moment demands an intersectional, diverse approach.
Moderator	David Muth Restore the Mississippi River Delta	Ann C. Hijuelos U.S. Army Corps of Engineers	Traci Birch Louisiana State University	Chris Dalbom Tulane University
Presenters / Panelists	Quenton Fontenot Nicholls State University Dynamics of the Annual Flood Pulse May Affect Larval Invasive Carp in the Atchafalaya River	Jason Chauvin T. Baker Smith Mid-Barataria Sediment Diversion - River Sampling	Jacob Gautreaux Louisiana State University	Scott Eustis Healthy Gulf
	Ann Fairly Pandelides University of Louisiana at Lafayette From lab bench to hatchery: operationalizing a genomic approach for oyster selective breeding	Robert Feder Louisiana State University Impact of river diversions on salinity and nutrient availability in brackish marsh soils	Tabassum Islam University of South Alabama	Sheehan Moore Healthy Gulf / CUNY Graduate Center Naomi Yoder Healthy Gulf
	George Ramseur Moffat & Nicholl Soupy Dalyander The Water Institute Evaluating the Impacts of Management Action and Natural Drivers on Water Quality in the LMACS	Marlene Friis Tulane University Understanding the Historical Context of the Mid-Barataria Sediment Diversion Project	Grayson Loudon Louisiana State University	John Allaire Retired Environmental Engineer
	Andrea Santariello University of Louisiana at Lafayette Caught on Camera: the summer lives of island breeding Royal Terns and Black Skimmers	Mercedes Pinson Delgado Louisiana State University Impact of River Reconnection on Water Quality in Brackish Marsh in Coastal Louisiana, USA	Ulsia Urrea Marino Texas A&M University - Corpus Christi	
	Tom Sevick The Water Institute The Effects of Habitat Type and Complexity on Nekton Assemblages in the Oligohaline Marshes	Melissa Awbrey Tulane University Designing and Engaging for Resilience: The Mid-Barataria Sediment Diversion		
Session Organizer	*Program Committee*	*Program Committee*	*Traci Birch* *Louisiana State University*	*Jade Woods* *Center for International Environmental Law*

	Compound Flooding	Community Energy Pilots - Panel	People and Place Film Session
	This session explores the challenge of compound flooding by considering analytical approaches that enable representative simulations to capture uncertainties around the joint effects of inland and coastal flooding. Aa novel probabilistic framework for compound coastal flood risk modeling developed for the Louisiana Watershed Initiative Pilot Study in the Amite River Basin titled the Extended Joint Probability Method with Optimal Sampling (EJPM-OS) will be described. This extends existing work on Joint JPM-OS previously used for purely surge and wave driven flooding. The complex and nonlinear physical interactions between inland and coastal flood drivers increase the uncertainty and bias in numerical modeling approaches for quantifying compound flood hazards. The pilot study of the coastal Amite watershed uses over 300,000 HEC-RAS model runs across a spectrum of compound flooding conditions and showcases how we may more precisely quantify epistemic and aleatory uncertainty and bias, efficiently select boundary conditions, and leverage detailed modeling efforts to inform more precise probabilistic assessments of flooding. A fully-coupled version of the Adaptive Hydraulics Model was used to simulate multiple flood sources in a single model to fully encompasses the transition zone and mechanistically account for the interacting flood drivers. Model applications and results include simulations of Hurricane Barry in Louisiana and Hurricane Harvey in Texas.	Following climate-related events like Texas freeze and Hurricane Ida, causing days to months of power outages, the vulnerability of the electric grid as is has become clear. In response, community leaders are implementing alternative solutions. Currently, Together New Orleans is working with partners and funders to build a network of 85-100 "Community Lighthouses" throughout the state. Upon completion, congregations and community institutions will be equipped with commercial-scale solar power and back-up battery capacity. Then, they will be able to serve as resiliency hubs during power outages and natural disasters. After successful fundraising, including a gift from the Greater New Orleans Foundation and a $3.8M congressional earmark, some sites should be ready for the 2023 hurricane season. Panelists will speak about the success of this project, and opportunities for involvement, or replication. Meanwhile, the City of New Orleans has received a grant from the U.S. Department of Energy (DOE) Communities Local Energy Action Program (LEAP). Under the Communities LEAP Pilot, DOE will provide supportive services for community-driven clean energy transitions across the country. In New Orleans, Communities LEAP – via technical assistance from National Renewable Energy Laboratory – will help the City further develop distributed solar generation with battery storage and district-scale microgrids, with an eye on economic development. The City and NREL will speak about the pilot's implementation.	In coastal Louisiana, people are deeply connected to place. This film session features various communities and organizations along the coast that grapple with a sense of place as the coast disappears before their eyes. The documentary Iron Sharpens Iron captures one community's struggles against racism, industrial encroachment and extreme weather. Chefs on Boats reconnects chefs with their local food sources and providers. Sugar in Their Blood follows a family of seventh-generation Louisiana sugarcane farmers as they struggle with all of the challenges inherent with staying in business.
Moderator	Hugh Roberts The Water Institute	Jeffrey Cantin SolAlt	
Presenters / Panelists	Nathan Geldner Purdue University Coastal Compound Flooding for the Louisiana Watershed Initiative – The Extended Joint Probabilit	Greg Nichols City of New Orleans	
	Mark Bartlett The Water Institute Quantifying and incorporating uncertainty and bias in coastal compound flooding	John Ross Posigen	
	Tim Stephens Dynamic Solutions, LLC Applications and Implications of Simulating Compound Flooding with a Fully-Coupled Model	Jeffrey Schwartz City of New Orleans	
	Ehab Meselhe Department of River-Coastal Science and Engineering Tulane University Lessons Learned from Large Navigable Flood Gates in Europe	Allison Smith NREL	
Session Organizer	*Program Committee*	*Jenny Netherton* *Southeastern Wind Coalition*	

5 PM- 6:30 PM

Poster Reception

Friday, June 2, 2023

8 AM- 10 AM	**Exhibit Hall**
8:40 AM- 9:45 AM	**Women's Leadership Breakfast**

Session Block VII — 10 AM- 11:30 AM

ROOM	Room 204	Room 213	Room 211-212	Room 210
	67	68	69	70
	Atchafalaya River and Basin: Hydrology, Inland Swamps, and Coastal Estuarine Habitats	**Restoration as an Act of Self-Determination: Reflections on Nature in an Engineered Landscape - Panel**	**Advancing Sea Level Rise Research to Improve Awareness and Coastal Decision-Making in the GoM**	**Public Trust Doctrine: An Evolving Legal Theory for an Evolving Coastline - Panel***
	The Atchafalaya-Wax Lake is the most recent and currently active delta lobe of the Lower Mississippi River. It was initiated approximately 400 years ago as a result of the Mississippi River stream capture by the Atchafalaya River. It is the largest bottomland hardwood river-floodplain system in North America. In 2022, after a coast-wide site screening and selection process, the Atchafalaya was nominated by the Governor to NOAA to be a Louisiana National Estuarine Research Reserve (NERR). This session includes four presentations spanning across key topics for the Atchafalaya River Basin. The presentations include a discussion about the significance and implications of designating the Atchafalaya as National Estuarine Research Reserve; how the hydrologic alteration of the basin influence its ability to respond to climate change; the long-term response of the Atchafalaya system to the operation (current and modified) Old River Control Structure; and the impact of hypoxia on key species of the Atchafalaya Basin.	Coastal land loss in Louisiana is a multigenerational traumatic event that continually erodes coastal communities' habitability, livelihoods, social cohesion, and connections to place. Coastal communities are experiencing and grieving this loss on many levels. Since the trauma is ongoing, and may likely accelerate with climate change, finding acceptance and closure is nearly impossible. The cycle of trauma and grief repeats indefinitely. This cycle is fertile ground for nostalgia and fear to thrive. Collectively, we yearn for a past long gone and are afraid of what the future may bring. Many of the decisions around coastal protection and restoration are driven in part by fear and nostalgia. If we are afraid of the future and seek to hold on to a snapshot version of the past, it's understandable to try to lock things in place, in time and space. This can be problematic in a delta where change is constant. Coastal restoration in Louisiana is a microcosm of the larger ontological discussion around the Anthropocene. Foundational questions such as 'What is nature in an engineered landscape?' and 'What is restoration if the baseline condition is unattainable?' are important to discuss. Can restoration be reframed to achieve ecologically, socially, and economically just landscapes? Can restoration catalyze systemic transformations? Can restoration help communities grieve loss, overcome, adapt, and grow? Grounding these questions in the diverse perspectives and experiences of the communities experiencing these changes is of paramount importance. This is especially true for marginalized communities who have historically been excluded from climate-related conversations and decision-making. This panel brings together experts from the fields of anthropology, geography, and political ecology with Indigenous and faith-based community leaders to discuss ways of reconnecting to the landscape in a damaged and changing coastal Louisiana.	The 2018 NASEM report Understanding the Long-Term Evolution of the Coupled Natural-Human Coastal System: The Future of the U.S. Gulf Coast concluded that sea level rise will significantly affect Gulf coastal ecosystems and communities. The report highlighted that one key research gap relating to improving the future of the Gulf coast is to understand and project the future of coastal landforms and whether they can keep pace with relative sea level rise (RSLR); improving projections is a complicated, necessary process that can improve natural resource management, restoration activities, and the resilience of Gulf communities. Among the Gulf states, Louisiana is experiencing the greatest loss of shoreline and has the second largest population projected to be impacted by RSLR across a range of projections. This session will feature presentations from the Gulf Research Program (GRP)'s Gulf Sea Level Variation and Rise (GSLVR) grantees and will focus on recent findings on the understanding of non-subsidence and vertical land movement (VLM) components of Gulf sea level variation and rise, while incorporating these factors into RSLR forecast models and century-scale projections. This session will highlight effects felt in the Gulf from changes in the volume of the global ocean due to the expansion of warming waters and the melting of glaciers and ice sheets; changes in the earth's gravitation, rotation, and deformation (GRD) caused by redistributions of land ice and water; and the dynamics of atmospheric and oceanic processes within the Gulf region (e.g., the Loop Current System). Presenters are part of a collaborative research group that works with the NASA Sea Level Change Team and NOAA's Center for Operational Oceanographic Products and Services. The goal of this collaborative research is to produce research with end-use applicability, increase public understanding of the complexity of sea level rise, and meaningfully engage with stakeholders.	The panel's discussion will be divided into five sections. First, the panel will provide a primer on the public-trust doctrine, including its manifestation in the Louisiana Constitution as applied by cases over the years (including the "Oyster Trilogy" of cases) and its current status. Second, the panel will turn to specific application of the public-trust doctrine to asset retirement—and discuss ways in which that application impacts the coast and coastal resources. Included will be a specific discussion of recent cases, including a matter handled by Fishman Haygood and the Fieldwood bankruptcy proceeding. Third, the panel will discuss a cutting-edge application of the doctrine: correlative property rights surrounding servitudes, focusing specifically on the arguments for and against applying the public-trust doctrine to private affairs. Fourth, the panel will address how environmental, social and governance (ESG) relates to the above. In particular, the panel will address how (1) continued infringement on the resources within the public trust by way of outstanding environmental liabilities could run afoul of ESG disclosures and representations, creating an additional layer of enforcement and litigation risk; and (2) how resolving those liabilities could align with ESG objectives. Lastly, the panel will discuss a potential outline for an "Act 312 for the Coast." Act 312 is the Louisiana statutory section providing a framework for cases seeking remediation from contamination caused by oilfield operations. The panel will discuss the potential for legislative enactments on the issue of coastal restoration and the extrapolation of the public-trust doctrine into a workable and effective statutory remedy operating similarly to Act 312. Included will be a discussion of the Freeport-McMoRan settlement structure and how that structure may be considered in connection with such a legislative enactment.
Moderator	Michelle Felterman CPRA	Michael Biros Coalition to Restore Coastal Louisiana	Noel Walters Gulf Research Program, National Academy of Sciences	Michael R. Dodson Fishman Haygood, LLP
Presenters / Panelists	Mitch Andrus Royal Engineers & Consultants Projected Long-Term Atchafalaya Basin and Delta Responses to River Flow Modifications at ORCS	Joshua Lewis ByWater Institute for Coastal Studies, Tulane University	Ping Chang Texas A&M University Prediction and Projection of GoM Sea-Level Changes Using Eddy-Resolving Earth System Models	Bessie Daschbach Hinshaw
	Chris Bonvillain Nicholls State University Effects of hypoxia on crayfish population characteristics and fecundity in the Atchafalaya Basin	Jessica Simms Gulf Research Program The National Academies of Sciences, Engineering, and Medicine	Renee Collini The Water Institute Understanding the Pathway from Sea-Level Rise Science to Coastal Decision-Making	Kerry J. Miller Fishman Haygood, LLP
	Michelle Felterman CPRA Louisiana's Atchafalaya National Estuarine Research Reserve	Devon Parfait Restore the Mississippi River Delta	Andrew Delman University of California Los Angeles Gulf Coast Sea Level Prediction and Attribution Using an Ocean State Estimate	Tad Bartlett Fishman Haygood, LLP
	Daniel Kroes USGS Degradation of connectivity along the Atchafalaya River reduces ability to respond to sea level	Michael Malcom The Poeple's Justice Council	David Rounce Department of Civil and Environmental Engineering, Carnegie Mellon University Facilitating Dynamic Adaptive Pathways for GoM Decision-Makers: Land Ice and Water Projections	Machelle Hall Assistant Attorney General, State of Louisiana
		Shirell Parfait-Dardar Grand Caillou-Dulac Band of Biloxi-Chitimacha-Choctaw.		
Session Organizer	*Program Committee*	*Gabriela Lingren* *The National Academies of Sciences, Engineering, and Medicine*	*Noel Walters* *Gulf Research Program, National Academy of Sciences*	*Michael R. Dodson* *Fishman Haygood, LLP*

ROOM	Room 209	Room 206	Room 208	Room 205
	71	72	73	74
	Understanding Factors that Influence Vegetation Survival - Panel	**Barrier Islands and Sediment Resources**	**Watershed Scale Restoration in Cameron Creole**	**Project Successes and Ecosystem Impacts - Rivers and Swamps**
	This session includes presentations that discuss various aspects of wetland vegetation dynamics and their response to management. In the Chenier Plain active wetland management is often essential for maintaining productive waterfowl habitat and healthy marshes. To better understand mechanisms driving elevation change in managed Chenier Plain marshes, we assessed elevation change and accretion, in situ belowground productivity and decomposition for three common perennial plant species. In the Pontchartrain Estuary of southeast Louisiana, swamp reforestation projects reclaimed > 400 acres of former swamp with long-term survival of planted saplings between 60 – 80% depending on location. Data indicate that newly planted saplings can survive hurricanes and that the reforestation of coastal swamps is a worthwhile investment for land and resource managers. In the Birdsfoot delta, Phragmites is valued for its ability to stabilize the shoreline and facilitate high accretion rates but has recently suffered from a die-off and overall decline. A coastwide survey was conducted across four hydrologic basins of Louisiana to sample vegetation, elevation and soil and creek and porewater chemistry. The goal is to identify favorable environmental conditions for Phragmites growth to control its spread and the causes of its die-off in the Birdsfoot. A notable loss of Spartina patens dominated marshes occurred during Hurricane Ida in 2021. Adjacent marshes dominated by Sagittaria lancifolia experienced less impact. A comparative field study and a greenhouse mesocosm study we used to test differences in above-and belowground biomass, elevation and flooding dynamics, and soil shear strength. The goal is to understand the widespread decline of S. patens and guide restoration strategies. Die-off of vegetation was initially reported in the Birdsfoot Delta in late summer 2016. The presentation uses 15-years of coastwide reference monitoring data to examine conditions pre-, during, and post- die-off.	This session discusses sediment resources for barrier island restoration, how extraction and placement of sand can have environmental implications and the challenges of getting restoration accomplished as storms continue to change the landscape. Understanding barrier island system evolution is crucial for restoration planning. An Operational Sediment Budget was developed to evaluate regional sediment transport controls and annual sediment fluxes to illustrate magnitude and direction of sediment transport throughout the littoral system. Data generated can be used to evaluate future restoration needs. Sediment availability and funding are major constraints to implementation. Known offshore sediment resources are considered non-renewable and extremely limited. A regional geologic model for offshore Barataria Bight was developed to characterize and quantify sediment reserves. An unexplored paleodistributary system was identified with clean distributary sands and mixed-sediment with minimal overburden. Sand shoals are also productive habitat for numerous coastal species and in the northern Gulf of Mexico provide an important refuge during hypoxic events. Impacts of dredging on benthic primary production on Ship Shoal off the coast of Louisiana were examined. Changes in sediment characteristics, coupled with impacts to benthic primary production and respiration have important implications for energy flow and overall productivity of sand shoal communities. There can also be environmental impacts associated with placement. Environmental studies for restoration of the Chandeleur Islands considered the only true seagrasses found in Louisiana. Understanding the species composition and diversity along with identifying the environmental and physical factors influencing their distribution will guide restoration design for protection of seagrass resources. Barrier islands are dynamic landforms that undergo significant changes from the inception of the concept plan to project completion. Barrier island	The 65,000 acre Cameron-Creole Watershed (CCW) is a marsh system located in southwest Louisiana that has experienced extensive loss of wetland habitat over the past century. The watershed is only hydraulically connected to Calcasieu Lake through a series of five manually-operated gate structures along the 15+-mile southeast lake rim. In the face of accelerated sea level rise, managing the opening and closure of these structures is insufficient to achieve target water levels within the marsh. The resulting persistent inundation is weakening marsh vegetation and increasing conversion of marsh to open water. CPRA, with the Water Institute of the Gulf, Mott MacDonald, Inc., and Neel-Schaffer, Inc., has undertaken a multi-phased modeling and planning effort to develop a regionally-integrated strategy for confronting the persistent inundation stress and improving marsh health within the CCW. These efforts have culminated in the 15% design features of CPRA's Calcasieu-Sabine Large-Scale Marsh and Hydrologic Restoration Project (CS-0087) and a CCW restoration framework to guide future efforts. The first presentation in this session will further discuss the current threats to wetland habitat in the CCW. The second and third presentations will discuss completed MIKE, neural network, machine learning, and HEC-RAS modeling and analyses used to understand, develop, and refine alternatives to address those threats with watershed-scale benefits. The final presentation will discuss the CS-0087 project planning and management strategies employed to ensure this large-scale project is coordinated with and continues to benefit future CCW restoration efforts, thus maximizing the value of the investment of Louisiana's RESTORE Bucket 1 funds in the southwest region of the state.	This session consists of 5 presentations related to coastal restoration in river-influenced and swamp environments, covering a variety of project types, locations, and approaches.
Moderator	Julie Whitbeck National Parks Service	John Savell USFWS	Jerry Carroll CPRA	Heather Sprague Arcadis
Presenters / Panelists	Ashley Booth Louisiana State University	Ben Beasley Applied Coastal Research and Engineering MASS BALANCE CALCULATOR FOR ESTIMATING FUTURE RESTORATION NEEDS USING SEDIMENT BUDGET FLUXES	Leigh Anne Sharp CPRA, Lafayette Regional Office Cameron Creole Watershed Management – Challenges Related to Rising Sea Level	Dawn Davis NOAA/NMFS/SERO/Habitat Conservation Division Delta Wide Crevasses Project– Harnessing Natural Processes to Build and Sustain Land
	Eva Hillmann Pontchartrain Conservancy	Brett Borne Coastal Engineering Consultants, Inc. Weathering the Storm: Impacts of the 2020-2021 Hurricane Seasons on Three Major Barrier Island Restroration Projects Under Construction	Josh Carter Mott MacDonald Hydrologic Modeling & Drainage Analysis of the Cameron Creole Watershed	Kelin Hu Tulane University Modeling habitat suitability for bottlenose dolphins with the Mid-Breton Sediment Diversion
	Olivia Hurley Louisiana State University	Steve Dartez Coastal Engineering Consultants, Inc. Weathering the Storm: Impacts of the 2020-2021 Hurricane Seasons on Three Major Barrier Island Restoration Projects Under Construction	Glenn Ledet Neel-Schaffer, Inc. Arpit Agarwal Mott MacDonald Application of Numerical Regional Hydrologic Modeling & Detailed Hydraulic Design Modeling	Andrew Reicks CDM Smith, Inc. Using Drone Data and Machine Learning to Quantify Ecosystem Diversity, Health, and Biomass
	Natalie Matherne LSU	Alexander Douwes University of Louisiana at Lafayette DREDGING ACTIVITIES DECREASE BENTHIC PRIMARY PRODUCTION OF SAND SHOAL COMMUNITIES	Katie Freer-Leonards CPRA Maximizing Large-Scale Project Benefits through Watershed Scale Planning	George Washburn Louisiana State University Increased levels of nitrate nitrogen and full sun are detrimental to baldcypress growth
	Tracy Quirk Louisiana State University	Stephanie Healey SWCA Environmental Consultants A deep dive for Chandeleur Islands restoration: Surveying 3,000 acres of unique habitat		John White Louisiana State University Delineating River Diversion Impacts on Land Change at the Davis Pond Diversion
		Rob Hollis The Water Institute Preserved Deltaic Sand Bodies Offshore Louisiana as Sediment Resources		
Session Organizer	*Program Committee*	*Program Committee*	*Leah Selcer* *Neel-Schaffer, Inc.*	*Program Committee*

ROOM	Room 207	Rivergate	Film Room (201/202)
	75	76	77
	Case Studies in Implementing Urban Green Infrastructure - Panel		**The Precipice- Film**
	This panel will discuss lessons learned from conceptualizing and implementing the Gentilly Resilience District in New Orleans. The city has developed and executed green infrastructure projects at the parcel, neighborhood, and district scales through the implementation of this Resilience District. The panel will discuss lessons learned from four projects and programs: 1.An award-winning Climate Adaptation grant program that installed 190 residential water retention fixtures in partnership with Low-Income homeowners. 2.The instillation of connected stormwater-storing street basins, detention ponds, and bioswails. 3.The ongoing initiative to transform a 25-acre site into a multi-use detention basin and recreational green space. 4.The growth of a local green infrastructure industry through educating residents, incubating businesses, and awarding construction contracts to local and DBE businesses. The panel discussion aims to provide case studies for other municipalities, especially on the Gulf Coast, who want to implement resilience projects and programming at the parcel, neighborhood, and district level.		Louisiana Public Broadcasting has been immersed in this community for the past two years. In this first Louisiana Spotlight Film. we follow a community that is literally on the precipice. From their fight to be a federally recognized tribe, to the battle for educational equality – LPB explores efforts to preserve their unique tribal culture.
Moderator	Abrina Williams New Orleans Redevelopment Authority		
Presenters / Panelists	Seth Knudsen New Orleans Redevelopment Authority		
	Meagan Williams Urban Water Program Manager		
Session Organizer	*Abrina Williams* *New Orleans Redevelopment Authority*		

5 PM- 6:30 PM	**Lunch Plenary** with Student Awards

Session Block VIII 1:30 PM- 3 PM	78	79	80	81
	The Lowermost Mississippi River Management Program: Modeling and Strategic Management Support	**Nature Based Solutions**	**Using Data for Decision-Making to Strengthen Community and Individual Resilience - Panel**	**What's Next for MR. Go? Exploring the Path Forward with Federal Funding for Restoration - Panel***
	The Mississippi River has been traditionally managed separately for three business lines of navigation, flood protection, and ecosystem restoration. Although management strategies for each are typically based on the individual priorities, all three rely on effective management of water and sediment throughout the river. The scope of the Lowermost Mississippi River Management Program (LMRMP) includes the identification of management strategies that unify the three business lines for the Lowermost Mississippi River (LMR) and the development of a framework for evaluating the likely outcomes of those strategies over timescales of 50-100 years. Using this framework, the potential implications of various sediment and water management strategies for the range of federal/state decision-maker and stakeholder interests (ecosystem restoration, flood risk reduction, maintaining navigation channels, etc.) will be investigated. The outputs of the evaluation framework will be used to illustrate the outcomes of holistic LMR management to decision-makers and stakeholders, including the U.S. Army Corps of Engineers (USACE), with the goal of precipitating changes in how the LMR is managed. The presentations in this session provide an overview of the LMRMP project and an update on its progress, beginning with a description of the evaluation metrics that will be used to assess the performance of the management strategies and environmental scenarios considered in the project. Subsequent presentations describe a novel environmental modeling tool that has been developed to support the project, the methods by which model outcomes will be translated into strategic guidance, and examples of how operational dredge management data is repurposed to inform regional sediment management decisions.	In the face of warmer global temperatures, increased drought and flooding, more severe and frequent storms, biodiversity loss, sea level rise, and coastal erosion, there's never been a more urgent time to integrate Nature-based Solutions to mitigate our communities' infrastructure, natural resources, and climate change challenges. To address these pressing issues of our time, Engineering with Nature (EWN) addresses nature's impacts with natural solutions. EWN is a design approach developed by the United States Army Corps of Engineers (USACE) that embodies natural features and processes into the mitigation and adaptive design process to increase long-term human, ecological, and infrastructure resilience. Putting ecosystem priorities and the role of oceans on the global stage, the United Nations declared 2021-2030 the Decade on Ecosystem Restoration and the Decade of Ocean Science for Sustainable Development. These global compacts, signed by 70-plus countries, aim to prevent, halt, and reverse the degradation of ecosystems around the world using a nature-based approach and ensure ocean science can fully support countries in creating improved conditions for sustainable development of the Ocean. These efforts also play a critical role in achieving the UN's 17 Sustainable Development Goals (SDGs), and ties closely to the importance of leveraging the EWN approach to future readiness and resource protection.	Data can be a powerful tool in decision-making to confront the challenges associated with climate hazards or other disasters. Ensuring that the data is complete, sufficient, and appropriate supports the development of plans, policies, strategies, and programs that adequately address the priorities and needs of communities most at-risk. Understanding the limitations of using data or data-support tools reduces the occurrence of unanticipated outcomes. This panel will discuss strategies used to translate data into action by local governments and individual citizens, challenges that come with using data or scattered data sources, and future directions to adapt and mitigate climate hazards. The discussion will highlight ways to supplement data sources with equity-centered approaches such as incorporating community voice and community-based participatory research practices. Panelists will feature grantees funded by the Gulf Research Program of The National Academies of Sciences, Engineering, and Medicine.	The Mississippi River Gulf Outlet (MRGO) is one of the most disastrous Federal projects in the nation's history, with devastating impacts to people and the environment. The Federal shipping channel impacted over a million acres of coastal habitat surrounding New Orleans and played a significant role in the deadly, catastrophic flooding of communities like the Lower 9th Ward and Chalmette during Hurricane Katrina. Since Katrina and the closure of the channel, much has been learned about the reach of channel impacts and some restoration progress has been made thanks to strong stakeholder engagement and leadership from the State of Louisiana. However, a major obstacle in recovery from the channel impacts has been a dispute over who pays for MRGO ecosystem restoration work. Because of this dispute, to date, no Federal funding has been allocated for the Army Corps' 2012 MRGO Ecosystem Restoration Plan. In late 2022, Congress clarified that funding MRGO ecosystem restoration is a fully Federal responsibility. This major development allows a path forward for Federal funding commitments specifically for restoration of areas impacted by MRGO. It also left a lot of people wondering 'What is next?'. This panel will explore the next steps for restoring and rebuilding the marshes, ridges, shorelines, and other massive habitat areas degraded or destroyed by the MRGO, which are critical to protecting the Greater New Orleans area from impacts of storm surges and sea level rise. Representatives from local communities and governments, the State of Louisiana, and the Army Corps will discuss the MRGO, covering the following topics: •Progress to date •Cost share clarification and the path forward •The MRGO nexus between the Coastal Master Plan and the Army Corps plan •City of New Orleans and St. Bernard Parish priorities for MRGO ecosystem restoration •Stakeholder engagement and how impacted communities benefit directly from restoration economy
Moderator	Joseph "Wes" Leblanc CPRA	Madeline Foster-Martinez University of New Orleans	Robert Gasior National Academies of Sciences, Engineering, and Medicine	Amanda Moore National Wildlife Federation
Presenters / Panelists	James Pahl CPRA Introduction and Overview of the RESTORE-funded Lowermost Mississippi River Management Program	Jason Bird Jacobs Engineering Engineering with Nature® to Increase Infrastructure Resilience	Traci Birch Louisiana State University	Kent Bollfrass CPRA
	Christopher Esposito The Water Institute Physics-Based and Machine-Learning Hybrid Model Supporting Mississippi River Management Strategy	Ben Smith Stantec Enhanced Biological Carbon Storage from Nature-based Solutions.	Rebeca de Jesus Crespo Louisiana State University	Austin Feldbaum City Of New Orleans
	Nastaran Tebyanian The Water Institute Consequence Modeling Supporting Mississippi River Management Strategy and Real Time Forecasting	Courtney McGeachy Ocean Visions – UN Decade Collaborative Center for Ocean Climate Solutions Leveraging the UN Ocean Decade to advance ocean-climate innovations and solutions to protect oceans and coasts.	Christopher Emrich University of Central Florida	Arthur Johnson CSED
	Mike Miner The Water Institute A Regional Sediment Management Strategy for the Lowermost Mississippi River	Julie Albert Tulane University Recycling for the Coast	David Johnson Purdue University	Guy McInnis St. Bernard Parish Government
	Andrew Courtois The Water Institute A Machine Learning Approach to Forecasting Sediment Delivery in the Mississippi River	Amanda Tritinger ERDC, U.S. Army Corps of Engineers Engineering With Nature Toolkit for Hydrodynamic Modeling		Michelle Boudreaux Meyers US Army Corps of Engineers
Session Organizer	*Christopher Esposito The Water Institute*	*Devyani Kar Stantec*	*Robert Gasior National Academies of Sciences, Engineering, and Medicine*	*Amanda Moore National Wildlife Federation*

Session Block VIII 1:30 PM- 3 PM	82	83	84	85
	Protecting and Restoring for Marine Mammals and Sea Turtles in Louisiana	**Using Modeling to Manage Coastal Ecosystems**	**Novel Approaches in Predicting and Planning for Coastal Change**	**Swamp Reforestation in Coastal Louisiana- Lessons Learned**
	Ongoing large-scale ecological restoration efforts in Louisiana estuaries include restoration for injuries to marine mammals and sea turtles, a portfolio of activities that are supported by NRDA settlement funds resulting from the 2010 Deepwater Horizon oil spill injury. This session will provide information on sea turtle and marine mammal strandings and Unusual Mortality Events in Louisiana; describe known threats, including examples of animals that have been trapped by construction activities; what to do if you encounter an injured or stranded animal; new efforts to build stranding response network capacity in LA; and ongoing and future restoration efforts for these resources.	Regardless of the ecosystems represented, all habitats along the coastal Gulf of Mexico are experiencing changing environmental conditions. Models that allow natural rersource managers to predict and plan for these changes are needed to effectively manage and preserve habitats. An understanding of the types of uncertainty introduced by these models and their implications is also valuable within the context of climate change modeling and policy setting. This session will highlight the use of hybrid modeling, machine learning, and model uncertainty quantification to advance the managemnent of coastal ecosystems.	Tackling the challenges presented by a changing climate and a changing coastline requires the development of transdisciplinary and novel approaches. These approaches may be novel in the methodologies employed to monitor for coastal change, or in the framework used advance collaboration across organizations. This session will highlight such novel approaches. Presentations will highlight the economic contributions of BOEM's Marine Minerals Program, the use of satellite data and open source tools to monitor for coastal change, and two presentations on the open-source, comunity-developed Gulf-Coupled Ocean-Atmosphere Waves Sediment Transport (COAWST) modeling tool.	The session would focus on the status of swamp reforestation efforts in coastal Louisiana, including planting protocols, habitat suitability analysis, monitoring, and related research. Over the last decade, swamp reforestation efforts have been increasing due to programs by non-profits, state, and federal restoration programs. This expansion is geographic and in available funding. Therefore, it is increasingly important that information is shared to enhance the success and make the best use of the investments in reforestation. Presentations will be based on the ongoing program's successes and failures so that best practices can be shared.
Moderator	John Fallon Audobon Nature Institute	Ioannis Georgiou The Water Institute	Jessica Henkel The Water Institute	Don Blancher Moffat & Nichol
Presenters / Panelists	Lyndsey Howell NOAA Office of Protected Resources The Louisiana Sea Turtle Stranding and Salvage Network	Kevin Hanegan Moffat & Nichol Hybrid Modeling of Future Estuarine and Ecological Conditions at Barataria Preserve, Louisiana	Mark Jensen Bureau of Ocean Energy Management The Economic Contributions of BOEM's Marine Minerals Program	John A Lopez Restore the Earth Foundation Delta Science LLC Status of Swamp Reforestation Efforts in SE Louisiana
	Mel Landry NOAA Restoration Center Future Efforts To Restore Sea Turtles and Marine Mammals in Louisiana	Hoonshin Jung The Water Institute A WETLAND VEGETATION DISTRIBUTION MODEL FOR COASTAL LOUISIANA USING MACHINE LEARNING	Amy Kopale CDM Smith, Inc. Satellite Data & Open Source Tools for Monitoring Coastal Change	Gary Shaffer Southeastern Louisiana University Hydrologic Restoration of the Lac des Allemands Swamp in Barataria
	Lauren Noble NOAA Fisheries Restoration Center Increasing Capacity for Marine Mammal Stranding Response in Louisiana	Timothy Nelson Moffat & Nichol A Hydrodynamic and Cypress/Tupelo Swamp Ecologic Model of the Atchafalaya Basin	Yanda Ou Louisiana State University Gulf-COAWST: A Noval Machine Learning and Artificial Intelligence Model for Hypoxia Prediction	Gardner Goodall Coalition to Restore Coastal Louisiana An Overview of CRCL's C.R.U.S.H. Planting Series: Communities Restoring Urban Swamp Habitat
	Gabriella Vazquez Audubon Nature Institute Marine Mammal and Sea Turtle Stranding Response in Louisiana	Julie Whitbeck National Parks Service Integrating site-specific monitoring & future conditions modeling to manage a National Preserve	Z. George Xue Department of Oceanography and Coastal Sciences Gulf-COAWST: A Regional Earth System Modeling Platform for the Gulf of Mexico	Blaise Pezold Meraux Foundation Reforestation of the Central Wetlands, SE Louisiana
		Eric White CPRA Decision making under uncertainty; quantifying uncertainties within the LA Master Plan models		
Session Organizer	*John Fallon Audobon Nature Institute*	*Program Committee*	*Program Committee*	*John Lopez*

Session Block VIII 1:30 PM- 3 PM	86	87	88
	Non-Structural Assessments and Mitigation in Coastal Communities - Panel	**Green Banks - Panel**	**Women in Film**
	Various members of LFMA will provide insight into various components of non-structural mitigation in the state of LA. 1)Post Ida Damage Assessments on Grand Isle - how FEMA substantial damage was applied and how the rebuilding process with stronger building codes is improving resilience. 2)Elevation Q/A - Local grant managers and shoring contractors provide insight into why/how homes are elevated and discuss how conversations with property owners develop and guide project implementation. 3) Overview of the Louisiana Floodplain Management Associations' Disaster Response Team and the ways they are assisting and training local governments to analyze their building stock and develop strategies to mitigate and communicate with the residence in a post disaster flood situation.	The Inflation Reduction Act created a new $27B fund – the Greenhouse Gas Reduction Fund – to address the climate crisis. This summer, EPA will distribute grant funding to eligible entities across two competitions: a $20 billion General and Low-Income Assistance Competition and a $7 billion Zero-Emissions Technology Fund Competition. The former is to collaborate with financing institutions, like green banks, and invest in projects that reduce pollution. The latter is to deploy residential rooftop solar and storage. Both are targeted towards disadvantaged communities; nonprofit entities are eligible to receive awards from both competitive opportunities. Thus, this fund could cause unprecedented deployment of renewable energy projects, at all levels, across the country. Panelists will provide insight into the program and green banks general. Panelists will explore the definition of green banks, and their deployment in New Orleans and across the state of Louisiana.	This film session foregrounds women filmmakers, with a coastal focus. This session will feature: *Homeland/Wetland, Isle of Memories, Locked*, and more. In *Homeland/Wetland* Local filmmakers lay out the past 100 years of (wo)man v. nature in the Louisiana Homeland/Wetland and extrapolate into the future both grim and heroic possibilities. *Isle of Memories* documents Stories of the Biloxi-Chitimacha-Choctaw In *Locked* "We made this history-meets-call-to-action to mobilize our city, our country, and our world to put people above profits and to look at the social and environmental ramifications of large-scale water projects in coastal landscapes.
Moderator	Lauren Brinkman City of Mandeville	Ruda Pollard City of New Orlean	
Presenters / Panelists	Nic LeBlanc Tangipahoa Parish	Camille Manning Broome CPEX	
	Kim Reeves Orleans Shoring	Jackie Dadakis Green Coast Enterprises	
	Mike Stewart Patterson Shoring		
Session Organizer	*Michelle Gonzales Jefferson Parish Government*	*Jenny Netherton Southeastern Wind Coalition*	

Session Block IX
3:30 PM-5 PM

	89	90	91
	Mississippi River Sediment Dynamics: Past, Present, and Future	**Expanding Approaches to Climate Adaptation**	**Blue Carbon: Opportunities and Uncertainties**
	The Mississippi River is a major source of water and sediment to the Gulf of Mexico. Several restoration strategies for the eastern Louisiana coast are linked to the Mississippi River. An estimated 79 to 92% of all freshwater, with the associated sediments and nutrients, enters the Gulf of Mexico (GOM) from the Mississippi River system heavily influencing the stability of the coastline and the health of the marine ecosystems. Numerous restoration projects in the State of Louisiana 2023 Coastal Master Plan utilize the Mississippi River resources, namely, freshwater, sediment, and nutrients. This session includes four diverse presentations including the development of a large scale WRF-Hydro Mississippi River Basin operational water and sediment forecast system, comparative analysis of historical and current sediment trends of the Lower Mississippi River, infill rates of borrow pits and the impact on the downstream maintenance dredging; and an overview of process-based (deterministic) and machine learning tools and their application to the hydraulics and sediment transport of the Lower Mississippi River.	Understanding the overlapping nature of Louisiana's emissions of greenhouse gasses and air pollutants is critical to reducing the state's greenhouse gas emissions, and the impact of climate policies on Louisiana residents. We will first provide insights into the Louisianans that are closest to emissions sources - primarily residing in under-resourced and under-represented communities. We then provide insights into potential greenhouse gas reduction strategies -- an important climate resilience strategy for Louisiana and its residents. While the development of Louisiana's Climate Action Plan addresses greenhouse gas emission reduction, there is also an urgent need for adaptation at all scales to increase resilience to the impacts we already feel. Louisiana's executive branch of government has taken the first step to ensure that agencies are able to continue to serve residents. Through the Adaptive Governance Initiative, agencies have conducted a climate change vulnerability assessment and some have developed some climate resilience actions. We will highlight some findings from the vulnerability assessment and present current strategies to begin addressing these. But, to increase resilience to the changes that are already felt, we need action in all places in an intentional, inclusive, and comprehensive way. The newly established Center for Equitable Climate Resilience is beginning to address this need and push outside of traditional mechanisms and definitions for climate adaptation and mitigation. We will present best practices and lessons learned including case studies that will highlight gaps, successes, and novel approaches in pursuit of climate resilience across literacy, research, and action at the local scale. Meanwhile, the state of Louisiana is leading by example. A concrete example is the Louisiana Division of the Arts who recognized that community resilience conversation needed to include culture. Funding from the National Endowment for the Arts has supported tradition bearers to conduct Pass It On workshops to teach within their communities and initiated the Louisiana Folklore Society's Bayou Culture Collaborative initiative. These evolved in Climate Migration and Welcoming Newcomers workshops that have been presented at national and state conferences to provide those not familiar with the issues sufficient knowledge to participate in the conversation.	Marshes in coastal Louisiana have been estimated to accumulate between 5.5 and 7.3 Tg C yr-1, accounting for some 6-8% of the global carbon accumulation in tidal marshes. There is gaining scientific consensus globally on the critical science and policy gaps, but clear recognition of the large uncertainties in quantifying carbon storage and net greenhouse gas flux for herbaceous coastal marshes. Additionally, the application of current policy mechanisms for carbon verification to Louisiana coastal wetlands does not offer a financially viable investment proposition given past, present, or anticipated future carbon market prices. As a result, the opportunity for restoration and protection of coastal wetlands to support both mitigation and adaptation to climate change is not being maximized. Louisiana and the northern Gulf of Mexico have opportunities to address some of these critical uncertainties. Coastal restoration in Louisiana is coordinated through one state agency, the Coastal Protection and Restoration Agency and the state of Louisiana develops policy for the ~1.4 million ha of wetlands (2016 area). There is also a wealth of previous and ongoing carbon research on coastal marshes in the northern Gulf of Mexico. The session will cover how the State of Louisiana has an incentive to increase funding opportunities to implement planned coastal restoration, identified in the LA Coastal Master Plan. This session will discuss some of the uncertainties and challenges, in particular uncertainties in carbon quantification and the importance of clarifying assumptions that are used within the carbon accreditation process. It will also cover the challenges of land ownership, with some examples of possible solutions. Finally, the session will discuss potential mechanisms for increased collaboration and coordination amongst carbon researchers and the potential structure, vision, benefits, and processes of a northern Gulf of Mexico States Blue Carbon Research Working Group.
Moderator	Joseph "Wes" Leblanc CRPA	Jeannette Dubinin Center for Planning Excellence	Brian Lezina CPRA
Presenters / Panelists	Agnimitro Chakrabarti FTN Associates, Ltd. Mississippi River Hydraulics and Sediment Transport:From Deterministic to Machine Learning Tools	Renee Collini The Water Institute Redefining Climate Adaptation and Mitigation Processes for More Equitable Outcomes	Naveen Adusumilli The Water Institute NATURAL CARBON SEQUESTRATION & RESTORATION: LANDOWNER OPPORTUNITIES THROUGH PARTNERSHIPS
	Ioannis Georgiou The Water Institute Mississippi River borrow pit infill rates and impacts to downstream maintenance dredging	Maida Owens Louisiana Folklife Program, Louisiana Department of Culture, Recreation & Tourism	Tim Carruthers The Water Institute Navigating uncertainty and assumptions in calculating carbon flux for policy development
	Ehab Meselhe Department of River-Coastal Science and Engineering Tulane University The Great Flood of 1927: Comparative Analysis of Historical and Current Sediment Trends	Charles Sutcliffe Chief Resilience Officer- Louisiana Governor's Office: Coastal Activities	Jean Cowan The Water Institute Establishing a Northern Gulf of Mexico Blue Carbon Research Working Group
	Xiaochen Zhao Louisiana State University Gulf-COAWST: A High-resolution Process-based Operational Water and Sediment Forecast System	Liz Williams Russell Environmental Defense Fund	James Pahl CPRA The needs and opportunities for Louisiana and the Coastal Protection and Restoration Authority regarding blue-green carbon
			Hilary Stevens Restore America's Estuaries Developing and Leveraging Communities of Practice to advance blue carbon science to support policy decisions
Session Organizer	*Program Committee*	*Jeannette Dubinin* *Center for Planning Excellence*	*Tim Carruthers* *The Water Institute*

	92	93	94
	How the National Flood Insurance Program Is Influencing the Face of the Coast - Panel*	**Restoring and Monitoring Louisiana Estuarine Habitat after Deepwater Horizon**	**The State of the Private Oyster Industry in Louisiana- An Industry - Panel**
	Since the 1960s, the National Flood Insurance Program (NFIP) has played an important role in shaping, and protecting, riverine and coastal environments. The Program underwent major reform in 2012 with the Biggert-Waters Act, which was largely amended by the Homeowner Flood Insurance Affordability Act of 2014. Congress has temporarily extended the Program more than 25 times since 2017, when the last multi-year authorization expired. In 2022, the NFIP underwent its greatest change ever in rate calculation, with Risk Rating 2.0 – raising prices for 77% of policyholders. Now, the Program is again in debt ($20.5B), and participation has fallen by over 3.5%. At the same time, FEMA continues to implement administrative changes to the Program, and Congress is considering legislative action, that will have profound impacts on whether and how we use our coasts. During this session, panelist with expertise in various component of the NFIP will discuss how these changes are likely to affect the Gulf and why Congress has had such a difficult time making meaningful reform. Subject matter experts will cover: – FEMA's implementation of the flood insurance program through Risk Rating 2.0, and how those changes are affecting affordability and development opportunities in coastal areas – FEMA's treatment of levees and coastal erosion under Risk Rating 2.0, and how FEMA's standards affect coastal restoration projects/opportunities – FEMA's recent and ongoing mapping of coastal high hazard areas and the corresponding development restrictions applicable to mapped areas – FEMA's minimum development standards, including implementation of the Endangered Species Act through the NFIP – Other changes to floodplain mapping, including mapping of erosion prone areas and inclusion of Sea Level Rise, and how this new mapping could affect development opportunities - Impacts of various decisions made under the NFIP on communities with environmental justice concerns	Ongoing large-scale ecological restoration efforts in Louisiana estuaries include creation of habitat for oysters, fish, birds, and other wildlife, monitoring restoration progress, and adaptively managing individual projects and the portfolio of restoration activities that are supported in large part by the $5 billion in NRDA settlement funds for Louisiana resulting from the 2010 Deepwater Horizon oil spill injury. This session will describe four of the estuarine habitat restoration and monitoring projects designed to restore for injured resources in Louisiana. Collectively, the presentations will explain the role and goals of the Louisiana Trustee Implementation Group in identifying restoration priorities; creation of oyster brood reefs and early monitoring results; avian habitat creation, monitoring, and lessons learned for best practices; development and application of a strategy to create and assess fish habitat; and identification of lower trophic level data needed to evaluate the prey base for the estuarine food web, model future possibilities, and adaptively manage estuarine habitat.	Louisiana produces more than a third of the nation's oysters. With the seafood industry employing 1 in ever 70 workers in Louisiana, the health of our coastal ecosystems is critical. Sustaining healthy, prosperous fisheries is integral to the future of Louisiana's coast and coastal communities. Since 2000, there has been a dramatic shift: whereas the majority of oysters were traditionally harvested from public grounds, in 2021 99.6% of all oysters were harvested from private leases. The oyster industry is changing rapidly: the supply chain is shifting, and methods of cultivation are expanding. A panel of private leaseholders will review these dynamics, share learnings and discuss the implications for the future of the private oyster industry.
Moderator	Molly Lawrence VanNess Feldman LLC	Mel Landry NOAA Restoration Center	Darrah Bach Coalition to Restore Coastal Louisiana
Presenters / Panelists	Dwayne Bourgeois North Lafourche Levee District	Jon Wiebe Louisiana Dept. of Wildlife and Fisheries Addressing Avian Resource Restoration Priorities in Coastal Louisiana	Brad Robins Robin's Oysters, LDWF Oyster Task Force
	Maggie Talley Jefferson Parish	Denise Kinsey Louisiana Dept. of Wildlife and Fisheries OYSTER RESTORATION IN LOUISIANA: BENEFITS FROM NON-HARVESTABLE OYSTER REEF RESTORATION PROJECTS	Jakov Jurisic Oysters JJ, LDWF Oyster Task Force
	Peter Waggonner GNO, Inc	Melissa Carle NOAA Fisheries, Office of Habitat Conservation Restoring coastal habitats to support fish and invertebrate species in Louisiana's estuaries	Kirk Curole Bayside Oyster Company
		Erin Kiskaddon The Water Institute Lower trophic level baseline data collection plan to support restoration of Barataria Estuary,LA	
Session Organizer	*Molly Lawrence* *VanNess Feldman LLC*	*Mel Landry* *NOAA Restoration Center*	*Program Committee*

	95	96	97
	RESTORE Act Center of Excellence for LA: Research Highlights and Coastal Master Plan Utilization	**Legacy Offshore Oil and Gas Infrastructure in the Gulf of Mexico - Panel**	**Strategies to Address Flood Risk**
	The mission of the RESTORE Act Center of Excellence for Louisiana (LA-COE) is to provide research directly relevant to the implementation of Louisiana's Coastal Master Plan by administering a competitive grants program and providing the appropriate coordination and oversight support to ensure that research goals are tracked and achieved. Since its establishment in 2016, the LA-COE has provided over $5.3M in funding through two request for proposal (RFP) cycles and has supported 47 Louisiana undergraduates, graduates, and post-doctoral researchers, resulting in 19 published journal articles. In July 2021, LA-COE announced the second grant (RFP2) to fund eight two-year projects. In this session, three Principal Investigators (PIs) funded under RFP2, including Dr. Jonathan Willis (Nicholls State University), graduate students Krysten Boswell (Dr. Giulio Mariotti, Louisiana State University) and Dr. Robert Habans (The Data Center), will present on a variety of research topics, including ridge restoration, coastal marsh edge erosion, and the impacts of event-driven changes (e.g., storms and flooding) on Louisiana's coastal communities. The session will also include a presentation by David Lindquist of the Coastal Protection and Restoration Authority (CPRA) to highlight how LA-COE funded research has been used to support the planning and implementation of Louisiana's Coastal Master Plan. This session will be moderated by Bingqing Liu, Deputy Director of LA-COE. The session will be 90 minutes including a moderator introduction, 4 oral presentations of 12 minutes, and discussion time.	Legacy offshore oil and gas infrastructure refers to platforms, pipelines, and other infrastructure that are no longer used for oil and gas production but remain, in whole or in part, in the Gulf of Mexico and its coastal waters. In recent years, concerns about the aggregate fate of decommissioned infrastructure have increased. This is in part a response to Government Accountability Office (GAO) reports highlighting the issue, as well as the declining production and increased rate of decommissioning of many shallow-water wells in the Gulf. A GAO report (GAO-21-293) estimated that 97% or 18,000 miles of decommissioned pipelines remain in place – unmonitored and unmaintained – on the Gulf of Mexico sea floor. According to the Bureau of Safety and Environmental Enforcement, in 2015 there were 241 inactive platforms, and 294 platforms were on expired or terminated leases. With climate change predicted to worsen weather conditions, including hurricane intensification, there are increased risks to legacy oil and gas infrastructure being moved and damaging active infrastructure, posing risks to navigation, and resulting in oil spills. In light of these risks, the National Academy of Sciences' Gulf Research Program (GRP) seeks to facilitate discussion of the multifaceted issues related to legacy oil and gas infrastructure in the Gulf. This panel session includes an interdisciplinary group of scientists and practitioners to discuss research, regulations, and policies on legacy oil and gas infrastructure in the Gulf of Mexico. Dr. Jennifer Bauer from the National Energy Technology Lab will talk about her work on quantifying risk related to mudslides and other hazards that interact with legacy infrastructure. Ms. Jessica Mallindine from BSEE will discuss managing the Gulf Outer Continental Shelf for multiple uses and accounting for past uses. Dr. Matt Streich from Texas A&M Corpus Christie will present his work on the pros and cons of legacy infrastructure for sportfishing.	This session includes presentations related to watershed flooding and planning to manage flood risk. The Louisiana Watershed Initiative (LWI) is supporting the development of models to support work in watersheds across the state. Region 2 is made up of nine HUC-8 watersheds covering approximately 9,500 square miles in the north central part of the state. Unique to Region 2 is the modeling of the Old River Control Complex (ORCC). The ORCC represents the most downstream end of the watershed region and determines the downstream boundary conditions and backwater for large areas upstream. In 2017, the Calcasieu Parish Police Jury commissioned the Parishwide Watershed Planning and Strategic Analysis project in an effort to develop a Regional Watershed Management Plan (RWMP) aimed at reducing flood risk. The comprehensive study uses a watershed-based approach to develop a long-term action plan to guide investments in flood mitigation projects and inform management decisions over the next 50-years. Many of the innovative tools developed are laying the foundation for effective floodplain and watershed management. Assessing risks from natural hazards entails understanding both how a given hazard will propagate through the physical environment and the consequences it will have for the people and assets in harm's way. Go-Consequences is an open-source consequence modeling system to model thousands of storm simulations quickly and in an automated manner. Paired with a new statewide structure inventory dataset, this will allow the most accurate means to date for assessing economic damages to residential, commercial, and industrial structures from flooding. The 276 acre University Lakes system has long been an iconic destination serving the citizens of Baton Rouge, the people of LSU, and adjacent communities. Since previously dredged from 1981-83, the six-lake system has progressively experienced flooding, eutrophication, algal blooms, and fish kills largely due to nutrient loads and sediment present in upland
Moderator	Bingqing Liu RESTORE Act Center of Excellence for Louisiana	Jennifer Summers Gulf Research Program	Robert Miller University of Louisiana at Lafayette
Presenters / Panelists	Krysten Boswell Louisiana State University Marsh edge erodibility dependence on marsh properties in Barataria Basin	Jennifer Bauer National Energy Technology Lab	Jim Keith Freese and Nichols Billy Williamson LA Department of Transportation and Development Out with the Old River: A New Approach to Statewide Modeling in Louisiana
	Jonathan Willis Nicholls State University Ecological and Sociological Characterization of Ridges in Coastal Louisiana: An Overview	Jessica Mallindine Bureau of Ocean Energy Management	Brooke Newlin C. H. Fenstermaker & Associates, L.L.C. Calcasieu Parish Regional Watershed Management Study Update
	Robert Habans The Data Center Environmental migration in coastal Louisiana	Matt Streich Texas A&M Corpus Christi	Lorena Penuela Cantor The Water Institute CONSEQUENCE MODELING DEVELOPMENT IN SUPPORT OF THE LOUISIANA WATERSHED INITIATIVE AND LOUISIANA
	David Lindquist CPRA Utilization of research in the implementation of the Coastal Master Plan		BenjaminHartman Baird Hydrodynamic and Hydrologic Modeling for Redesign of Louisiana State University Lakes
Session Organizer	*Jessica Henkel* *The Water Institute*	*Jennifer Summers* *Gulf Research Program*	*Program Committee*

	98	99
		Women in Film
		This film session foregrounds women filmmakers, with a coastal focus. This session will feature: *Homeland/Wetland, Isle of Memories, Locked* , and more. In *Homeland/Wetland* Local filmmakers lay out the past 100 years of (wo)man v. nature in the Louisiana Homeland/Wetland and extrapolate into the future both grim and heroic possibilities. *Isle of Memories* documents Stories of the Biloxi-Chitimacha-Choctaw In *Locked* "We made this history-meets-call-to-action to mobilize our city, our country, and our world to put people above profits and to look at the social and environmental ramifications of large-scale water projects in coastal landscapes.
Moderator		
Presenters / Panelists		
Session Organizer		

5:30 PM-7 PM	**CRCL Coastal Issues Gubernatorial Candidate Forum**