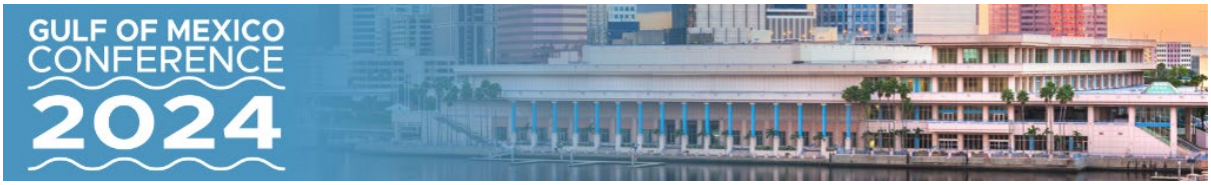


Enhancing Resilience

Session Title: Coastal Community Resilience

This session will focus on the ways interconnected human and natural systems affect coastal community resilience and dynamics that influence our local and regional capacity to respond to hazards. Challenges to improving built and natural resilience, such as barriers to implementation and coastal squeeze, may also be incorporated into presentations. Examples topics may include:

- tools and trainings that encourage local communities and individuals to make better preparedness, response, recovery and mitigation decisions such as affordable and resilient housing guidelines, emergency response planning, modeling, and coastal hazards workshops
- assessments that help coastal communities and other sectors, such as fisheries and tourism, quantify their risk and reduce vulnerabilities
- planning and adaptation efforts, especially those that include green infrastructure, renewable energy, and other innovative approaches
- management of natural systems that considers coastal habitats, climate, hazards, and restoration/conservation and integrated components important to planning for the built environment

Presentations that highlight unique partnerships between communities and other entities, such as military installations, natural resource managers, and tourism marketing organizations, to support resilience planning and implementation are also encouraged.

Session Title: Exploring Innovative Approaches to Understanding and Addressing Insurance Affordability and Availability in the Gulf of Mexico

Coastal hazards (e.g., hurricanes, extreme rainfall, extreme heat) are being exacerbated by climate change. These changing hazards lead to impacts such as worsening flood risk, greater exposure to damaging windspeeds, mental and physical health stressors, economic and cultural losses, and expanding inequities. Increasing resilience to climate-exacerbated hazards will require a diversity of approaches that address physical risk and the adaptability and sensitivity of the built and natural environments.

Hazard and flood insurance is rapidly becoming a critical driver of coastal flood resilience, influencing housing affordability and ability to secure financing for residential and commercial property which comes with ripples throughout coastal communities. In the U.S. Gulf of Mexico two states have seen major challenges in the past few years with hazard insurance availability and with the implementation of Risk Rating 2.0 flood insurance prices have also dramatically increased. As is true with many impacts of climate change, shrinking insurance affordability and availability has disparate impacts on residents that need to be considered if equitable climate resilience is to be pursued.

There are a myriad of approaches that can be implemented to address affordability of existing flood and hazard insurance products, explore alternative and more flexible insurance products, and to understand how future action could further exacerbate insurance costs. For example, identifying where natural spaces such as coastal wetlands are threatened by climate change or development and how that relates to insurance costs would be extremely valuable. Additionally, other innovations such as parametric insurance or community pools could provide alternative products to traditional insurance structures.

This session invites speakers from across disciplines to present their research, innovative ideas, and case studies at the intersection of climate change, insurance, and the build and natural environments. The session will serve as an opportunity to raise awareness of the cutting-edge advancements around insurance that are underway and to build networks of those working to identify practical products, approaches, and better understanding of potential challenges on the horizons. The format will be a series of presentations coupled with topical breakout sessions at the end to enable productive dialogue around challenges, opportunities, and collaborations.

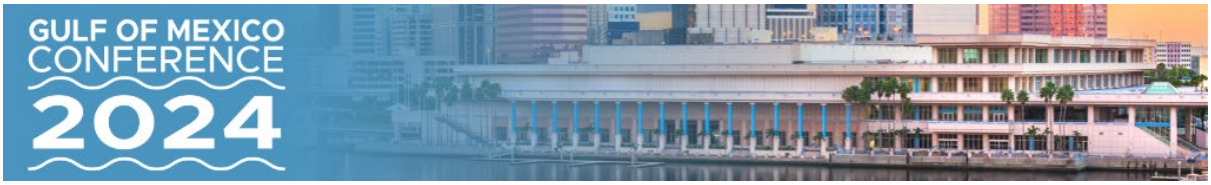
Advances and Priorities for Data Management

Session Title: The Present and Future of Ocean and Coastal Mapping Infrastructure in the Gulf of Mexico

Coastal managers and researchers rely heavily on ocean and coastal mapping (OCM) data to support projects and decision-making. OCM is a broad label, but coastal bathymetry is the foundational dataset necessary for many applications, such as safe navigation, benthic habitat mapping, water quality, sediment location and transport, and coastal vulnerability modeling. However, across the Gulf of Mexico, there is a lack of system-wide coordination on acquisition of bathymetric data and making the data accessible to stakeholders.

One model for OCM coordination and collaboration in the region is the Florida Coastal Mapping Program (FCMaP), a multi-year effort among federal, state, academic, and industry partners to create a framework for prioritization and coordination of bathymetric mapping from the Florida coast to the 200-meter isobath. FCMaP's mapping data inventory and gap analysis can be expanded to cover the U.S. coastline in the Gulf of Mexico, eventually leading to a robust Gulf of Mexico Mapping Program (GOMaP). We invite submissions that provide details on multibeam or topobathymetric lidar mapping conducted or planned between 2021-2025.

FCMaP prioritization exercises have identified high demand for mapping in many shallow coastal areas around the state to fill existing data gaps and resurvey high energy environments. These areas are often difficult to survey with traditional mapping technologies and approaches. We encourage presentations that highlight the use of innovative and emerging technologies for shallow water mapping as well as community partnerships that seek to establish collaborative crowd-sourced data collection. The session will consider the implications of improved access to and resolution of bathymetry in hydrodynamic models of the nearshore environment in light of increased coastal flooding and storms.



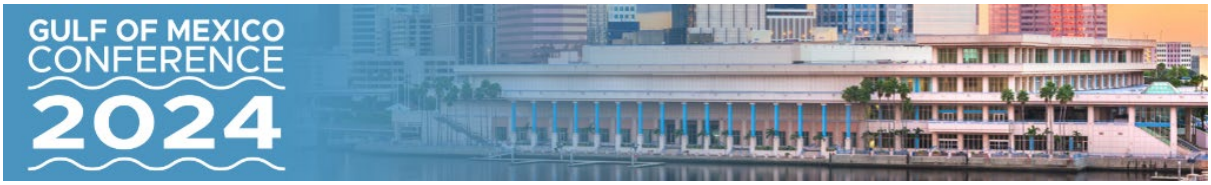
The session will include a 5-minute opening introduction, presentations by invited speakers, presentations from participants who submitted abstracts, and conclude with a 30-min panel discussion with the invited speakers.

Session Title: Advances in Satellite Imagery as a Synergistic Tool for Scientific Research and Policy-making in Coastal Habitats

The *Governors' Action Plan IV for Healthy and Resilient Coasts* highlights the need for baseline datasets and both status and trend assessments of coastal habitats. Expanding population and intensifying urbanization are impacting these coastal habitats and forcing re-evaluation of hydrological management strategies as decision-makers balance competing demands for water resource needs and protection. Management and policy directly impact the Gulf's highly diverse coastal ecosystems. Consistent, large-scale observations are needed for managing coastal habitats and associated water quality, which serves as both an indicator and regulator of biological and ecological function in coastal systems. Satellite remote sensing could be viewed as an important tool for understanding the Gulf of Mexico's environment by managers and researchers for collecting and disseminating distribution and extent information to end-users and the public, assessing changes in distribution and extent, evaluating the effectiveness of restoration activities, and understanding the effects of past and projected climate change. This session will gather scientists and aquatic resource managers to discuss the application of satellite remote sensing in inventorying and monitoring coastal habitats and associated water quality within the Gulf of Mexico. An invited expert panel will be followed by scientific presentations. Satellite imagery experts on the four-person panel will provide an overview of available satellites, including their capabilities, resolution and frequency, and appropriate uses for various coastal habitats. Selected scientific presentations will focus on the implementation of remote sensing imagery for informing operational decision making. Overall, this session will provide an understanding of satellite remote sensing as a tool for managers and researchers to better their operational procedures, management plans, and research studies on coastal and aquatic habitats.

Session Title: Data Management and Sharing Strategies: How Data can Lead the Way in Navigating Multi-use Coordination in an Increasingly Dynamic Gulf of Mexico

The goal of this session is to discuss the intersection of natural sciences data, the evolving technological landscape of its management and challenges for multi-use coordination. Through presentations, moderated conversations, and panel discussions this half day session will explore best practices and technical challenges/roadblocks that face data managers along with the need to share the data in ways that benefit and support a broader multi-user community. With the increasing number of data science tools, data storage options and services available for data management, this session will also include a conversation around the creation of a forum to create a community for data managers across the Gulf of Mexico to ask questions and share knowledge, experience, technical challenges and solutions beyond GOMCON. What technical challenges would we face when it comes to sharing/communicating our data?



What are the key features to provide authentic context when it comes to coordination and to articulate impacts for use of both the data and the spatial environment it describes?

Session Title: Oil in the Gulf: Understanding Current Oil Spill Science and the Legacy of Oil and Gas Infrastructure in the Gulf of Mexico

This session focuses on the impacts and complexities around the oil and gas industry in the Gulf of Mexico and will contain two major themes: 1) a broad swath of oil spill research, published since 2020, to update the Gulf of Mexico community on research into oil spill science since the sunsetting of the Gulf of Mexico Research Initiative (GOMRI) and 2) the challenges, costs, and ecological and human impacts of legacy offshore oil and gas infrastructure in the Gulf of Mexico.

1. An intensive decade of oil spill research followed the 2010 Deepwater Horizon (DWH) disaster. Much of that work is summarized in various synthesis documents and conferences conducted through 2020. However, 2020 was not the end of that huge investment in science and resultant research publications. Scientists and managers have generated a long tail of continued research findings and discoveries. Numerous scientists from academia, state and federal agencies, and non-profits continue to publish important research findings that merit discussion. It is timely to reconvene the community of researchers working on DWH-associated issues to update what we know now that we did not know at the time of the oil spill. Researchers and organizations are invited to submit abstracts that highlight research published after 2020. All topics associated with oil spill science and recovery are welcome. Priority will be given to graduate student research published since 2020.

2. Legacy offshore oil and gas infrastructure refers to platforms, subsea connections, 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, concern about the aggregate fate of decommissioned infrastructure has increased. This is in response to Government Accountability Office (GAO) reports, a 2023 article in Nature highlighting a $30 billion cost of decommissioning existing infrastructure, as well as declining production and increased rate of decommissioning of many shallow-water wells and leases in the Gulf.

Decommissioning (i.e. - plugging wells, removing facilities and infrastructure, disposal and waste management, remediating, and monitoring site) is a critical part of addressing legacy infrastructure and is a growing concern as the energy transition progresses and oil and gas production declines. The decision-making process on how to best address this legacy infrastructure is complex, requiring multi-discipline teams that can weigh the risk and benefits for local communities, wildlife, environment, and safety. We will bring together experts to highlight the knowledge gaps and opportunities in addressing legacy infrastructure. Speakers will discuss the multi-use nature of the Gulf and how to address the legacy infrastructure and decommissioning. A panel of academia, non-profits, local stakeholders, industry, and government stakeholders will discuss lessons learned, best practices, and challenges

related to decommissioning efforts including plug and abandonment, removal of rigs, rigs to reef, ecological impacts of infrastructure, and re-use of platforms.

Session Title: Deepwater Horizon Science Coordination: Restoration, Co-Production, and Synthesis

The year 2024 marks a decade since the first RESTORE Act Center of Excellence was established in the Gulf of Mexico. In that time, the Gulf Centers of Excellence, the NOAA RESTORE Science Program, RESTORE Council, and the NAS Gulf Research Program have aimed to fund research in the Gulf that supports effective management of the Gulf of Mexico ecosystem and its natural resources. The goal of this session is to provide an opportunity for enhanced coordination and collaboration between Gulf Coast researchers funded by Deepwater Horizon penalty funds. The session will include presentations and group discussions around three main topics: restoration, co-production, and synthesis science. The session will begin with presentations that explore opportunities for communicating how research can inform the DWH restoration programs and how the information needs of restoration practitioners and resource managers can be incorporated into future research objectives and initiatives in the Gulf. Presentations will then be featured from project teams who have completed one or more of the phases of a co-produced project. Co-production is the collaboration of researchers, resource managers, and other collaborators across the all phases of a research project to inform a specific natural resource management decision. Presenters can share their perspectives on how to assemble productive teams, identify research questions focused on a specific natural resource management decision, conduct and apply research as part of a resource manager and researcher collaborative, or other aspects of the co-production process. The session will then explore the current and past synthesis activities in the Gulf region as well as the pressing questions synthesis could address in the future. As the amount of data available on the Gulf of Mexico ecosystem has continued to increase and the value of data stewardship and open data practice are recognized, the raw material for synthesis is becoming more abundant. Alongside that realization, the community and culture to support synthesis in the Gulf of Mexico continues to grow. A discussion will follow on the value of investing in a dedicated synthesis initiative in the Gulf region and how such an initiative should be structured to meet the goals of the Gulf community.

Communication and Engagement

Session Title: Advancing Science Communication and Inspiring Community Action Through Art-Science Collaborations

Collaborations across the fields of art and science can yield powerful results that neither area of discovery can achieve on its own: creative problem-solving; engaging broader audiences; communicating science; and elevating community voices. This session, curated by the Gulf Research Program of the National Academies of Sciences, Engineering and Medicine (NASEM) and Cultural Programs of the NAS and moderated by Louisiana artist and biologist Brandon Ballengée (Atelier de la Nature, Tulane University), will introduce the evidence base for and synergistic impacts of art and science collaborations to advance science communication, education, and community engagement. This

session will also showcase case studies of successful collaborations across the Gulf region that have had a profound impact on the public and highlight how art can interpret and elevate scientific platforms. Throughout the session, speakers will discuss considerations and best practices for art-science project design, effective community engagement, and impact evaluation. (90 minutes)

- Brandon Ballengée, artist and biologist, Louisiana (moderator)
- Ashley Bear, NASEM
- Henry Sanchez, curator and social artist, Texas

Xavier Cortada (University of Miami, Cortada Foundation) will take a deep dive into The Underwater, an engaged art project that uses elevation-driven art to systematically reveal South Florida's vulnerability to rising seas and mobilize residents to participate in planning for a future impacted by climate change. (90 minutes)

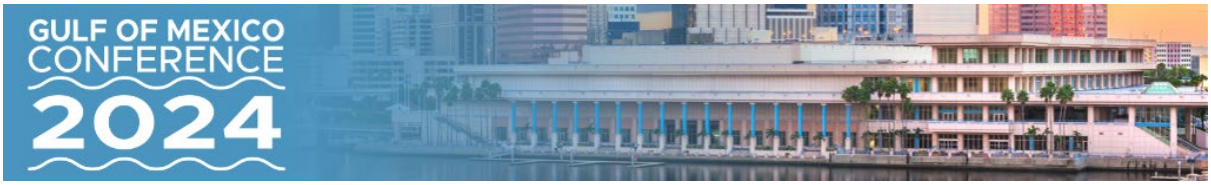
- Xavier Cortada, Artist & Professor of Practice, Department of Art & Art History, College of Arts and Sciences, University of Miami
- Adam Roberti, Executive Director, Xavier Cortada Foundation
- Dr. Jennifer Jurado, Chief Resilience Officer, Broward County
- Dr. Francisco De Caso, Principal Scientist, Department of Civil and Architectural Engineering, College of Engineering, University of Miami
- Ed Talavera, Professor, Department of Cinematic Arts, School of Communication, University of Miami

Deborah Mitchell, a Florida-based conservation artist, will demonstrate how multidisciplinary projects enhance public comprehension of the interplay between art and science. The focal points include conservation, water dynamics and biodiversity, as interpreted by select field stations and residencies, all seamlessly woven together to foster comprehensive understanding among audience members. (90 minutes)

- Deborah Mitchell, Conservation Artist
- Dustin Angell, Archbold Biological Station, Florida
- Ombretta Agró, ARTSail Residency and Research Initiative, Florida
- Cammie Hill-Prewitt, A Studio in the Woods, Louisiana

Session Title: Reaching Audiences Where They Are with the Messages They Need

Science literacy and understanding are increasingly central to our collective perceptions of the world around us, but it is difficult to deliver accurate, relevant, and easily understood messages while also combatting decreasing audience interest and attention spans. This session will highlight message building that resonates with audiences and affects positive behavior change including case studies of effective communication methods, innovative approaches using traditional and new media, and evaluation of outcomes.



Abstracts submitted to this session may explore successful messaging approaches related to any relevant conference topic. This includes:

- communication methods used during crisis scenarios such as the Deepwater Horizon oil spill and other pollution/discharge instances; red tide and other harmful algal blooms; hurricanes, flooding, heat, and other weather-related events; and fisheries management
- innovative storytelling that uses engaging technology such as film, oral histories, podcasts, virtual reality, and other approaches designed to impart scientific knowledge to lay audiences in a memorable style
- social marketing campaigns that encourage behavior change on issues such as marine debris and species conservation

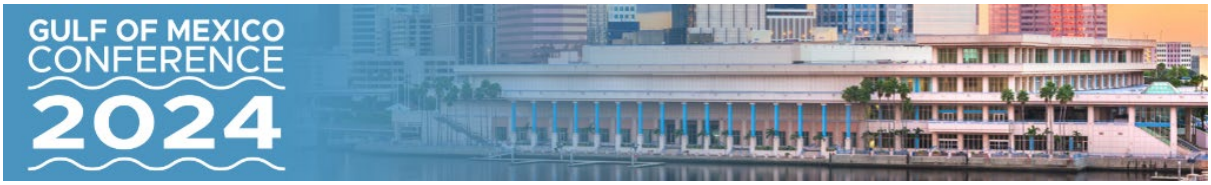
Results and lessons learned from efforts to build support for communication campaigns as a critical tool for success in restoration, conservation, and management are also of particular interest. Presentations, screening/sharing of materials developed as communication tools, panel discussions, and moderated discussions on best practices are all encouraged to develop a dynamic and interactive session. Estimated times for screenings/sharing over 15 minutes should be included in the abstract description, but additional time is not guaranteed.

Session Title: Addressing Systemic Inequities in Marine Science and Conservation, Fully Serving the Underserved

This session will focus on identifying and addressing the root causes of systemic inequities in marine research and conservation. Presenters will share out proposed solutions to address these issues at K-12, higher education, early/mid-career and conservation implementation levels. We will address topics such as:

- accessibility for the disabled community,
- LGBTQ+ engagement in marine research and conservation,
- the importance of indigenous knowledge,
- identifying the characteristics of the community and their unique challenges,
- building trust and credibility,
- building relationships and using quantitative data/tools,
- how mental models (different perceptions of how the world works) shape our response to information, perceived risk, and decision making,
- engagement based on social, economic, and educational experiences
- local ecological knowledge as well as enhancing participation within communities in the Global South,
- supporting Black, Indigenous, People of Color and other historically excluded groups

We encourage talks that support engagement with underrepresented, underserved, and disadvantaged individuals and communities in order to strengthen these topics for future collaboration.



Session Title: Tribal Engagement, Communication, and Partnerships in Support of Community Decision-making in the Gulf of Mexico Region

Tribal communities in the Gulf of Mexico region are often on the front lines of impacts related to climate change or coastal hazards. Presentations in this session will highlight examples and stories of engagement, communication, and partnerships to gather and share best practices and lessons learned in working together and building relationships between Tribal communities and other entities such as agencies, academic, research, or other institutes. Topics may include but are not limited to areas such as: Combining Traditional Ecological Knowledge (TEK) with science and research; Linking research with student learning opportunities in the community; Integrating co-developed knowledge into community-based decision making that reflects the community's needs, cultural practices, and values; Partnering for community resilience, sustainability, or hazard mitigation planning; Partnering to act on resilience, sustainability, or hazard mitigation plans; or Incorporating input to adapt resilience tools or techniques to improve their utility for Tribal communities. This session will also provide speakers and attendees an opportunity to seek and discuss common themes across the presentations in order to identify gaps or extend the best practices and lessons shared to additional areas.

Session Title: Preparing the Next Generation to Solve Wicked Problems: Approaches, Programs, and Initiatives in Education and Community Engagement

This session includes invited proposals as well as curated sessions for panels and presentations from educators, researchers, activists, and practitioners from across the region to offer insights of innovative programs, pedagogies, projects, and other educational activities that prepare and engage students and early-career professionals in addressing the complex challenges of the Gulf region. Collectively, the panels and presentations in this session invite the question of how we all can work together to create the next generation of Gulf leaders. The session will highlight:

- Innovative & Interdisciplinary Approaches: Initiatives from communities, educational researchers and practitioners across the region that offer insights from and examples of interdisciplinary and place-based education and workforce development efforts. This includes undergraduate programs, curriculum, pedagogies, among other activities that are commensurate with the complex challenges of the Gulf region. There will be a special focus on innovations bridging the humanities, arts, and sciences; design-thinking; eco-pedagogies; critical pedagogies of place and place-based approaches; community engagement; and professional and internship programs. Speakers will also explore the value of design studios as a research approach for stakeholders including communities, industry, and decision makers.
- Exceptional Opportunities: Educational and experiential programs oriented to early-career professionals, underserved youth, and others at the intersection of service, science, policy, and decision-making. Speakers will present strategies and a variety of experiences through

multiple agencies and organizations to inspire, prepare, and mentor young people and professionals to be the next generation of environmental leaders.

- Youth Activism: Initiatives, challenges, and successes of youth engagement in the conservation of the Gulf ecosystem and their communities. Speakers will include youth leaders showcasing projects and efforts of their engagement in conservation initiatives. Topics showcase creating tangible change on the ground such as completing climate resilience projects, using online platforms and social media to raise awareness and educate; experiences that influence policy-makers and advocate for legislative change; and working with communities to address their concerns and advocate for change; and more.

Water Resources, Quality, and Quantity

Session Title: Water Quality in the Gulf of Mexico and its Estuaries: Status and Trends, Data Needs and Cross-system Syntheses

Water quality is a major determinant of the health of the Gulf of Mexico and its estuaries. Without good water quality, it is difficult for these ecosystems to support living resources and the spectrum of ecosystem services that humans expect and/or benefit from. Water quality and its associated indicators (nutrients, dissolved oxygen, harmful algal blooms, transparency, etc.) are often quite variable in time and space due to natural environmental variability. Superimposed on this variability can be longer-term changes that arise due to human and climatic stressors. For example, watersheds draining to many regions of the Gulf of Mexico have experienced significant human population growth over the past several decades, while climatic stressors such as increasing water temperatures and extreme events are becoming more pronounced. These stressors have potential to contribute to water quality degradation, but sustained, reliable monitoring programs are needed to capture their impacts.

Given the historical and increasing footprint of humans in coastal watersheds around the Gulf of Mexico along with climatic changes that are occurring regionally and globally, there is a need for robust water quality monitoring and data syntheses to inform resource management decisions. This session will accept submissions that increase our understanding of water quality conditions in the Gulf of Mexico and its estuaries. We are interested in presentations that contribute to our understanding of any of the following aspects of water quality:

1. Status and trends in an individual system or from syntheses of data across multiple systems.
2. Drivers of water quality change.
3. Priority data needs from the natural resource management community or stakeholders.
4. Water quality monitoring, data management and data analytics approaches and best practices.
5. Data availability and comparability across ecosystems/states/countries of the Gulf of Mexico to facilitate large-scale assessments.

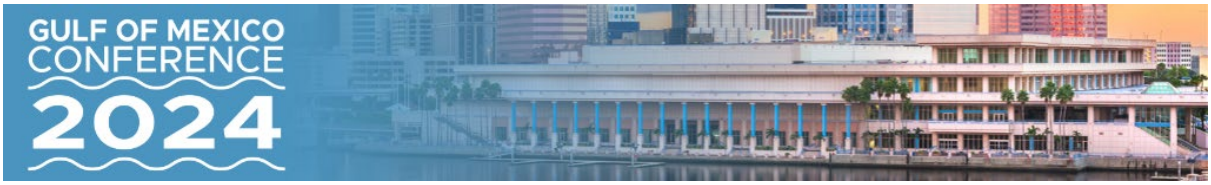
6. Methods for synthesis, distillation, and communication of water quality monitoring data to inform management, policy, or public understanding of ecosystem status and trends at local or regional scales

The session should be of interest to researchers and resource managers who have a general interest in Gulf of Mexico water quality.

Session Title: Understanding the Linkages Between Watersheds and Estuaries for Better Resource Planning

It is understood that healthy estuaries are largely dependent on the watersheds draining to them. Across the Gulf of Mexico (GOM), estuaries are seeing declines in habitats and environmental quality because of urban and agricultural runoff, intensive river management, and declining water quality. Significant challenges remain to reverse damages from past development and balance limited water resources between people and natural ecosystems. Many regions have identified the need to restore hydrology to improve natural systems and community resiliency. On top of that, current land use and climate change issues must be addressed including altered flows, shifting precipitation patterns, loss of wetland functions, and sea level rise. Along the GOM, many coastal managers and planners are tasked to make difficult decisions with incomplete information. To address these deficiencies and provide guidance on what planned restoration efforts will be most strategic or impactful, watershed management plans and supporting information are needed. Ultimately, these plans must balance human community needs with water supply, flood protection and water quality in the face of past and existing degradation, climate change factors, and continued regional growth.

This session will highlight research and case studies intended to 1) improve our understanding of the connections between watersheds and estuaries, and 2) demonstrate how watershed management and planning can improve coastal resilience along the GOM. We encourage submissions that explore important linkages between watersheds and estuaries including watershed assessments, hydrological restoration, data monitoring and analyses, integrated watershed modeling, and adaptive management. This session will emphasize important lessons from a range of settings and those using novel and comprehensive approaches to better understand the watershed-estuary continuum. By focusing attention and resources on landscape-level strategies and restoration projects, greater cost-benefits can be achieved. Studies that focus on socio-economic drivers and benefits are necessary and encouraged. It is increasingly recognized that watershed planning is best addressed through a multi-partner and diversified funding approach (e.g., government agencies, Watershed Initiative, National Estuary Programs, universities, and NGOs) that already have built a framework for collaboration and are well positioned to facilitate partnerships and make strategic decisions for the future. Through forward-looking research and restoration, a science-based framework on how watersheds and estuaries change in response to land use and climate can be developed and provide the basis for effective planning and resilient coastal areas with lasting benefits.



Session Title: Mitigating Harmful Algal Blooms in the Gulf of Mexico: Building Resilience through Enhanced Detection, Control, Remediation, and Better Communication

Harmful algal blooms (HABs), both cyanobacteria and marine species, are pervasive in coastal areas of the Gulf of Mexico as well as inland waters. Such events have a deleterious impact on the economies of the Gulf States and the quality of life of coastal populations. Human health managers from all five Gulf states and Mexico are mandated by their respective policy, research, and communication agencies to adhere to standardized HAB detection methodologies and messaging. Building resiliency requires the development of reliable mitigation methods that provide early detection of developing blooms, capabilities of predicting and forecasting bloom occurrence and movement, and methods to directly reduce the impacts of blooms, including bloom control, remediation, and communication of the science and health risks that is both effective and easily understood by the general public. Management practices and policies must be coincident with the development of such mitigation methods and technologies. The convergence of these technological advances with implementation policies will contribute to communities that are resilient to bloom occurrence. Funding programs at the state and federal level have been instrumental in developing the science and practice of HAB mitigation, while also advancing issues of regulation and management involved in implementing these practices. This session will focus on four main topic areas of bloom mitigation: 1) detection and forecasting, 2) methods of control and remediation, 3) implementation and regulation, 4) communication of the science and human health risks. We solicit contributions from established authorities in the field, scientists bringing new and innovative concepts for bloom detection, prediction and control, as well as representatives of local, regional and national institutions and agencies involved in implementation of HAB control, mitigation, and communication. We will also feature a panel discussion at the end of the session, including invited speakers and other interested parties, to discuss challenges and gaps and on the practicality and potential for Gulf-wide applications in HAB mitigation research, implementation, and communication techniques.

Session Title: Gulf of Mexico Oxygen Depletion (Hypoxia): Watershed and Coastal Mitigation and Monitoring Efforts Toward a Healthier Gulf

Oxygen depletion in bottom coastal waters has been recorded from the Gulf of Mexico since the early 1970s. Perhaps the best documented is the continental shelf bottom-water hypoxia (dissolved oxygen less than 2 milligrams per liter) to the west of the Mississippi River, seasonally severe in spring through early fall and impacting vast areas of benthic habitat. Other well-known areas of hypoxia are Mobile Bay, Alabama, Tampa Bay, Florida, and many nearshore waters. Nutrient enrichment from the Mississippi River Basin and other Gulf watersheds plays a major role in the formation and maintenance of Gulf Hypoxia.

The Gulf Hypoxia Task Force, comprised of 12 states, including Louisiana and Mississippi and many federal partner agencies, state, and non-governmental organizations, are working collaboratively toward implementing the Gulf Hypoxia Action Plan. Large-scale reductions in nutrient loads entering the Gulf will be required to achieve management targets aimed at reducing the area impacted by low

oxygen. Alongside watershed efforts, there is a need to document dissolved oxygen levels throughout the Gulf to monitor for hypoxia and implications of nutrient enrichment. Multiple perturbations to the Gulf from climate change, landscape alterations, planned diversions, flood control, and river restoration efforts will necessarily combine with the processes of hypoxia development.

We solicit presentations that will address the multiple natural- and human-caused instances of hypoxia in the Gulf of Mexico and efforts to mitigate nutrients and decrease trends of low oxygen in coastal waters. This session will feature presentations by state, federal, and university partners on how their actions and activities are helping to reach the goals of the Gulf Hypoxia Action Plan. The goal of this session is to geographically update the hypoxia inventories with more recently recorded areas, including trends where possible, and to highlight watershed efforts aimed at reducing nutrients entering the Gulf.

Habitat Protection and Restoration

Session Title: Pursuing Coordinated Coastal Planning and Broad Scale Implementation of Solutions in the Northern Gulf of Mexico

Natural and made-made disasters, coupled with a changing climate and significant increase in infrastructure development, have resulted in the loss and degradation of natural habitats, including wetlands, seagrasses, beach and dune habitats, and maritime forest. To address these acute and chronic issues, numerous large-scale projects have been initiated in some of the most vulnerable areas of the coast including urban, natural areas, and private and public lands.

Increasingly scientists are in a position to offer high-resolution predictions using advanced models and datasets to inform project development. This ability complements current levels of restoration and adaptation funding, growing public awareness of coastal resilience, and expanding forums to engage stakeholders. However, coordination is still needed across these interlocking activities, and across a range of spatial scales.

This session will focus on the efforts of multiple municipalities and agencies in the Gulf of Mexico, with specific emphasis on the Alabama and Mississippi coast. We will bring together partners across the predictive modeling, planning, implementation, and engagement landscape to discuss existing case studies and lessons learned for advancing effective coordination and moving towards actions and solutions.

Case studies will cover a broad range of topics including climate vulnerability, coastal resilience, adaptation planning, watershed management planning, habitat conservation and land acquisition, bird conservation, beach nourishment, shoreline stabilization, marsh restoration, and parks improvement and public access.

This session format will be a combination of individual speaker presentations, followed by a panel discussion to share challenges, experiences, and best practices associated with planning, design,

construction, and public outreach of these broad-scale coastal projects. The end result will be increased awareness of opportunities for more coordinated, gulf-wide planning.

Session Title: The Pelagic Gulf of Mexico: its Biodiversity, Ecology, Drivers, and Management

The Gulf of Mexico is the world's 9th largest water body, with the majority (>90%) of its volume comprising the pelagic (open-ocean water column) domain. Extending from the outer continental shelf to abyssal depths, the pelagic Gulf is extraordinarily biodiverse in a global context. Research since DWH presents a picture of an extremely interconnected system, with the surface fauna feeding deep, the deep fauna feeding shallow, and both oceanic and coastal faunas using the open ocean as early life stage habitat. The pelagic Gulf is also a system subjected to severe chronic and acute human stressors in the form of resource extraction, pollution, biogeochemical alteration, and traffic (commercial, recreational, and military). These stressors occur against a backdrop of natural variability that is poorly understood. In this session we invite papers summarizing what we know and still need to learn about the Gulf's largest ecosystem in order to facilitate management and mitigate further deterioration. Topics of particular interest include, but are not limited to, assessments of population levels, biophysical coupling, ecological connectivity, emerging threats, and management perspectives of commercial and protected species.

Session Title: Practical Implementation of Regional Sediment Management and Methodologies to Reevaluate Coastal Sediment Sources

Coastal areas facing erosion exacerbated by storms and sea level rise need increasingly greater quantities of sediment for beach, dune, and marsh creation. Information on available material to support these projects is often limited because borrow area identification is typically confined to specific, relatively small areas, and data that do exist can be difficult to find or access due to being housed across databases within multiple agencies. New geological and geophysical data collection to support characterization of offshore sources, on the other hand, requires significant funds, dedicated planning, and complex interagency coordination. At the same time, new and expensive disposal alternatives are sought to replace rapidly filling disposal areas for sediment dredged from navigable waterways, material that may be appropriate for beneficial use. A solution to these interconnected challenges is Regional Sediment Management (RSM), a holistic, systems-based approach for stewardship of sediment resources to provide broad benefit.

This session is focused on issues related to practical implementation of RSM, from programmatic planning of sediment use to interagency leveraging of available data on sediment sources to beneficial use. Topics can range from sediment source to sink, including identification and quantification of sediment resources; strategies for resolving conflicting uses of borrow areas; evaluation and valuation of beneficial use opportunities; management of dredged sediment and sediment placement areas; and equitable and just management of sediment resources and the environment. Also of interest is

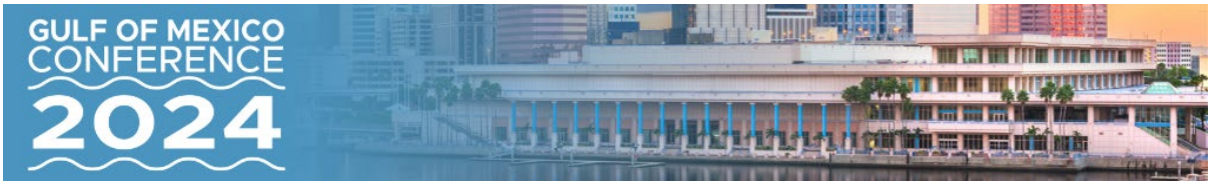
repurposing of existing geological, geotechnical, and geophysical data to identify sediment sources through desktop analysis or application of new technologies (e.g., 3D analysis, artificial intelligence, and application of new geological or sedimentary models). Presentations may encompass applied research, case studies, and implementation strategies, with an emphasis on efforts where decision-makers, stakeholders, scientists, and/or engineers have worked collaboratively to develop and apply innovative approaches. The session will also include time for participants and attendees to discuss RSM challenges and opportunities as part of advancing innovation and regional collaboration on this topic.

Session Title: Status of Corals in the Gulf and Caribbean Region

This session will bring together marine resource managers, researchers, aquarists, and NGO partners to discuss the current status of corals and threats, including bleaching, disease, and restoration challenges in the face of a changing climate.

Session Title: Understanding Community Assemblages in Tidal Flats within the Gulf of Mexico

Tidal flats are critically important wetlands for primary production and habitat for a variety of fish and wildlife. In the Gulf of Mexico, tidal flat inundation and exposure are driven more by responses to wind than lunar tides and are therefore often termed “wind-driven tidal flats.” Tidal flats are often the primary wetland type on the bay sides of islands as well as along bay margins, river deltas and mouths of tidal creeks. Many wetland habitats across the Gulf of Mexico are receiving the necessary attention and resources for management and restoration. Tidal flats, however, have often been ignored due in part to less recognition of their importance and public perceptions of tidal flats as wastelands, devoid of emergent vegetation. A part of promoting the importance of tidal flats begins with an increased understanding of the community assemblages associated with tidal flats and the role tidal flats play in productivity of our bays and estuaries. Tidal flats provide important habitat for variety of vertebrate and invertebrate nekton, fish species especially juveniles, shrimp and crab species and a host of waterbird species including shorebirds and wading birds. This session will focus on species to community level studies of fish and wildlife that use tidal flat habitats for all or portion of their annual life cycle as well as studies related to the tidal flat primary producers (e.g. cyanobacteria) and the biotic and abiotic processes that influence formation and maintenance of these important wetland habitat. Additionally, tidal flats face threats associated with anthropogenic alterations to natural processes including rapidly changing sea levels, increasing storm frequency and intensity, and warming of surface and sea-surface temperatures. This session will also include studies that examine the dynamic processes of tidal flats and future net effect of these habitats in response to climate change.



Living Resources

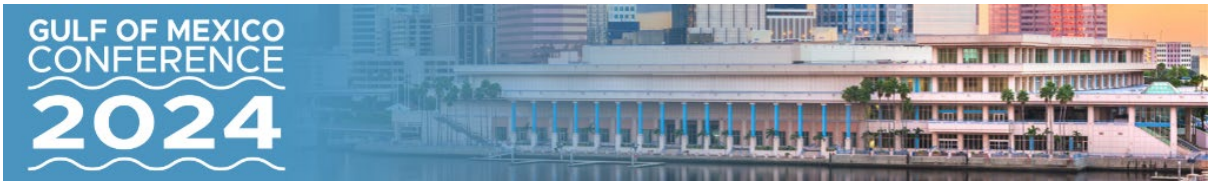
Session Title: Ecosystem Health Assessments: Indicators, Approaches, and Examples Linking Science to Action

The Gulf of Mexico region is home to diverse, productive aquatic ecosystems that support important wildlife species, recreation, tourism, and coastal economies. However, the ability of the Gulf of Mexico and its estuaries to provide these and other ecosystem services is challenged by a complex and growing suite of chronic environmental and human stressors (e.g., warming waters, habitat alteration and loss, nutrient inputs, altered hydrology, etc.) as well as acute disturbance events (e.g., floods, oil spills, etc.) that negatively affect ecosystem health and add complexity to decision making by resource managers and policymakers. Large-scale restoration and habitat management efforts aim to increase vulnerable wildlife populations and improve their habitats. Although these projects typically assess the use, abundance, and/or reproductive success of biota in response to restoration/management actions, there is a need for indicators and approaches that can quantify ecosystem health to a) establish baseline conditions in the few remaining relatively pristine systems, b) document current conditions in impacted systems to inform possible mitigation and restoration actions, and c) to quantify effectiveness of restoration interventions.

Assessment of ecosystem health is challenging, requiring a quantitative framework based on expert guidance and built upon robust, relevant data sets. This session will accept submissions that highlight (1) development, application, and results of ecosystem health assessments from the Gulf of Mexico and its estuaries, and (2) the role wildlife health indicators can play in assessing the effectiveness of habitat management and restoration efforts. We are interested in presentations that contribute to our understanding of any of the following aspects of ecosystem health:

1. Approaches that have been employed, including lessons learned on analytical, data management and communication best practices.
2. Use of wildlife health metrics as indicators of ecosystem health
3. Findings from indicator species, sites, or cross-ecosystem health assessments.
4. Priority needs from the natural resource management community or stakeholders.
5. Data availability and comparability across ecosystems/states/countries of the Gulf of Mexico to facilitate large-scale and/or repeatable (in time) ecosystem health assessments.
6. Examples of science from ecosystem or wildlife health assessments being used to inform resource management and policy decisions.

The session should be of interest to researchers, resource managers, and policymakers who have a general interest in Gulf of Mexico ecosystem health and ecosystem restoration.



Session Title: Coastal Bird Science Co-production: Management, Rehabilitation, and Resilience of Waterbird Rookery Islands and Beach Nesting Birds

The Gulf of Mexico coast is a vitally important ecosystem both for the humans and wildlife that call it home. For millions of birds, it is the last resting stop before a nonstop journey across or around the Gulf to the Caribbean and Central and South America during fall migration. It also provides the first bit of land many of these birds return to after a grueling spring trip north flying thousands of miles. From the offshore waters of the open ocean to barrier and bay islands to coastal marshes, abundant estuaries, and inland swamps, the region supports an incredible diversity of habitats that many species, including species of conservation concern, need to survive and thrive.

Beach nesting species face a range of challenges including sea level rise, hurricanes, unbalanced predator populations and human disturbance which make management of the beach environment for birds and people challenging. Wetland species face challenges related to wetland loss and sea level rise, and large uncertainties around how best to create and restore wetlands. Waterbird rookery islands have been lost and degraded, which has led to mitigation through an increasing number of intensive and expensive island rehabilitation and creation projects, despite a lack of precedent for rehabilitation and creation of islands at this scale. Across these coastal bird habitats managers and scientists are frequently left with very high uncertainty in the factors that control success.

In this symposium we will highlight management challenges and stressors facing birds using coastal habitats ranging from beaches to wetlands to rookery islands. After reviewing the stressors we will have presenters review management and restoration options to curb these impacts including stewardship, bird nesting platforms (both on land and floating), island restoration coupled with stewardship, habitat protection, sea level rise and habitat migration and finally how to consider birds when implementing nature based solutions.

Session Title: Wildlife, Fisheries, and Protected Species: Meeting Conservation and Restoration Challenges

In the Gulf of Mexico region, a number of innovative projects led by both state and federal partners to restore and conserve living resources are underway or starting this year.

The first portion of the session will focus on case studies from current projects that address management challenges regarding issues affecting fish and wildlife. Examples of particular interest include innovative approaches to the management or mitigation of invasive plant or animal species, marine debris, and bycatch reduction in the Gulf of Mexico. Presenters will focus on techniques to overcome management challenges and provide available results, insights, recommendations, and anticipated next steps that may support future project implementation plans.

The second half of the session will focus more specifically on the challenges to restoring and managing protected species. There are numerous data gaps when it comes to restoring animals such as sea turtles or marine mammals ranging from information on basic life history and habitat use to exposure and

response to various threats and stressors. These data gaps create a range of challenges such as lacking information to detect a threat, lacking data to effectively address a threat, or lacking social science data needed for successful implementation. While these challenges are not unique to restoration, funding from the Deepwater Horizon settlement for the restoration of injured resources, has focused on projects with learning outcomes that has allowed for the development, testing, and implementation of targeted solutions. This approach has proven beneficial for reducing impacts of bycatch, vessel strikes, and noise, and improving nesting beach protection. The proposed session will seek speakers to share their views on these challenges to restoring and managing protected species.

Integrated Science, Practice, and Policy

Session Title: Creating and Maintaining Strong Partnerships: Best Practices, Tools, Methods, and Project Funding

The Gulf Coast region is impacted by a variety of environmental factors: hurricanes, coastal land loss, water quality, and the effects of climate change. An army of entities across the region are working to address these issues through research, education, stewardship, and action-oriented projects. Reinventing the wheel everywhere can stretch resources to a breaking point. Funding is always a challenge, but partnering is an effective strategy to stretch the resources and share the task. Partnerships are an integral component of science, education, policy, and community engagement initiatives across the Gulf. This session invites presenters to discuss current projects in which multiple partners are involved and share best practices in creating and maintaining such partnerships. During this active workshop, partners will discuss how to find the right fit for a partner, which tools can help with matchmaking, how to tweak their projects for larger impacts in the Gulf Coast Region, and how to collaborate on grant proposals. In addition, representatives from funding agencies across the Gulf region will share insights, tools, and examples to help guide you through the steps needed to write successful funding proposals and build collaborative project teams. This session will include a mix of a panel, presentations, and then conclude with a mixer designed to connect partners interested in seeking research for similar projects. Participants will be asked to bring a list of current and future projects, organizational goals, their needs, and the assets they can share with other organizations. This is a great opportunity for researchers, resource managers, community groups, and other partners to build their networks and seed ideas for future collaborations. Participants will leave with resources, tips, and connections that will help strengthen the quality of their next funding proposals.

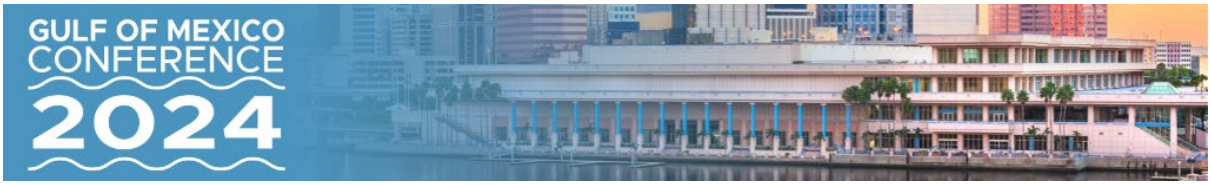
Session Title: Quantifying and Reporting the Human Benefits of Nature

The Gulf of Mexico Alliance Human Benefits of Nature (HBON) Cross-Team Initiative explores the inherent connection between people and the natural environment. HBON areas and actions promote stewardship of coastal and marine resources, examine benefits of the ocean and coastal blue economy, and assess ecosystem services gained from coastal restoration and protection activities, with the goal to

advance the understanding of how protection, restoration and management of coastal and marine natural resources benefit people and advance inclusion of these human-natural connections in value assessment, management and policy decisions, and communications. HBON is hosting a session that will focus on nature and natural spaces providing people and communities with a wide range of ecological, social and economic benefits. Wetlands buffer storm impacts, forests capture carbon and provide wildlife habitat, and clean water supports productive fisheries and recreational opportunities. These processes are the foundation on which our communities were built and their health allows our communities and coastal ecosystem to thrive. Acknowledging, understanding, and supporting these complex relationships is critical to maintaining balance between human communities and coastal ecosystems. Access to natural spaces contributes to human health and well-being, promotes social connectivity among families and communities and is often correlated to greater property values. Green infrastructure planning and implementation can create or enhance these benefits while at the same time mitigating climate effects such as heat island and flood. This session welcomes presentations focused on interdisciplinary approaches to understand, compare, and or identify the human-benefits of natural features and spaces. This session will also include projects updates from ongoing HBON projects. Topics may range from community resilience, climate equity, stakeholder engagement, economic analysis of human and natural systems, cultural and health context, and policy analysis and interventions. This session will conclude with a discussion on information gaps and needs.

Session Title: Oyster Science, Restoration, Management, and Community Engagement Leading to Resilience

Oysters in the Gulf of Mexico face numerous challenges including disease, loss of substrate, water quality, harvest pressure, and climate change. These factors have resulted in a decline of oyster populations to the point where resilience has been comprised, with numbers often failing to rebound to their former levels following a disturbance. Advances in our knowledge of larval transport, genetics, and other aspects of oyster biology; new restoration techniques; and management approaches that balance harvest, restoration, and aquaculture have the potential to contribute to the development of population resilience. Furthermore, predictions of climate change models, including changes in salinity, temperature, and sea level rise, allow managers to consider different management scenarios that may foster long-term resilience. Along with progress in science and management, community-based restoration efforts, including shell recycling programs, contribute to resilient oyster populations by raising awareness of issues affecting oysters, fostering a sense of ownership of the resource, and conducting in-water restoration work. Community-based restoration work also provides an opportunity to involve underserved communities in planning, construction, and monitoring of restoration projects. Oyster scientists, restoration practitioners, managers, members of the fishing industry, and participants in community-based restoration programs are invited to submit abstracts that focus on novel research or approaches in oyster biology, restoration, modeling, management, and community-based programming that boost resilience of Gulf of Mexico oyster populations.



Climate Impacts

Session Title: Extreme Heat: Working Together to Equitably Plan for and Adapt to Heat and Related Health Impacts

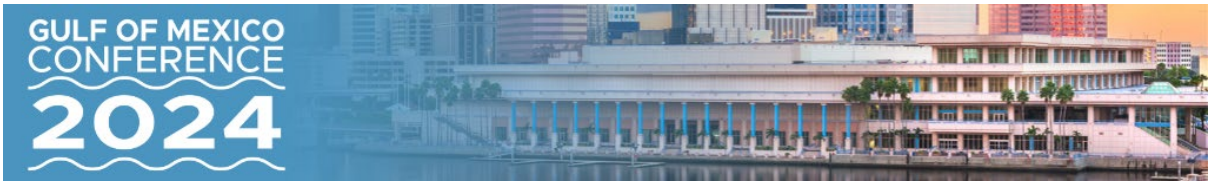
Extreme heat causes more deaths than all other weather-related disasters combined, disproportionately affecting those with lower incomes, older adults, and minority groups. Physical and mental heat-related illnesses and death are largely preventable with proper planning, education, and action. Yet in order to mitigate and protect people from current and foreseeable harms, there is an urgent need for accurate, timely and accessible data on extreme heat at the local level. Panelists will explore emerging and expanding approaches that deepen understanding of place-based climate risks pertaining to the topic of extreme heat, while also increasing equity, data democratization and community collaboration. Speakers will highlight the ways in which they are working towards adaptive extreme heat solutions by building broad and inclusive community-based partnerships, redefining data accessibility and application, developing contextual risk communication, implementing evidence-based solutions to address heat and mental health, and neighborhood habitability. Presentations in this session may include but are not limited to areas such as:

- Emerging heat health policy initiatives
- Defining sources of heat and health information
- Examining health, economic, societal, and infrastructure impacts of extreme heat
- Identifying tools for community-based decision making that improve utility for heat health
- Partnering to achieve equitable community resilience, sustainability, or hazard mitigation planning
- Exploring community-driven, local data collection on extreme heat and health impacts

This session will also provide speakers and attendees an opportunity to seek and discuss common themes to identify gaps or extend the best practices and lessons learned in working within and across communities to understand, adapt, mitigate and build resilience to the social impacts of heat and heat stress.

Session Title: Challenges of Identifying and Managing for the Effects of Tropicalization on Gulf Coastal Natural Resources

As the climate warms, tropical species are expanding their ranges north into historically subtropical environments. Winter freezes are also becoming less frequent and severe, allowing for permanent expansion of species instead of alternating cycles of range expansion and contraction observed in the past. Key habitats, including seagrass beds and salt marshes, are being altered and an increasing number of tropical species (e.g. fishes, manatees, sea turtles, mangroves) are being observed in the northern Gulf of Mexico.



This session will focus on how various aspects of tropicalization impacts estuarine species composition and distribution, with a special focus on implications for natural resource management. Examples of topics include: mangrove expansion, impacts of changing temperature and hydrology on fish and invertebrate distribution, resource management challenges, and more.

Emerging Issues

Session Title: Emerging Chemical Pollution Threats to Wildlife and People in Gulf of Mexico Region

Coastal regions of the Gulf of Mexico are subjected to a wide variety of pollution from both legacy and emerging chemical threats, including from pesticides, PCBs, PAHs, other organic compounds, excess fertilization from nutrients including nitrogen and phosphorus, PFAS and related substances, microplastics, metals, radiological sources, and pharmaceuticals, among others. These chemical threats are generated from local sources (e.g., wastewater treatment facilities, industries and storm water discharges, as well as through watershed-wide runoff (e.g., the Mississippi River drainage). Of primary concern are the potential for drinking water pollution of long half-life chemicals (e.g., PFAS) and human and wildlife safety through consumption of tainted seafood, and trophic magnification of pollution concentrations. Event-based pollution threats (e.g., the Deepwater Horizon oil spill, the Piney Point gypsum stack water release, the ITC fire in Texas releasing large quantities of PFAS) pose particular issues related to disaster communication and for tracking their effects relative to pollution baselines. This session will examine the current state of knowledge regarding legacy and emerging chemical threats in the Gulf of Mexico region and will emphasize ongoing pollution monitoring and how such studies address both impacts of pollution levels on wildlife and people and how coastal pollution may differentially impact communities reliant for employment, recreation and subsistence in coastal areas. Contributions will be sought from toxicologists, social scientists and public health professionals addressing various aspects of pollution threats. A panel discussion will focus on priorities for ongoing and future monitoring and regulatory requirements.

Session Title: One Health/One Water: Emerging Pathogens, Innovative Technologies, and Economics

The One Health concept recognizes that the health of humans is inextricably linked with the health of animals and the environment (NOAA). When we protect one, we help protect all. (USGS). One Health involves applying a coordinated, collaborative, multidisciplinary, and cross-sector approach to address potential or existing risks that originate at the interface of humans, animals, and ecosystems. Similarly, the One Water movement is an approach to water stewardship that is innovative, inclusive, and integrated. All water has value. It must be managed in a sustainable and inclusive manner to build strong economies, vibrant communities, and healthy environments (US Water Alliance). Interconnecting these two movements lends itself to discovering and understanding emerging water-borne pathogens, new innovative techniques to study and mitigate water-borne pathogens, and the economic impacts of both newly emerging and existing water-borne pathogen risks.

This session seeks to explore and highlight efforts within our research and agency communities that illustrate the One Health / One Water intersect. Specifically, studies that 1) present evidence of emerging water-borne pathogens; 2) the use of innovative techniques to study, model, or otherwise mitigate/control/prevent water-borne pathogens effects on humans and other coastal species; or 3) study the economic impacts of water-borne pathogens. For example, topics can include Vibrio found on microplastics in Sargassum bogs, modeling for mitigation of cyanobacteria, or economic impacts of emergent HABs to tourism. We encourage case studies from federal, state, research and academic organizations that address these topics, with the end goal of transferable applications to help improve management and policy decisions.

The format of the session will be a 5-minute opening introduction followed by presentations from participants who submitted abstracts to the session. The session will end with a 30-min discussion on whether innovative techniques can help mitigate emerging water-borne pathogens and how that might affect the local, state, and Gulf -region's economies. Discussions of drivers, partnerships, or collaborations that will facilitate implementation of these new ideas, along with lessons learned and suggestions for future coordination, are welcome. We envision submissions from federal and state agencies, the private sector, academia, and others.

Session Title: Prevention and Removal of Marine Debris

Marine debris and litter have been accumulating in the environment for decades. To effectively address the marine debris problem in the Gulf of Mexico, it is important to develop coordinated responses and activities among stakeholders and organizations. Projects presented in this session focus on 1) preventing marine debris and litter by raising awareness and improving stewardship and 2) locating, removing, and disposing of marine debris and litter in the Gulf of Mexico and its watersheds.

Session Title: Building Science into Offshore Wind Energy Planning in the Gulf of Mexico

There is an urgent need to accelerate the transition to renewable energy and reduce our carbon footprint. The first auction of a wind energy area in the Gulf of Mexico (GoM) was held in 2023, resulting in the Bureau of Ocean Energy Management (BOEM) lease sale of a 102,480-acre area offshore of Lake Charles, Louisiana. In addition to activities in federal waters, Louisiana is exploring offshore wind opportunities in state waters to meet its Climate Plan goal of installing 5 GW of offshore wind by 2035. The long-term benefits of offshore wind in transitioning to a clean energy economy and mitigating the impacts of climate change are clear. But, like all ocean uses, offshore development will influence local ecosystems and must be sensitive to wildlife and fisheries in the region. This session will examine coordination and planning practices to advance offshore wind energy in the Gulf of Mexico that avoids, minimizes, and mitigates impacts on biodiversity and ecosystem services. We will provide information on how science can inform the offshore wind leasing process, the risk assessment frameworks and decision support tools available to support optimized siting and regulation, and current research

designed to address information gaps. This session will bring together representatives from the U.S. Integrated Ocean Observing System (IOOS) Regional Associations, government agencies (e.g., BOEM, NOAA, USCG), the research community, and the offshore wind energy industry to explore lessons learned from U.S. Atlantic offshore wind development and opportunities for GoM stakeholders to leverage and build on existing research and resources. Following presentations, the panel will lead a discussion of how to build a community of practice to synthesize knowledge, promote the integration of science in the decision-making process and provide regulators and decision-makers with a pathway towards achieving offshore wind and clean energy goals for the region.

Session Title: Coastal Carbon Uncertainties and Opportunities

Coastal wetlands along the northern Gulf of Mexico are known to sequester large quantities of carbon. In coastal Louisiana alone they 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 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. States of the northern Gulf of Mexico have opportunities to address some of these critical uncertainties. For example, in Louisiana, coastal restoration is coordinated through one state agency, the Coastal Protection and Restoration Authority and the state of Louisiana develops policy for the more than 1.8 million ha of wetlands (2016 area). There is also a wealth of previous and ongoing carbon research on coastal marshes across the northern Gulf of Mexico. The session will cover how Gulf of Mexico states, including the State of Louisiana, has an incentive to increase funding opportunities to implement planned coastal ecosystem restoration and conservation. 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. Finally, the session will discuss an opportunity to facilitate closer collaboration amongst the carbon science researchers along the northern Gulf of Mexico with the goal of maximizing knowledge and support to critical coastal management decisions in our region.