

THE 2020 NOSB THEME
**UNDERSTANDING HUMAN, ECONOMIC,
AND ENVIRONMENTAL RESILIENCY**
IN THE GULF OF MEXICO



The Gulf of Mexico is a tremendously important body of water due to its enormous productivity and economic, ecological, and cultural value to the five coastal states surrounding it. But it doesn't stop there — the Gulf is of great importance to the entire United States and the world, as well as its importance as a “living laboratory” for ocean science researchers. Its offshore depths, coastal wetlands, and submerged vegetation serve as an essential habitat for numerous species of recreational and commercial value. Oil deposits beneath its western edge make it an important region for oil energy resources and production. According to the U.S. Energy Information Administration, federal offshore oil production in the Gulf accounts for 17 percent of total U.S. crude oil production. The Gulf is also home to the Gulf Stream, one of the most powerful ocean currents in the global ocean, moving warm water from the Gulf into the North Atlantic and moderating temperatures along the East Coast of North America and the coasts of Western Europe and Northwestern Africa.

The human use of and impact on the Gulf create a challenge for resiliency. Contamination from oil production, shipping, and agricultural runoff harm ecosystems. The Gulf experiences “dead zones” due to heavy nutrient loads from the Mississippi River fueling large algal blooms that deplete oxygen to levels insufficient to support most marine life. Human development, water management, and industrial activities contribute to loss of wetlands and land subsidence, the impacts of which are exacerbated by sea level rise and other environmental changes. These stressors are difficult to tackle individually; in the Gulf, they have complicated, cumulative, and uncertain effects. Gaps also remain in our knowledge on how multiple stressors interact and impact the health, security, and resilience of the Gulf's marine life, oceanic and estuarine ecosystems, coastal communities, and those across the United States who depend on the Gulf's ecosystem services.

Our 2020 theme centers on connecting human and environmental systems within the Gulf. The 2020 National Finals will coincide with the 10th anniversary of the Deepwater Horizon oil spill, an event that exemplifies the challenges in the Gulf but also provided an opportunity

for researchers, ocean science institutions, and numerous stakeholders to better understand regional dynamics and support recovery and resilience actions in the “living laboratory” of the Gulf. The 2020 National Finals will be hosted by the University of Southern Mississippi's School of Ocean Science and Engineering.

The theme encompasses physical oceanography in characterizing the Loop Current, as well as other coastal and deep water processes and how they influence the formation of coastal storms; chemistry, including the degradation of oil and evaluating risks of chemical dispersants; geology, in understanding offshore geology in oil and gas environments; biology and ecology, in the impact that oil production, pollution, and dead zones have on organisms and the science of ecosystem recovery as a result of environmental restoration projects; engineering and technology, in terms of ocean observing capabilities, preparing for rapid response to disasters, and finding solutions to mitigate spills and deal with other natural disasters and hazards; social science as related to the scientific, economic, and cultural importance of the Gulf; and policy around the Gulf of Mexico.

2020 Regional Bowls: February 1, 15, and 22 across the nation
2020 National Finals: April 16-19, Long Beach, Mississippi

Please visit www.NOSB.org for more information.