

**Oral Testimony – Dr. Stephan Howden**

**House Natural Resources Subcommittee on Water, Wildlife, and Fisheries**

**RE: Reauthorization of the Integrated Coastal and Ocean Observation System (ICOOS) Act**

Good morning Chair Hageman, Ranking Member Hoyle, and Members of the Subcommittee.

Thank you for the opportunity to speak in strong support of the reauthorization of the Integrated Coastal and Ocean Observation System Act—and thank you to Congressman Ezell, for your leadership in sponsoring this important bill.

My name is Dr. Stephan Howden. I'm a professor at the University of Southern Mississippi and director of the Hydrographic Science Research Center. For over 20 years, I've helped lead the Gulf of America Coastal Ocean Observing System, or GCOOS—one of the 11 regional components of IOOS.

IOOS is one of the most cost-effective, impactful federal programs supporting our ocean, coasts, and Great Lakes. It's a cross-sector, bipartisan success story. And reauthorizing it is not just smart policy—it's essential for public safety, national defense, economic growth, and resilience.

Let me bring this home with a few examples from my own work in Mississippi and across the Gulf:

In 2005, just eight months after we deployed our first ocean observing buoy off the coast of Mississippi, Hurricane Katrina hit. Our buoy was one of the only systems that survived—and kept sending out vital wind data in real time as other infrastructure failed. Those data weren't just useful—they were lifesaving.

Years later, during the Deepwater Horizon oil spill, it was surface current data from IOOS high-frequency radars that helped NOAA model the spill dispersal and direct the cleanup. Without that regional capability, response efforts would've been slower, costlier, and less effective.

In recent years, we've deployed ocean gliders—low-power, autonomous vessels that measure heat content in the upper ocean. Why? Because storm intensity is still the hardest part of hurricane forecasting, and the temperature of the ocean is a major factor driving its intensity. It has been shown that these gliders are cost-effective and capable of helping NOAA's National Hurricane Center improve intensity forecasts by up to 50%.

That means more accurate warnings, better evacuations, and billions in potential savings.

These are just a few examples of how this national program enables game-changing information for Americans in the Gulf, and how our region in turn supports our nation's economy and security.

IOOS works because of its structure. It combines strong federal coordination and certification from NOAA with the flexibility of regional public-private partnerships that leverage capacities across sectors and are attuned to state and local concerns. It ensures all data—whether from a buoy off the coast of Mississippi, a radar in Alaska, or a glider in the Caribbean—meets rigorous federal standards. And it shares those data, freely and publicly, with the National Weather Service, the Coast Guard, emergency managers, fishers, shippers, offshore energy operators, researchers, private industry, and more.

IOOS supports:

- Life-saving search and rescue operations through the U.S. Coast Guard
- Marine navigation that helps move \$1.6 trillion in foreign trade through U.S. ports
- Commercial and recreational fisheries and aquaculture that depend on real-time ocean conditions
- And the next generation of ocean innovators—trained through university partnerships like ours at The University of Southern Mississippi, where we work closely with NOAA, the Navy, and entrepreneurs across the private sector.

All of this—every buoy, radar station, glider, and data service and product—rests on the foundation laid by the Integrated Coastal and Ocean Observation System Act.

Reauthorizing this Act means preserving a system that delivers for communities across the country—rural and urban, inland and coastal. It means supporting smart and actionable, science-based decisions in the face of growing risks. And it means protecting one of the most trusted, nimble, and widely used sources of ocean data in the world.

IOOS is not just about science and data. It's about safety, sovereignty, and smart governance. Reauthorizing this critical law is a win for our nation.

Thank you—and I look forward to your questions.