US naval oceanographers demonstrating unmanned systems in Gulf of Mexico

Naval Oceanographic Office crew works together aboard USNS Maury in the Gulf of Mexico to recover a glider on May 15, 2017. Photo: US Navy

U.S. Naval Meteorology and Oceanography Commands (NAVMETOCCOM) spent the last several months preparing for an operational demonstration of unmanned systems which is taking place in the Gulf of Mexico between May 31 and June 1.

Operations and observations collected during the demonstration will be integrated on a unique common operational picture at the Combat Readiness Training Center-Battlefield Airmen Center in Gulfport.

"The Mississippi Gulf Coast is extremely suited to nearly all the mission types the Navy addresses," said Rear Adm. **Tim Gallaudet**, commander, NAVMETOCCOM and oceanographer of the Navy. *"When it came to choosing a place to host the first ever unmanned systems operational demonstration, the answer was easy-it was right in our backyard. Our coastline includes riverine, shallow and deep water, barrier islands, harbors and beaches that can be used to simulate missions."*

Led by Rear Adm. Gallaudet, the event is providing Naval Oceanography an opportunity to demonstrate existing unmanned systems capabilities, highlight local infrastructure that can be used for additional unmanned systems operations and explore collaborative opportunities between Navy, industry and academia in support of national defense.

To simulate Navy missions for the demonstration and test unmanned systems capabilities, Fleet mission areas such as humanitarian assistance/disaster relief (HA/DR); sea control; theater anti-submarine warfare; intelligence, surveillance and reconnaissance and more were planned.

HA/DR was a multi-command demonstration that combined near-shore data collection capabilities near Cat Island and Gulfport Harbor to identify hazards to navigation and provide clear transit and anchorages for incoming support vessels. Personnel deployed Iver 3s and REMUS 100s, which are unmanned systems that collect bathymetry and side scan sonar data. The data was then consolidated and processed to provide water depths, hazards to navigation and tactical recommendation products.

The HA/DR lead Lt. Cmdr. Jessica Garrett said, *"Natural disasters can drastically change the coastal landscape and infrastructure. The Mississippi Gulf Coast is definitely not a stranger to that. Deployed Naval Oceanography teams can quickly and efficiently provide environmental updates to the HA/DR commander, expediting relief efforts."*

Another exercise employed unmanned systems that communicated with each other to deliver the most accurate and up-to-date environmental assessments. Naval Oceanography tested the use of a littoral battlespace sensing mission van as a forward operating base (FOB) to maintain contact with multiple unmanned systems that were deployed from USNS Maury in the Gulf of Mexico. The two unmanned systems can collect bathymetry and communicate position back to the FOB.

COMNAVMETOCCOM Deputy Commander and Technical Director Dr. Bill Burnett said, *"To be able to share what we do right here at home and put all the knowledge gathered into a common operational picture is very exciting for us. Our community should know that there are people working hard every day in support of our nation's defense from right here at Stennis."*

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