



RCRV Project Update for UNOLS FIC

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Project Summary

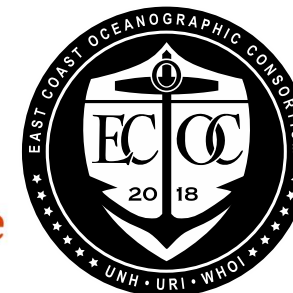
- NSF MREFC program to build three vessels for coastal oceanography centered along U.S. West, East, and Gulf Coasts
- Oregon State University Lead Institution overseeing Design → → Transition to Operations, and selected operator for west coast vessel, R/V *Taani*
- East Coast Oceanographic Consortium led by URI will operate Vessel 2, R/V *Narragansett Dawn*
- Gulf Caribbean Oceanographic Consortium led by USM and LUMCON will operate R/V *Gilbert R. Mason*
- Principal Contractor- Bollinger Shipyards L.L.C.
 - Assigned April 2021



2022 Shipyard Tour for FIC

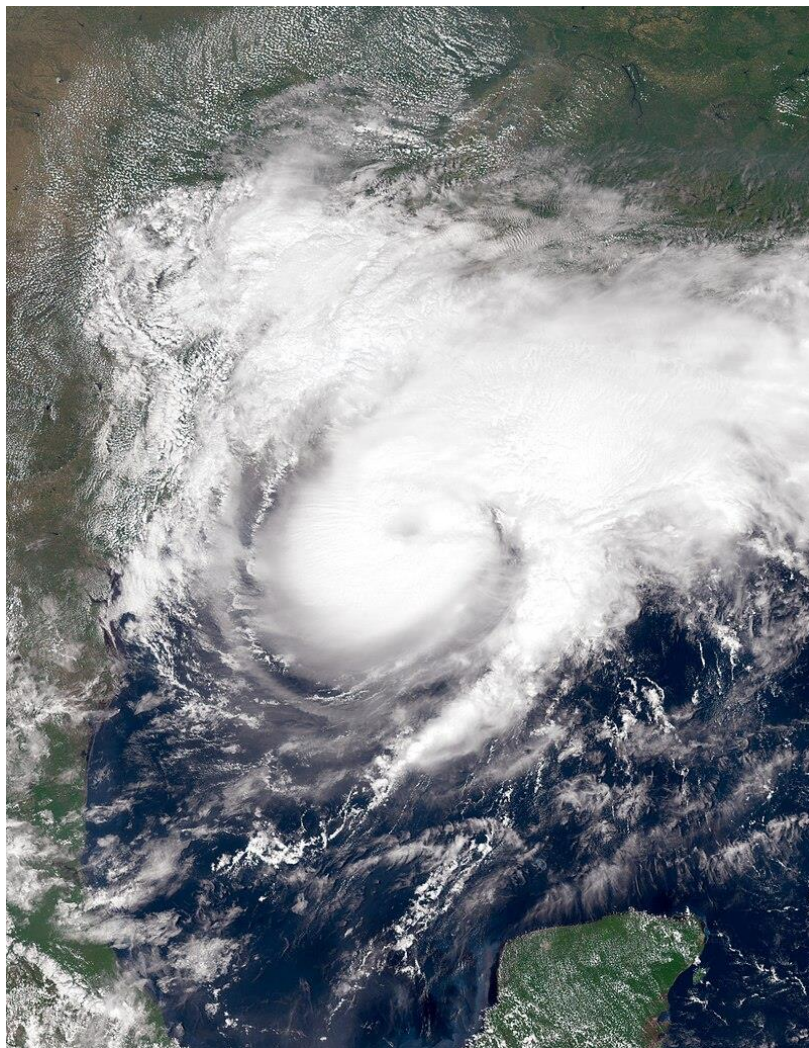


Oregon State
University





Hurricane Francine slams Gulf September 11



Category 2
Max wind 100 mph
10 in rainfall
Power outages

Not nearly as bad
as Ida.



Houma Shipyard Flooding



Damage Report

RV *Taani*

- Hull paint and metal gouged at waterline from impacting dock wall. Sheet pile dock wall only has 2-3' of freeboard normally. It appears the fenders rode over the top of the wall, allowing the hull to hit sheet pile.
- Assorted spaces with minor insulation damage due to small openings in deck or exterior bulkhead.
- Shrinkwrapped equipment covers blown off.

BHS Paint Tent: Fabric cover destroyed.

R/V Gilbert R. Mason supermodule inside.

No damage to other vessels but unknown labor impacts and new delays.



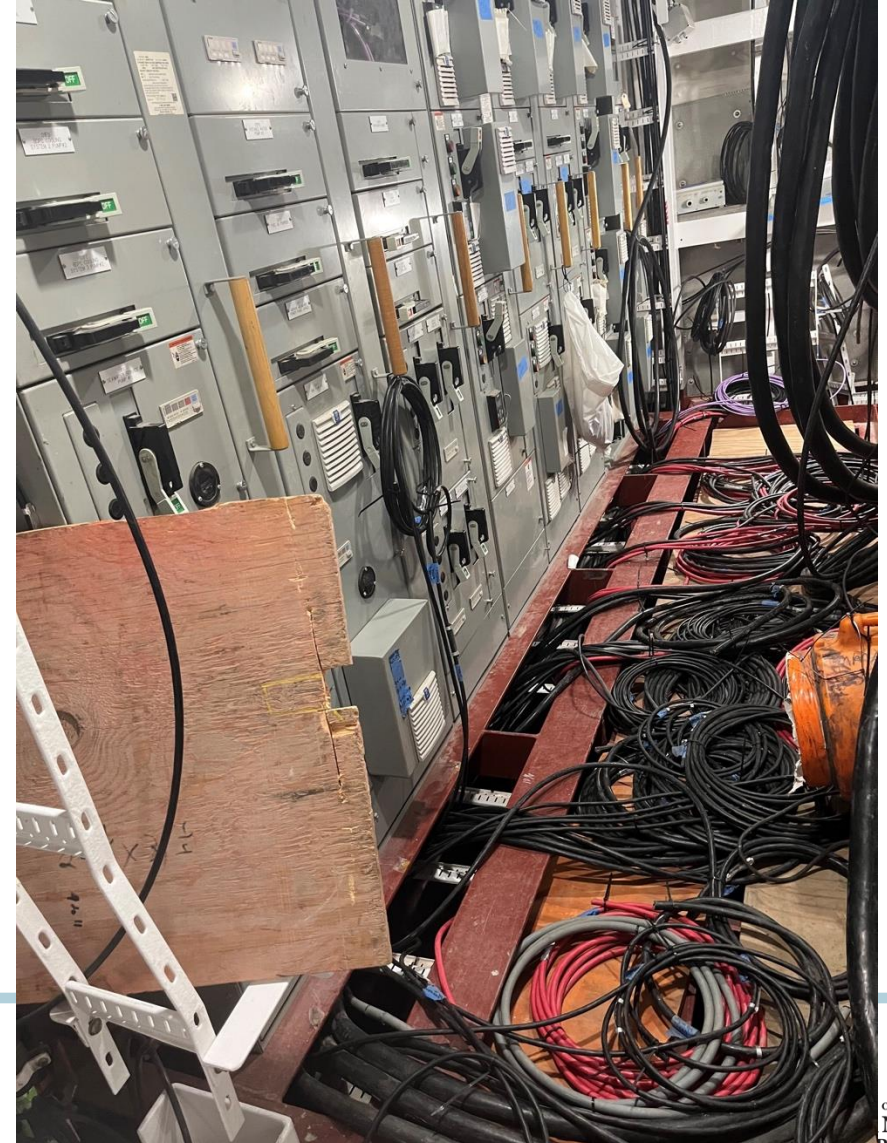
Vessel Updates

R/V *Taani*, Vessel 1, Hull 6096

- Construction 86% complete
- Launched June 2023
- Pulling **157 km** cable (electrical subcontractor), insulation, joiner work, pipe flushing, outfitting of ship's equipment and SME including main crane and A-frame
- Preparing for commissioning/shipyard testing



Electrical work has challenges





TAANI

R/V TAANI

July 29, 2024

R/V *Narragansett Dawn*

Hull 6097- Vessel 2

- 79% complete
- Aluminum Superstructure erected in March 2024
- Sonar flat and z-drives installed
- Outfitting ongoing

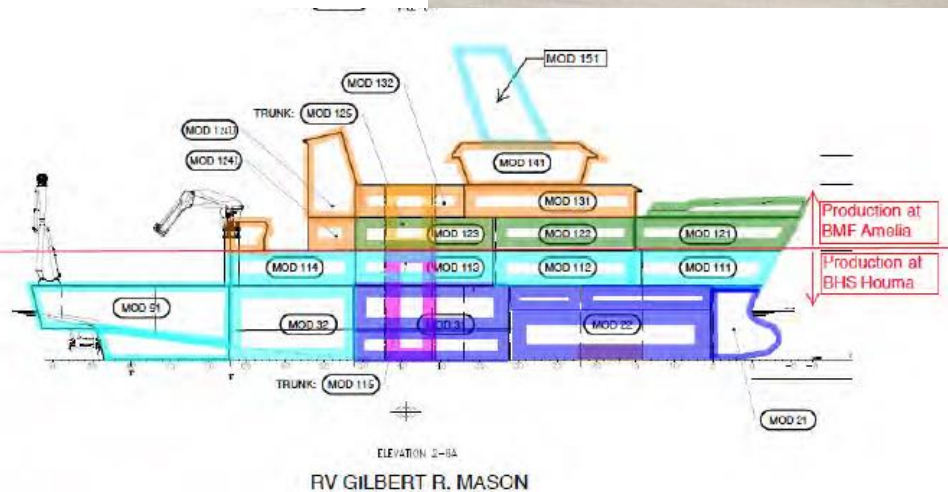
Launch scheduled for March 2025



Vessel Updates

Hull 6098 - Vessel 3- R/V *Gilbert R. Mason*

- 70% complete
- Steel supermodule moved to blast and paint on August 26, 2024.
- Aluminum superstructure completed and ready for move to Houma for erection



V3 supermod on transporter
V2 behind

DHC-25 27-5TON

R/V GILBERT R. MASON

June 18, 2024





Remaining Schedule - Taani

- Post-Launch Outfitting (Electrical completion and testing, other remaining ship and science equipment)
- Completion and acceptance of last major Phase IV procurements (e.g., Personnel Van, USBL)
- Commissioning/Shipyard Testing (7 stages including Dock trials and Builder's Sea trials)
- Crew Hiring, Orientation and Training (start 6 months prior to delivery)
- Dry Dock and Deficiency Closure
- **Delivery – BARE but OPERATIONAL BOAT**
- Post-Delivery Outfitting (~\$10M of small equipment and supply items, sensor installations, cyberinfrastructure, furnishing, entertainment system, etc.)
- Operations and Science Trials/Transit to Home Port/Ceremonies
- Warranty Haulout and NSF Inspection
- **Start of Operations-** (12 months after delivery)





Latest Schedule Projections

Vessel	Delivery Dates Publicized since Dec 2023	Delivery Dates New Project Estimates	Commence Operations	Final Project Complete
1	July 2025	February 2026	February 2027	
2	January 2026	August 2026	August 2027	
3	June 2026	January 2027	January 2028	
				March 2028

- 7 months added based on OSU’s estimates of shipyard performance and risk.
- NSF Panel review planned for late October.
- Impacts on Operating Institutions and start of transition to operations activities being addressed.

- Apollo ASP3 Underway $p\text{CO}_2$ System Sensor Trials Aboard the R/V *Sikuliaq* (July-October 2024)
- Undertaken by OSU graduate students Anna Hughes and Ian Black
- Trials of a new sensor, *Coriolix* integration, intercomparison with LDEO sensor, development of trials testing procedures and reporting
- Collaboration with Dave Munro, NOAA

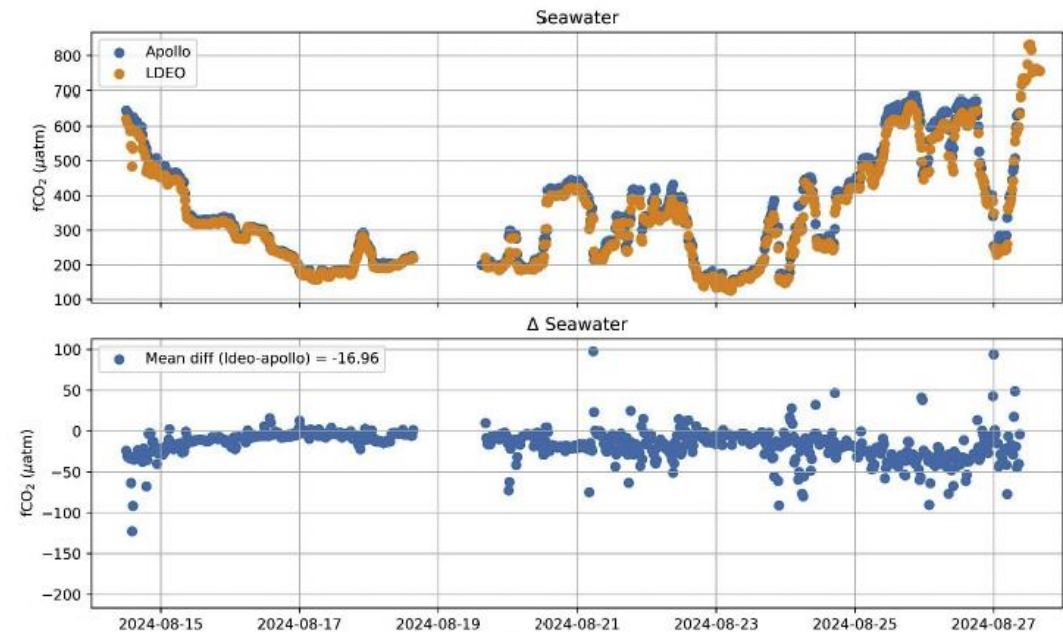


Figure 5. Seawater $f\text{CO}_2$ data from the Apollo (blue) and LDEO (orange) systems during the month of August (top), and the respective difference between the seawater measurements of the two systems ($\Delta f\text{CO}_2$) (bottom).