

# UNOLS RVOC Meeting

## NOAA Update, April 2024



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NOAA Office of Marine and Aviation Operations

Marine Advisor



Office of Marine and Aviation Operations

# OMAO Accomplishments

- **Aircraft Operations:**
  - Hurricane Operations -The NOAA Hurricane Hunters flew over 531 Hours for hurricane research and reconnaissance over 7 named storms
  - Atmospheric Rivers - Collected critical data in and around atmospheric rivers with the Gulfstream IV-SP research jet. The data is directly used by forecasters and water managers on the West Coast and in the central U.S.
- **Marine Operations:** NOAA Ship Ronald H. Brown completed the GO-SHIP project sailing from Suape, Brazil to the northerly waters of Reykjavik, Iceland. The ship sampled 150 stations along this cruise track collecting ocean heat, freshwater, carbon, oxygen, and nutrients measurements from the ocean's surface to the seafloor, sometimes reaching depths greater than 5,000 meters (3.1 miles).
- **Uncrewed Systems:** NOAA deployed the DriX, an Uncrewed Surface Vessel (USV,) in tandem with NOAA ships *Thomas Jefferson* and *Oscar Dyson* to increase the efficiency in gathering data to meet NOAA missions.
- **Ketchikan ribbon cutting:** Federal, tribal, state and local officials joined NOAA leadership on Aug. 21, 2023 to cut the ribbon on the agency's newly renovated port facility in Ketchikan, Alaska.
- **Class B Ship Award:** NOAA selected Thoma-Sea Marine Constructors, LLC to design and build two cutting-edge research vessels, with an option to purchase two more. The first two ships will be built in Houma, Louisiana, with expected delivery dates of 2027 and 2028.
- **C-130J Aircraft Award:** On September 21, 2023 NOAA awarded a pre-production contract to Lockheed Martin to reserve slots in the production line for two C-130J Hurricane Hunter aircraft



AGREEMENT  
Of  
National Oceanic and Atmospheric Administration (NOAA)  
Office of Marine and Aviation Operations (OMAO)

And

National Science Foundation (NSF)  
Directorate of Geosciences (GEO)  
Division of Ocean Sciences (OCE)

For  
Exchange of ship time within the Federal Oceanographic Fleet.

**NEW!**

# NOAA and NSF Barter Agreement

## I. Scope

This Agreement describes a no-cost exchange of ship time using a barter point system of equivalent vessel class and/or like-kind services, between the United States Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), Office of Marine and Aviation Operations (OMAO) and National Science Foundation (NSF) Division of Ocean Sciences. This Agreement is part of a cooperative effort between OMAO and NSF to find and foster efficiencies in the scheduling of vessels of the Federal Oceanographic Fleet and to provide precedent for future exchanges.

## II. Authority

The follow programmatic authorities allow for both parties to enter into this agreement for ship time to support NOAA missions and NSF ocean research:

The 33 U.S.C. § 891f, which authorizes the Secretary of Commerce to use excess capacity of U.S. Academic Research Fleet (ARF)/UNOLS vessels where appropriate and may enter into a memorandum of agreement with the operators of these vessels to carry out this requirement.

NSF is authorized to participate in this agreement by the National Science Foundation Act of 1950, amended, 42 U.S.C. 1861-75, and specifically under section 11(c) of that Act (42 U.S.C. § 1870(c)). NOAA is authorized to participate in this agreement by Section 109 of the Consolidated Appropriations Act, 2024, Pub. L. No. 118-42, Div. C., which authorizes NOAA to use on a non-reimbursable basis land, services, equipment, personnel, and facilities provide by other Federal agencies to carry out its responsibilities.

## III. Responsibilities

Both parties agree to/ that:



# Mariner Staffing Initiatives

## ***Rotations/Staffing Model:***

- Enhanced shore leave went live 10/1
- 6 Ships rotational in FY24.
- 6 more ships rotational in FY25.
- Last 5 ships rotational in FY26.

## ***Roster/Tools:***

- New vacancy dashboard
- FY24 Staffing Coordination tool in use
- Looking into new Schedule/Crew Management Software

## ***Legislation:***

- **FY23 NDAA:** Directed NOAA to prescribe shore leave regulations specific to NOAA professional mariners and authorized NOAA to pay difference in leave accrued for mariners who are temporarily promoted.
- Final rule published July 28, implemented October 1 (RIN 0648-BM21)

## ***Recruiting/Onboarding:***

- Finalizing standard hiring process/timeline
- “Day in the Life” videos
- Implementing process improvements ( security processing, etc).

## ***Retention:***

- FY24 retention bonuses approved.
- Shoreside safety climate survey working group
- Researching how to change mariner duty stations to permanent home of record.
- Mariner Pay Study
- GAO audit 106958 Recruitment and Retention of NOAA Professional Mariners



# Oceanographer and Discoverer

- Construction continues on both vessels at full pace, delays to schedule being assessed.
- *Oceanographer* is scheduled to be launched mid/end of summer 2024, construction will then reach final stages and then transition into trials. Delivery Spring 2025.
- Similarly, *Discoverer* is scheduled to be launched winter of 2024, construction will then reach final stages and then transition into trials. Delivery Fall 2025.



# Ship Construction Progress Update

## *Oceanographer*

16 of 18 modules erected

2 of 18 modules ready for erection

Ship is Full Length

95% Structurally erected



## *Discoverer*

11 of 18 modules erected

2 of 18 modules under erection

69% Structurally erected



# *Charting and Mapping Vessels (Class B)*



- Contract Awarded to Thoma-Sea Marine Constructors LLC, in Houma, Louisiana on June 23rd, 2023.
  - Period of Performance started 11 Jul 2023
- All Desirable Features in contract will be provided; highlights:
  - Enclosed mission hangar for four CSL Crewed Survey Launches/Uncrewed Maritime Systems
  - Flexible launch and retrieval system
  - 30 single staterooms
- Ship 1 delivery - Jan 2027
- Ship 2 delivery - Oct 2027



# ***Fisheries Medium Endurance (Class C)***

- Primary Mission: Assessment and Management of Living Marine Resources
  - Trawling capabilities - nearshore/offshore/shallow draft/limited range, Deploy and recover small crafts/free-floating instruments/and or UAS.
- Intended to be a NOAA led acquisition.
- Analysis of Alternatives complete end of 2023
- Government Indicative Design to start early April 2024.
- Construction for the first Class C estimated for 2033 with pre-award/design work starting beforehand.
- Market research on Net Zero Emissions requirement conducted through Request for Information.



# Mid Life Repair: Ronald H. Brown

- Arrived at Bollinger Shipyard 2 June 2023, drydocked 19 June 2023
- Work is intended to extend service life an additional 15-18 years
- Early April, translation of ship from land to DD, refloat yesterday!
- 20AUG-ship re-delivered.

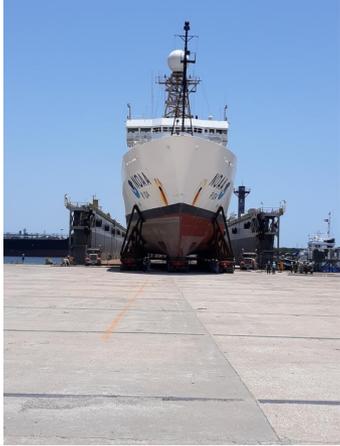


# Major Mid-Life Elements

- **Repowering of the Vessel:** CAT C-32s (Qty 2) and 3516s (Qty 2), EPA Tier 3
- **Siemens Propulsion Repower:** AC Motors, Alternators, Switchboards, Switchgear, Drives, Transformers, Propulsion Controls, etc.
- **Bow Thruster Overhaul:** changing from DC to AC motors
- **MARPOL Upgrades:** OWS and Sewage
- **Accommodation Upgrades:** Renewal of Lighting, Overheads, Hot Water Heaters, HVAC, Dial Telephone System, PA System.
- **Piping Renewals:** Ballast System, Fire Main, Drains, Tank Vents
- **Structural Upgrades:** decking renewals, tank tops, hull plating (as required)
- **Fresh Water Generation Upgrades:** Renew RO units and evaporator
- **Science Upgrades:** Replace EM122 system with an EM124, Install a new SBP29 Transmit Array (6-degree) integrate this capability into the overall EM124 system. Overhaul CTD winch, upgrading level wind systems. New Lab furniture
- **Nav System Upgrades:** Renew radars, depth sounder, speed log, Gyro Systems



# Photos



Translation to land June 2023



Main Motor Removal July 2023



SSDG Removal July 2023



Translation Back to Drydock  
April 2024

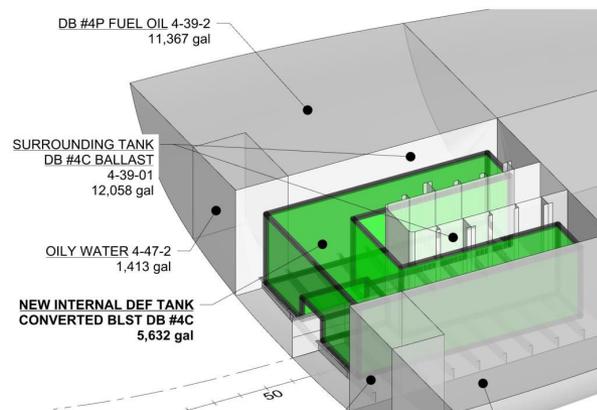


Refloated  
April 2024



# FSV Midlife Planning

- NOAA Ship Oscar Dyson will be first in April 2026 with contract award Oct 2024
- Project goals
  - To extend service life 20 years
  - Reduce carbon footprint
    - Tier 4 Feasibility proceeding with detail design for Diesel Exhaust Fluid tank location
- Increase reliability by replacing obsolete/unsupportable systems
- Improve habitability to allow for additional privacy



# Polar Modifications

OMAO is working on developing ship specific polar water ops manuals to plan for 4 risk areas (sea ice, low temps, ice accretion, and remoteness) beginning with Oscar Dyson

- Polar liferafts (that don't get frozen to the hull)
- Heated seawater intakes to reduce risk of slush restricting flow of cooling water to the gens
- Heat tracing on topside firemain
- Block heater and cover for the Fast Rescue Boat
- Anti Roll tank heaters
- Ballast water treatment system



# 2024 Ongoing Operations

- DriX on *Thomas Jefferson* planned ~45 DAS of operations (1,346 linear nautical miles surveyed so far)
- Fall 2024: Multi-DriX shore-based mapping for Gulf of ME wind energy priority areas (~30 days, w UNH, OECI)
- Summer 2024; Support glider ops in CA, AK
  - One staff and one detailee dedicated to glider ops
- Fall 2024: Start to bring hurricane sUAS 'in house'
  - One hiring action underway



# OMAO Facility Projects

## *Northeast and Mid Atlantic:*

- **NAVSTA Newport:** Contract awarded to SKANSKA in DEC 2023. Construction to begin APR 2024. Ground Breaking Ceremony 06 MAY 2024

## *Southeast and Gulf Coast:*

- **North Charleston, SC:** NOAA awarded \$59.8M to Manson Construction Company to renovate the agency's pier. Ground Breaking Ceremony ~30 JULY. Expected completion is 2026.
- **Gulfport, MS:** Move in pushed to JUL 2024. Piers available in AUG 2024, complete in late 2024.

## *Northwest, Alaska, and Pacific:*

- **Ketchikan, AK:** Warehouse renovation complete. Working on punch list items. Ribbon cutting was Aug 2023.
- **West Coast:** BCA Study to evaluate locations for NOAA's Marine Operations Center – Pacific completed July 2023. Analysis did not produce conclusive result; NOAA is working to broaden scope in order to provide a conclusive result.
- **Ford Island, Hawaii:** Navy Pier F9 & F10 used by NOAA require upgrades to support new vessels' power, water, and sewer requirements and NOAA is looking at the ability of these two piers supporting up to (4) NOAA Vessels in the future. An AoA study commenced FY23 to determine best path forward.



# Thank You!



Office of Marine and Aviation Operations

# Class C Schedule

- Schedule (No delays at the moment; funding dependent)
  - Release RFP - Q3 FY25 (funding dependent)
  - FY26 Phase I Preliminary/Contract Design Award
  - FY28 Phase II Detail Design and Construction Award
- Performance Activities
  - Concept Design Iteration 1: Apr - Oct 2024
  - Concept Design Iteration 2: Oct 2024 - Feb 2025 (initial design dependent)
  - Request For Information (RFI) - Bubble Sweepdown and Computational fluid dynamic (CFD) analysis methods.



# Continuing Advancements in Uncrewed Systems

## UMS Services (aka 'data as a service'):

- Dedicated funding lines for contracts
- 9 projects selected for hurricane research, habitat mapping and fishery surveys in offshore wind areas, weather observations, and hydrographic surveys.
- 7 of 9 projects awarded; remaining 2 projects scheduled for Q1 FY24 award.

## UxS Transition and Development Projects

- 9 high-priority UxS transition projects advancing -two completed transition work in FY23; ready for routine operations. Others tracking to become operational FY24-26 (contingent on funding).
  - The \$2.5M DriX operationalized for hydrographic surveys. FY24 plans include operational deployment on NOAA Ship *Thomas Jefferson* and delivery of second DriX.
- OMAO and OAR funding \$6.4M (\$1.4M OAR, \$4.8M OMAO) for 12 FY23-24 projects covering UAS and UMS Research, Development, Testing and Evaluation..
- Five new University relationships (MOUs) developed (totaling \$1.5M).

## UxS Hurricane Deployments

- 12 Saildrones contracted for 2023 season. 156 hours of in-storm observations as of 9/27.
- NHC referred to Saildrone data 7 times for Hurricane Lee.
- Successful testing of the ALTIUS and Blackswift Aerial Launched Drones in Hurricane Tammy.



# Where are we with our ship scheduling process?

- Fleet Working Group
- Five-year Fleet Allocation Plan
- Mitigation for Midlife Repair Period and End of Service Life within the fleet
- VPASS Changes
- Ship Time Use Agreement with the National Science Foundation



# Major Work Items

- **Hull Structure**
  - DEF Tank Installation, Wet Lab Structural Mods
  - Options: Replace Mast, Install Side Sampling Station Hatch
- **Propulsion**
  - Vessel Repower, Shaft Replacement, Prop Replacement
- **Electrical**
  - Conversion to 480V, Automated Ext Deck Lighting
- **Mission**
  - Replace Radars, Replace Fire Detection Systems, Replace Rapp Pentagon
- **Auxiliaries**
  - Replace Bow Crane, Reconfig Aft Steering



***PIAD Aircraft Acquisition Team update:***

- Mr Gerald “Jerry” Foreman - Deputy Director for Aircraft Acquisition

***G550 #1:***

- Design complete, modifications on-going, negotiated settlement for all engineering costs and modifications complete.
- Contract delivery date May 2024- working towards January 2025 delivery; instrument installation and calibration at Aircraft Operations Center to follow; Initial Operating Capability before Hurricane Season 2025

***G550 #2:***

- IRA provides initial \$100M funding with \$25M requested in FY24 and FY25 budgets for completion.
- DOC Milestone review in progress
- Contractor cost proposal in negotiation

***King Air:***

- N65RF was delivered and accepted in January of 2024, increasing our fleet of King Air aircraft to 3

***C-130J:***

- NOAA awarded two aircraft on pre-production contract to Lockheed Martin. Reserves two tail numbers.
- Request for proposal for up to four fully modified C-130J posted 8 Dec with responses due by late April 2024
- Contract award expected June 2024.

