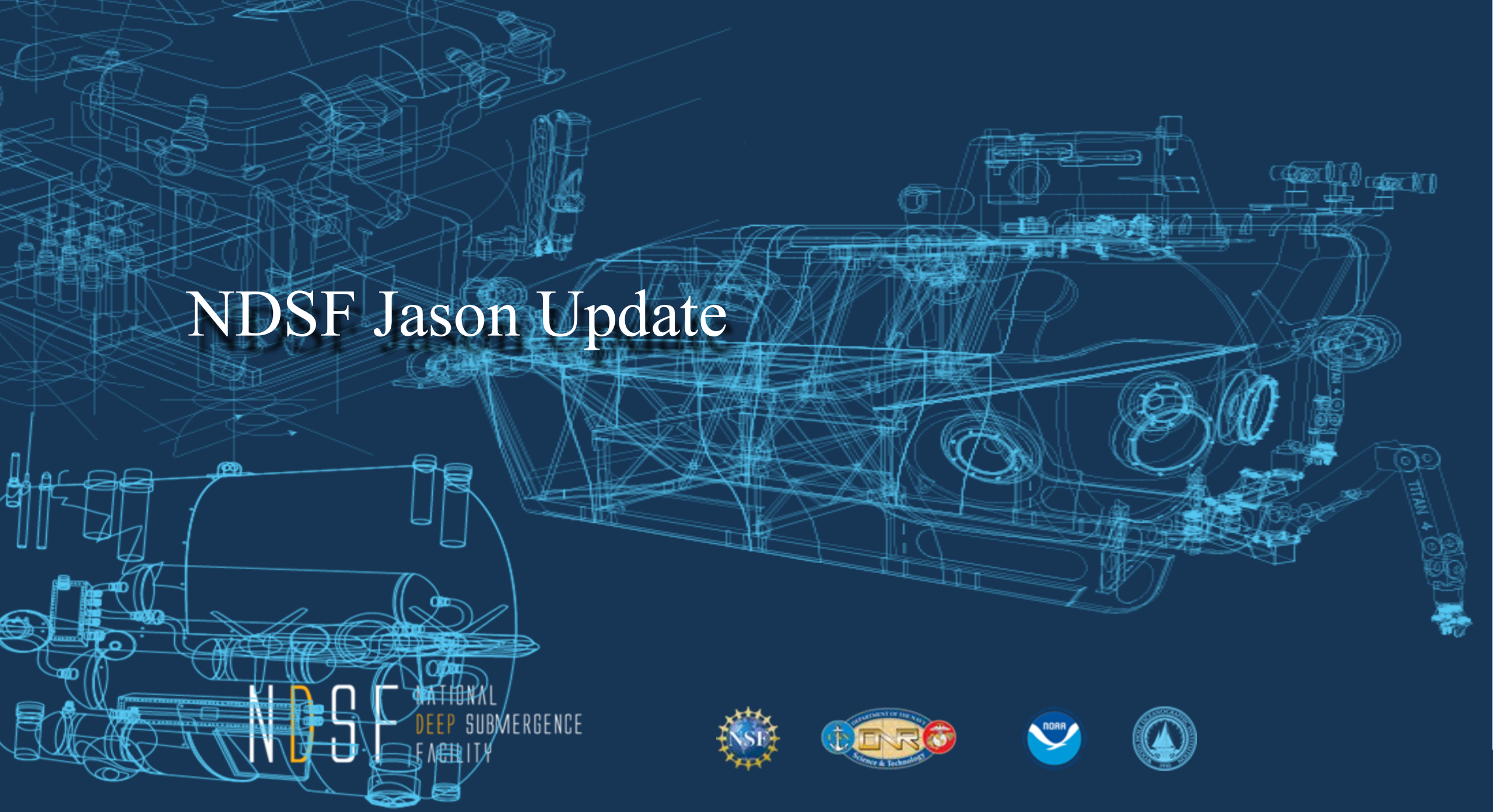
NDSF Jason Update



JASON OPS SUMMARY

2024

122 Dives
8 Cruises
179 Op Days
951 Hours in water

LOCATIONS

- EPR
- GoM
- Axial
- Challenger Deep

PI's

- K. Kelley
- D. Di Iorio
- W. Chadwick
- M. Zumberge
- G. Wheat
- D. Kelley
- R. Stern
- K. Lloyd

2025

4 Cruises
105 Op Days

LOCATIONS

- Aloha Cable Obs.
- Lucky Strike
- Axial
- CA Seabed

PI's

- J. Potemra
- T. Frank
- D. Kelley
- K. Dorgan

JASON PERSONNEL UPDATE

SUPPORT PERSONNEL

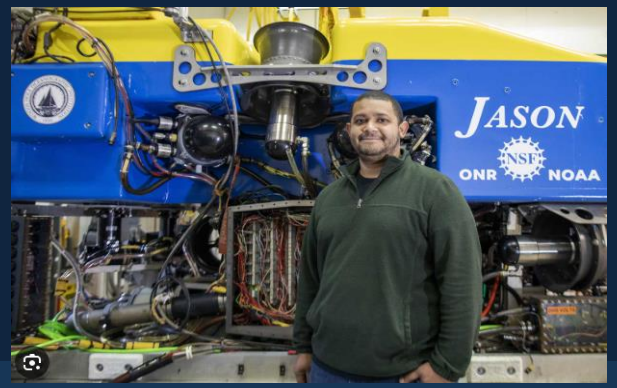
Tito Collasius – *Expedition Leader/Mechanical [Planned retirement July 2025]*
Fred Denton – *Mechanical Engineer*
Adam Ensminger – *Electrical Engineer*
Mario Fernandez – *Expedition Leader/Mechanical Engineer*
Chris Hadalton – *Electrical Engineer*
Tim Joyce – *Software Engineer*
Chris Judge – *Electrical/Expedition Leader*
Kevin Kavanagh – *Logistics*
Ben Pietro – *Logistics*
Akel Kevis-Sterling – *Expedition Leader*
Scotty McCue – *Data Engineer*
Jeremy Paulus – *Mechanical Engineer*
James Pelowski – *Data Engineer*
Hugh Popenoe – *Electrical Engineer*
Amanda Sutherland – *Mechanical Engineer/Data*
Ben Tradd – *Expedition Leader/Mechanical*
Tom Trudel – *Mechanical Engineer*
Isaac Vandor – *Software Engineer*
Korey Verhein – *Electrical Engineer*
Ronnie Whims – *Mechanic*

MROV Support

- Jason Engineering and technical personnel supporting mROV project

Jason Management

- Matt Heintz retired during Q1 of 2025
- Chris Taylor has taken the role as interim Jason Group leader



NDSF NATIONAL DEEP SUBMERGENCE FACILITY

JASON UPDATES

- Major Maintenance Period winter 24/25 completed for RAPP Winch and NPC Crane
  - Jason and Vans will have several weeks of routine maintenance at WHOI in June/July
- UFO, pelagic pumps, and speed controller bottle are being serviced (PCAR '24)
- Sealog customization added to pre-cruise planning has been accomplished (PCAR '23)
  - Sealog Sandbox launching at end of month
- Updates for the pre-cruise planning process:
  - The cruise specific Expedition Leader will be clearly identified (PCAR '24)
  - Map requirements – improved resources and pre-cruise checklist visibility
  - Reviewing improved comms w/PI's on operating weather window dependencies (PCAR '24)
- Consideration to advancing mobilization activities especially in cases where NDSF relies on support vessel infrastructure (lessons from RV Sikuliaq cable testing difficulties)

WINTER MAINTENANCE

RAPP WINCH

- Winch brake overhauled
  - New hangers
  - Replaced hyd cylinder on regular PM cycle
  - Re-plumbed hyd circuit to address root cause of brake failure on Chadwick (PCAR '24)
- Routine inspection of main gearbox, tracking wear
- Replaced a main motor bearing

Effer Single-Body Crane

- Currently undergoing detailed cylinder evaluation and full seal replacement (PCAR '24)

WINTER MAINTENANCE

NPC Two-Body Crane

- Fully rebuilt docking head
  - Upgraded latch cylinders to SS
  - Replace slack tensioner air motor
- New hoses, pedestal sheave bearings
- Detailed painting/preservation, including slew drives

LAUNCH AND RECOVERY SYSTEM (LARS)

- Utilizing WHOI NQSF structural flooring, performed RAPP Winch/NPC crane tested after maintenance
  - Full load lift and brake hold check
  - Rolling drum tests to check brake drag
- Tested LARS on May 2025 Frank mobe dip test

WINTER MAINTENANCE

WHOI NQSF Facility

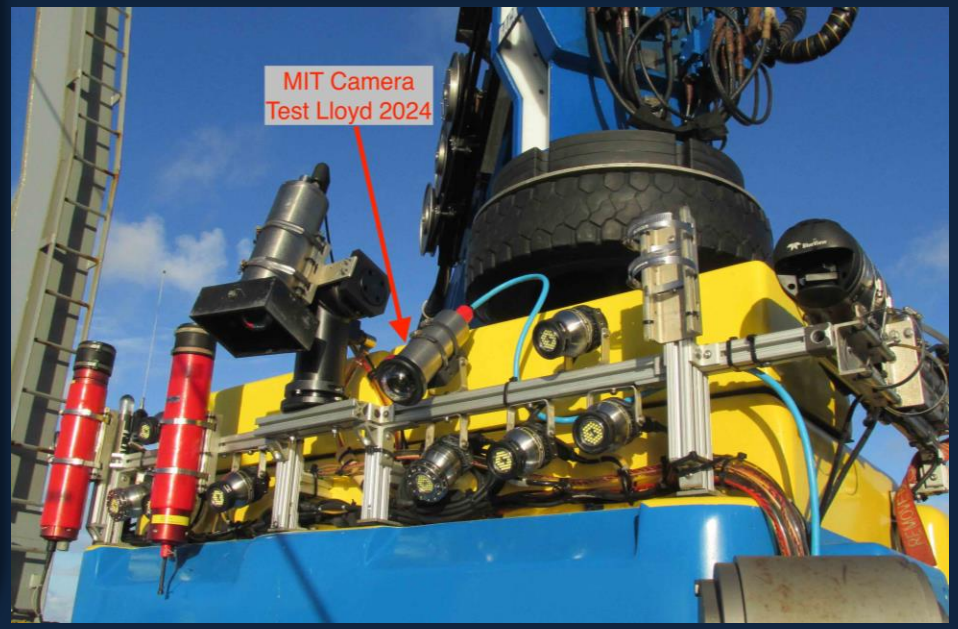
Fixed Focus Camera Status

Possible camera selection determined

- **Marine Imaging Technologies 24MP Fixed Focus**
  - 24MP Fixed Focus
  - Vehicle powered
  - Ethernet comms
  - Live view
  - 6500m rated
  - Full resolution images captured internally or with topside software
  - Option for battery powered autonomous operation
  - Small form factor housing
    - 4 in wide x 11 in long

Initial test on Dec 2024 Lloyd cruise

- Test inconclusive, suspect cabling issue
- Suspect cabling issue, manifested as vehicle telemetry issue
- Restricted troubleshooting time during cruise



Future Testing and Purchase

- Recent successful integration of two gigabit ethernet video cameras from BBC proves system compatibility
- With proven telemetry, scheduling another test on Jason at WHOI in June/July, ideally followed with a cruise demo on an engineering dive this summer

2025 POTEMRA OPS

- Multiple technical issues greatly impacted this cruise with no dives completed.
- What started as a mechanical termination installation issue led to the discovery of distributed core damage in the ships armored cable, difficulty in obtaining conclusive electrical measurements, and power system equipment failures.
- After successful troubleshooting and mitigation, adverse weather conditions prevented ROV operations.

LESSONS LEARNED

- Finding physical problems with the armored cable power conductors leads to increased scrutiny of all related system components, which requires time/resources. This has been the case almost every time a cable core issue has been discovered (fiber or electrical). The addition of problems with other gear in the same subsystem compounds the situation.

- Modified the cable electrical testing procedure to allow the use of different test equipment to attempt to more quickly confirm suspect measurements.

Samples of the cable core have been sent to the manufacturer for analysis