NDSF Operator’s Report
NDSF Vehicle Operations Summary
3 Cruises
- East Pacific Rise (Dec/Jan 2019/2020)
- Gulf of Mexico (Feb 2020)
- Gulf of Mexico/Eastern Seaboard (Feb/Mar 2020)

85 Operating Days
26 Sylvan/Mullineaux/Fornari
- Microbiology - Superb cruise with concurrent Sentry/Alvin Ops

13 McClain
- Biology - Excellent cruise although two days lost to fog in-port resulting in no engineering dive time – all remaining dives to science

22 Young
- Biology - Excellent cruise overcoming many weather and clearance challenges

27 Dives
12 Sylvan (2,500m)
6 McClain (2000m)
9 Young (380m – 3300m)

204 Hours Submerged
154 Hours on Bottom
5.43 Hours Average Bottom Time per Dive
Alvin Highlights

Overhaul Commenced in March 2020
Upgrades To Include:

Modified Frame
- Supports new syntactic foam designs
- Streamlines aft end of vehicle

New VB Seawater Pump
- Hydraulically activated
- Easily maintained – ease of spare installation
- 10 lbs/min @ 6,500 meter

New MB and VB Ballast Spheres
- Enables 500 lb payload

Submersible Imaging System
- 4K UHD Video Integration
- Improved imaging handling and viewing

Data System Upgrades
- Final Sea-log Integration
- Improved post dive data product and access

Temperature Instrument Suite
- Increase accuracy and range
- Replacement to ICL data interface
JASON Operations Summary

- Four cruises completed in 2020, 5th cruise underway now
- Seewald/Lang/Rogers: Carbon at Cayman & Cayman Deep (pcar)
  - Atlantis, 2-body, 24 ops
  - 11 dives, 8 days in water
- Schmidt Cascadia GPS-A & Jason engineering (pcar)
  - Thompson, Single body
  - 3 dives 2-1/4 days in water, 1144 m
- Kelley RCA (not reviewing pcar)
  - Thompson, Single body, 24 hour ops, 2 legs
  - 44 dives 10-1/2 days in water 2904 m
- Chadwick/Nooner Deformation at Axial (pcar)
  - Thompson, Single body, 24 hour ops
  - 5 dive, 8-1/4 days in water, 1819 m
- Miksis-Olds ADEON added (underway now)
  - Neil Armstrong, single body
- Cruises deferred due to COVID-19, Beinart & Gartman- deferred Scmidit/Engineering- moved to July 2020
JASON Highlights

- New Control Vans received great feedback
- New 4 k camera interface improved
- Sentry Kongsberg EM 2040 tested successfully on Jason (was to be used on now deferred Gartman)
- Sea-log being used extensively, mostly positive feedback
  - Recognize concerns and developing transition from VV to Sealog pcar 2020
Sentry Operations Summary

- **51 operating days**
- **2 Cruises Completed**
  - 2020 Chadwick (Axial)
  - 2020 Young
- **10 dives**
- **Total survey time:** 98 hrs
- **Total Survey coverage:** 309 km
- **Vessels:** R/V Thompson & R/V Endeavor
- **COVID-19 Impacts:**
  - 3 cruises canceled (Beinart/Resing/Boetcher)
  - Over 130 operating days lost
  - 1 month delay in return of system from Fiji
  - Significant logistics planning to accomplish cruises
Sentry Operation Highlights

- **11 Dives** on EPR extending high resolution survey.
- Sylvan cruise first science cruise relying on new Kongsberg MB. *Kongsberg system operated very well.*
- One dive extended on Sylvan cruise following a **successful joint-ops with Alvin**.
- Remote operations and integration of MBARI TRN software and hardware.
- Two cruises completed through pandemic.