



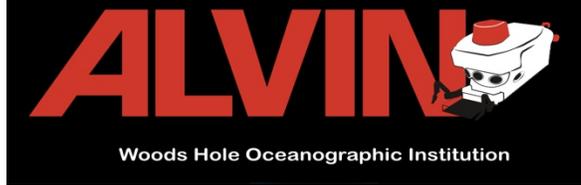
NDSF Operator's Report

NDSF Vehicle Operations Summary

NDSF NATIONAL
DEEP SUBMERGENCE
FACILITY



Alvin Operations Summary



4 cruises (1 upcoming Dec/Jan)

- CA Coast, East Pacific Rise
- Station M
- California Coast
- East Pacific Rise

85 operating days

34 Sylvan/Engineering

- *Microbiology*

15 Drazen

- *Biology*

19 Hansel/Engineering

- *Biogeochemistry*

17 Sylvan/Mullineaux/Fornari

- *Biology, mapping*

29 dives (so far)

17 Sylvan (1,371 – 3,242 m)

4 Drazen (4,119 – 4,125 m)

8 Hansel (234 – 1,807 m)

Sylvan (~ 2,500 m)

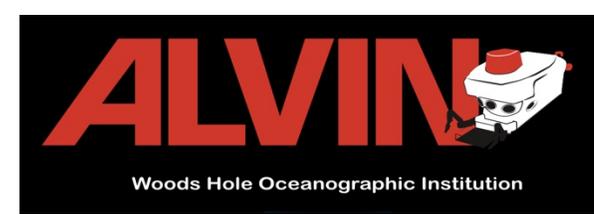


208 hours submerged

144 hours on bottom

4.97 hours average bottom time per dive

Alvin Highlights



- Live broadcasts during *Alvin* operations for BBC Blue Planet Live
- Characterization of Davidson Seamount 'Octopus Garden' site
- 2 new Chief Scientists (Sylvan and Drazen) in spring; Sylvan will follow on as Chief Scientist for cruise in December
- October engineering cruise successfully tested JAMSTEC acoustic image transfer system and 4K camera candidates
- New Super Oxide sampler successfully tested during Hansel portion of October cruise



JASON Operations Summary

- 7 cruises on 5 ships
- Saffronz: E. Solomon 15 dives 148 hours 10 min
- SAB Deepwater: Cordez/Demopoulos 11 dives 150 hours 27 min
- Slow Life: B. Orcutt 4 dives 100 hours 38 min
- Regional Cabled Array : Deb Kelley 57 dives in 32 days
- Alaska Amphibious Community Seismic Experiment: S. Webb 18 dives 44 hours 54 min
- Cascadia Megathrust using Real Time Seafloor Geodetic data: Collins 5 dives 39 hours 9 min
- Pythias Oasis: Deb Kelley 6 dives 39 hours 43 min



| | | | |
|----------------------|------|----------------------|---------|
| dive count | 116 | Total bottom time | 766:07 |
| | | Total water time | 1008:00 |
| shallowest max depth | 80.5 | Min time length dive | 0:05 |
| deepest max depth | 3492 | Max time length dive | 87:18 |
| | | | |
| | | Avg duration bottom | 6:19 |
| | | Avg duration water | 8:19 |

JASON Highlights

- New Control Vans received great feedback
- Zero cable torque problems since “Science ROV Cable Torque Workshop” and Engineering Cruise established single-body operation procedure
- New 4k camera interface improved
- Sentry Kongsberg EM 2040 tested successfully on Jason (need funds if Jason will provide)



Sentry Operations Summary

85 operating days

4 Cruises

- *Marion Rise*
- *Pythias Oasis*
- *Engineering 2019*
- *Valentine 2019*

24 dives

Total survey time: 368 hrs

Average dive time: 15 hrs

1030 km of survey

Vessels used: *Thompson / Atlantis*



Photo by Mitch Ellend – University of Washington – Deb Kelley 2019 Cruise - Newport OR.

Sentry Operation Highlights

- WaveGlider Operations without the need for extra bunk space.
- 24 dives without mission ending failure
- Concurrent Operations with ROV – Jason (Dave Valentine 2019)
- Concurrent Operations with ASV – WaveGlider (Henry Dick 2019)
- Concurrent Operations with Dredge (Henry Dick 2019)
- Engineering Cruise with 4 engineering dives
- Shallow water dives off Santa Barbara

