

# Summary of Post-Cruise Debriefs

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Sentry (Scott White – U South Carolina)

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**NDSF** NATIONAL  
DEEP SUBMERGENCE  
FACILITY



# Summary of 2019-2020 *Jason* Debriefs

Seewald/Lang/Rogers, Cayman (Jason) Jan-Feb 2020

# *Jason* Debrief – Overview

- Overall successful cruise with science objectives met
- Big challenge caused by mold issue with stored van prior to cruise
- 17 days on site with 9 ~30 hour dives
- PreCruise Communication, MOB, Data Handoff, and DeMOB all went well.
- Diverse technical issues made this a challenging cruise for the *Jason* team, however communicative Expedition Leader and responsive team made it scientifically successful

# Jason Debrief – Operational Issues and Equipment

- Range of technical problems, but all seemed unrelated.
  - PIs noted excellent communication with Jason Team and rapid fixes
  - PIs also question whether it was bad luck or lacking maintenance
- Delay due to AC unit going out on Van impacted activities, however Science Aims were met
- Not great navigation with USBL due to water depth
- 4k video was ‘Heartbreakingly Georgous’ but some additional training would inform what is an acceptable amount of 4k to shoot
- Rogers group (NASA funded) experienced technical issues with user supplied equipment and JASON team helped
- ICLs were not 100% successful and a backup was needed and used on one dive.

# *Jason* –Recommendations and Comments from users

- Recommendations & Comments
  - Gender Balance of Jason Team was lopsided
  - New LARS system may expand the weather window of operations (its expensive to not have the vehicle in the water)
  - Looping 4k recording would allow retroactive capture of events (i.e. volcano erupting)
  - Shift to optical communication away from ICLs
  - Guide to the many directories in data provided
- Comments
  - EL was excellent at communication during problems and managing safety and fixes
  - Both SeaLog and Control Van worked really well

# Summary of 2019-2020 *Sentry* Debriefs

Sylvan/Fornari/Mullineaux, EPR (Alvin/Sentry) Dec 2019 – Jan 2020

# *Sentry* Debrief Highlights – Sensors and Tech

- Conducted Alvin and Sentry concurrent operations on one dive at a standoff distance that enabled both systems to be monitored.
- If the wave glider were available the concurrent ops would have been conducted sooner and likely more often.

# *Sentry* Debrief Highlights – Team

- Preparation and execution by team allowed the cruise to go well with multi-disciplinary goals and combined objectives.
- Laura Lindsay noted as extra helpful with data processing to identify off-axis sulfide chimney structures.



# *Sentry* Pre-cruise Recommendations

- none

# *Sentry* Ops Recommendations

- Waveglider would be helpful to conduct concurrent ops

# *Sentry* Data Recommendations

- No issues reported

# Summary of 2019-2020 *Alvin* Debriefs

Hansel, SOLARIS (Alvin) Oct 2019

Sylvan/Fornari/Mullineaux, EPR (Alvin/Sentry) Dec 2019 – Jan 2020

McClain, Woodfall (Alvin) Feb 2020

Young, Larvae (Alvin) Feb-Mar 2020

# Alvin Debrief Highlights

- Despite highly complex ops that included multiple-PIs and complicated dives, the expedition was successful due to careful preparation and execution by the ops teams.
- Looking forward to future concurrent ops with the waveglider/Sentry and Alvin

# Pre-cruise and Mobilization

- No issues.

# Operations –vehicle performance

- Ground fault detected during descent and dive was aborted once the vehicle reached the seafloor. The ground was isolated and Alvin dove the following day.
- Great bottom times
- Alvin EX lead recommended bounce dives to improve chances of finding good sites

# Operations- NDSF-provided equipment

- ICL on the majors had issues. The wired heat flow probe was used if the ICLs didn't work after 10 min.
- One camera had issues, 4K camera did not work consistently
- SeaLog dive annotation was a success, and was often combined with hand written logs. This was most successful/efficient when each science observer was assigned one logging type task. Ability to customize the SeaLog for specific ops and observations was useful.
- Concurrent wave glider/Sentry ops with Alvin were planned, however due to technical issues, the wave glider was recovered. Concurrent Alvin/Sentry ops was conducted on one dive, with a standoff distance that allowed for both vehicles to be monitored. If the wave glider had been available earlier in the expedition, more concurrent ops would have been attempted.



# Operations- User-provided equipment

- No issues.

# General Recommendations

- While a complete data set was provided to the Chief Scientist prior to disembarking the cruise, data duplication took longer than expected, preventing other members of the science party from receiving a complete set. Given multi-investigator/PI cruises are going to continue to occur, improving data duplication efficiencies would be appreciated.
- Create a read-me file that explains where the most useful data products are located would help PIs.
- More concurrent ops
- Improve internet capabilities on board
- Acquire Navy clearance for backup sites (e.g., 2 sites for the same day) to allow for more flexible dive planning, particularly in areas that are less known/more exploratory.