ROV Jason / *Medea*

De-brief summaries – summer 2012/2013 - 1 year

Area	Project	Dates	Ports	Ship and cruise name
Barbados	Seeps	June 1 – 18, 2012	Bridgetown, Barbados <->	**R/V Atlantis** AT 21 – 2
Juan de Fuca	Cascadia OBS deployment / recovery	July 10 – 25, 2012	Seattle, WA, USA <->	**R/V Thompson** TN 283
Juan de Fuca	*Multi PIs* CORKS, Vents - Axial seamount Optical modems OOI	Aug. 16 – 26, 2012	Astoria, OR, USA <->	**R/V Langseth** MGL 1216
Mid-Atlantic Ridge Mid N Atlantic	Hydrothermal vent work at the Mid-Atlantic Ridge *Rainbow, TAG, Snakpit*	Oct. 16 – Nov. 9, 2012	Ponta Delgada, Azores -> Charleston, NC	**R/V Knorr**
Hawaii – Lo'ihi Seamount	*Iron-oxidizing mats*	*Mar. – Apr. , 2013*		***R/V Thompson*** * *not included for debrief summary*

DESSC Debrief

- 1. Pre-Cruise Planning
- 2. Mobilization
- 3. Operations – vehicle
- 4. Operations –NDSF-provided equipment
- 5. Operations – User-provided equipment
- *6. NDSF Personnel – Expedition Leader*
- *7. NDSF Personnel – Team as a whole*
- 8. Data hand-over
- 9. Demobilization
- 10. Recommendations

1. Pre-Cruise Planning:

In general PIs felt that pre-cruise planning went well, except for

- Failure at the planning stage (Science or UNOLS operator) to obtain diplomatic clearance for the locations where moorings were located - Clearance for Bajan waters but nor for Trinidad & Tobago or Venezuela.
- *Important failure of the planning process - the cruise to the Mid N Atlantic was requested for the Spring including 2 days of contingency.*

  - > Instead, the cruise was scheduled in late Fall, well beyond the optimum window, in the middle of continuing hurricane season at the sites. Even if the PI had been able to increase his contingency planning to allow for 5-6 days of poor weather, once the cruise dates were established, the current science program would still have been impacted.

2. Mobilization/Demobilization:

All went really well

3. Operations - Vehicle

In general Jason performed very well, except for:

- The ship's winch was damaged during transfer from the R/V Thompson to the R/V Langseth, the ship came into port mid-cruise for repair, part of the science team left without accomplishing their cruise goals.
- For one cruise the A/C in the control van was not sufficient – problems with overheating.
- *The hose to the slurp sampler had not been attached securely -> no shrimp samples could be collected from this dive (dives were already canceled due to weather and mechanical failures on this cruise).*
- *A cruise to the Mid-Atlantic-Ridge was scheduled at the wrong time of the year (Oct./Nov.) so that 4 days were lost to weather.*
- *2 failures on Jason (thruster, umbilical) and dead-boat recovery meant more loss of time during the same cruise, resulting in only 3 work days out of 8 scheduled.*
- *The PI achieved an estimated 80-90% of the project goals but it could have been better. To his view the mechanical failures might have led the team to be more cautious in deciding whether to launch or not.*

4. Operations NDSF - provided equipment

Navigation (USBL and LBL) worked really well.

4. Operations NDSF - provided equipment *cont.*

Lighting and Cameras worked well in general

- The HDTV camera and lighting worked extremely well

- Mapping using the **Reson multibeam system** has been used to good effect on 4 cruises over the reported year, *except that*
  the Reson multibeam system did not work in the brine pool.

5. Operations - User-provided equipment

Handling and interfacing user-provided equipment worked really well.

• One item that caused a challenge was a new mini-CORK mooring that was dropped to the seafloor and then needed to be redeployed using Jason. The science team had miscalculated the weight/buoyancy of the system, but happily the technical excellence of the Jason team saved the day!

- > this demonstrated the excellent capability of Jason and the pilots to do more of this important CORK-servicing work.

8. Data hand-over:

Data hand-over went well.

10. User Recommendations

- UNOLS should invest in a better planning tool for ship-time requests/cruise planning that ingests the planned field operational areas showing nations' EEZ boundaries to ensure diplomatic clearance.
- The ROV Jason team should work on developing a better "repeater" station, outside the control van which has both higher quality video-feed and uses more screens to project that information in the main lab.
- Cancellation of the Thompson cruise has led to the total loss of one year of data from one osmosis-sampler and represents a loss of $0.5 million in research-effort costs and has also impacted 2 PhD students working with the PI.

-> It would be useful if, in future occasions when NDSF operations have to be disrupted [the nature of going to sea dictates that such problems will recur], there was an established protocol that helped decide which cruises do, or do not, get canceled.

- *NDSF should establish policies to a) avoid to schedule operations in certain areas at times when the weather is most likely to be a problem and b) to automatically add contingency time when the requested ship time has to be scheduled at inappropriate dates. In addition NDSF should encourage PIs to ask for contingency time in their proposals.*