

Healy and Polar class cruise debrief (Rev 12/2013)

Date of post-cruise teleconference debrief: 09 November 2016

Chief Scientist and contact coordinates: Peter F. Worcester, Chief Scientist

Name of Project: CANAPE (Canada Basin Acoustic Propagation Experiment)

Name of Ship & Cruise Number: USCGC Healy, HLY1602

Start and end dates of cruise: August 16 – September 17, 2016 (Note: The USCGC Healy actually departed Seward at 1500 local time on 17 August.)

Please provide comments on the topics and questions that are appropriate for your cruise.
NOTE: This form may be submitted as either a *.doc or *.docx file.

1) Overall Success of Cruise:

a) What percentage of the planned science objectives was met during this cruise?

100%

b) Please summarize positive and negative factors that impacted completion of the science objectives (for example, personnel issues, equipment performance, ice and weather conditions)

(1) Issues that arose during the cruise with the Lebus mooring winch provided by the science party delayed mooring operations until the cause of the problem was determined and resolved.

(2) The acoustic source on one of the moorings failed following deployment, requiring that the mooring be recovered and redeployed.

2) Pre-Cruise Planning

a) How beneficial and useful is the cruise planning form and the Icefloe web site?

I prepare an experiment plan for each of my research cruises. I uploaded this document to Icefloe.net, rather than making much use of the ship's cruise planning form. The STARC technicians filled in some of the cruise planning form on the Icefloe website following the two pre-cruise meetings, however. I also filled in some additional information, although I did not want to spend time duplicating what was in my experiment plan.

b) Is it clear what is required to be provided to the ship and the schedule for receipt of that information (schedules, lists, plans, forms)?

The ship's requests for information were clear, but sometimes seemed more than a little premature (e.g., scientific party list, medical forms, berthing arrangements, etc.).

c) Were the questions on the pre-cruise questionnaire appropriate and easy to respond to?

See above.

d) Were you able to submit the questionnaire fairly early in the planning process?

I uploaded my experiment plan to Icefloe.net on 11 July, approximately one month prior to the cruise.

e) Did an operations (cruise?) plan get submitted in a timely manner? Was it useful for you and the ship before and during the cruise?

See above.

f) Do you have suggestions for how the website and questionnaire might be improved?

3) Pre-Cruise Communications

How were pre-cruise communications between the Coast Guard and the Science Party, especially the Chief Scientist? Were points of responsibility easily identified? Were responses to questions and concerns received in a timely manner? How were communications within the science party and did that impact communications between the Chief Scientist and the CG?

John Kemp (WHOI) and I traveled to Seattle for pre-cruise planning meetings on 15 January 2016 and again on 28 April 2016. I think that these pre-cruise meetings were very important to the success of the cruise.

4) Communications and Coordination During the Cruise

How were communications and coordination during the cruise? Were lines of responsibility clear? Were the evening planning meetings effective for communicating information between the Coast Guard and the Science Party?

Communications and coordination were adequate during the cruise. The part of the evening planning meeting involving me was typically brief, as the Ops officer and I normally discussed the upcoming activities prior to the meeting.

5) Environmental Permitting

a) Was any environmental permitting required?

ONR prepared an Overseas Environmental Assessment (OEA) and Finding of No Significant Harm (FONSH) for the Canada Basin Acoustic Propagation Experiment (CANAPE), including both the deep water (*USCGC Healy*) and shallow water (*R/V Sikuliaq*) components. No environmental permits were required.

b) If so, were these requirements identified at an early date and were there clear means to accomplishing those needs? In other words, how well did it go?

ONR took the lead in preparing the OEA and consulting with the relevant agencies.

6) Communications with Local Alaskan Native Communities

How well did communications between the CG and science and local Alaska Native communities go during the cruise? (Examples: notifications to local communication centers, communications between Chief Scientists and/or CG and entities such as village tribal governments (e.g. IRAs), village corporations, the Alaska Eskimo Whaling Commission and other appropriate wildlife co-management organizations, village whaling captains' associations, and other locally based interest groups.)

ONR arranged for lead scientific performers to brief state and Alaskan native entities on the ONR-funded research cruises scheduled on both the *USCGC Healy* and the *R/V Sikuliaq*.

7) Cargo/Hazmat/Materials Handling

a) How did any and all aspects (scheduling, communication, etc.) of the cruise onload and offload go?

Coast Guard personnel were very helpful during both the cruise onload in Seward, AK, and the offload in Seattle. There were no special issues during the cruise onload. There was an about two hour hiatus during the first day of the cruise offload because of a visit by the Coast Guard Commander, Pacific. This hiatus was understandable, but we were not kept informed of what was happening, with the result that we were standing by the entire time.

b) How did materials handling, including hazmat, go during onload/offload and during the cruise?

There were no special issues.

8) Laboratory and Other Vans

a) Did you use vans from the UNOLS van pool or from another source (specify)?

No.

b) How did the procurement go?

c) Were lines of responsibility clear for obtaining appropriate vans and for setting up and maintaining the vans on board?

d) Was adequate time available to obtain the vans?

e) How well did the vans perform?

f) Were they appropriately equipped with ship connections?

g) How well did load and offload go?

9) Lab and Your Science Equipment Setup/Installation

a) How well did set-up of the labs and science equipment go? For example, were you able to have the lab counters and uni-strut adjusted appropriately to fit your needs?

There was more than adequate laboratory space.

b) Did installation of science equipment outside of the ship's equipment go well? Were there any unexpected surprises in terms of needs or ability to support such scientific equipment? How clearly were special requirements for science equipment defined prior to the cruise?

No issues were encountered.

c) Was anything identified during your cruise that should be recommended as a permanent addition to the ship's science equipment?

No.

10) Information Technology On Board and On Shore

a) Communications (Local and remote E-mail, account set-up, internet access, data transfer on/off and within ship or between ships, Inmarsat and Iridium, radio). Were you satisfied with the capabilities? Were there computing resources or communications enhancements that you could have used but that were not available on board?

Communications capabilities were generally adequate, although it would have been preferable to allow members of the science party to access their normal shoreside email accounts (as is typically allowed on UNOLS vessels) rather than setting up special shipboard email accounts. The computer technician, Jeff Hardwick, was very helpful.

b) How did the shipboard data collection, management, and archiving go? Were these services provided efficiently and made available in ways that promote rapid transfer of data to users?

Only routine shipboard data collection and archiving were needed (underway data, CTDs). No issues were encountered.

c) How well did operational technology work? (Map Server, board of lies, web cameras on board, monitors for changing among closed-circuit cameras, functionality of the closed-circuit cameras on board, winch display on back deck)

No issues were encountered.

11) Shipboard Science Systems

a) How well did these perform? This includes deionized water, multibeam, winches, environmental chambers, freezers, refrigeration, science seawater, underway data acquisition systems, ADCPs, depth sounders, etc.)

We used the multibeam system, trawl winch, CTD winch, underway data acquisition systems (GPS, gyro, etc.), and ADCPs without incident.

b) Do you think anything needs to be upgraded?

12) Deck Operations and Deployment/Recovery of Science Gear

a) How well did the planning, understanding of responsibilities and approaches, and implementation go for both science and crew?

My group is accustomed to deploying and recovering deep water moorings with little assistance from ship's personnel other than to operate the crane(s) and trawl winch. On the Healy, assistance was also needed to operate the A-frame. I had the impression that the ship's crew was not used to working with groups that did not require much assistance.

b) Was appropriate and appropriately sized safety equipment available?

Yes.

c) Were operations safe? Did everyone comply with safety requirements? Were any unexpected safety issues identified and were they dealt with?

All operations were conducted in a safe manner.

There was one aspect of the operation that I would suggest changing, however. It was ship's policy to have someone "holding on" to anyone working near the stern counter. It is difficult to believe that this is really effective; I have never seen it done on a UNOLS vessel. Further, this policy led to some congestion on the stern, which seems to me to be undesirable when working around high loads and multiple lines.

d) Was there enough assistance as needed and/or requested with deployments and recoveries?

There was more than enough assistance with the mooring operations. The ship's crew tried hard to be helpful, particularly as they learned more about how our mooring operations are done.

e) Were communications effective with the bridge and winch control during deployments?

Yes.

g) Other

13) Ice Conditions

How well was information about the ice conditions in the area of operations provided to the ship and to the scientific party?

The operational area was nearly ice free except for some limited ice near the northernmost mooring location. Routine RADARSAT images provided to the ship allowed us to assess locations in which ice might be an issue.

14) Small Boat Operations

If appropriate, please comment on:

a) Adequacy of boat briefs

Excellent.

b) Provision and availability of appropriate safety equipment

Excellent.

c) Identification of science needs and requirements

Excellent.

d) How well the operations went

No issues were encountered.

e) Other

15) Helicopter Operations

If appropriate, please comment on:

Not applicable.

16) Food Service

a) How well were special dietary requirements (vegetarian, vegan, low-fat, etc.) identified and met?

Not applicable.

b) How was the quality of service and food, including outside of the three main meals of the day (e.g., (quality and availability of food/experience for those working overnight)?)

The food was neither the best nor the worst that I have encountered over the years on research vessels. The food seemed significantly better toward the beginning of the cruise. This is of course in part due to running out of fresh fruit, vegetables, and salad as the cruise wore on, but I have seen more imagination applied to compensate for this.

c) Other

The food service consisted of three big, hot meals per day. One can of course easily choose to eat a lighter breakfast, but I would have preferred to have more of an option to have a lighter lunch as well. Many, if not most, UNOLS vessels now provide this option.

17) Berthing and shared spaces (science conference room, gyms, laundry)

a) How did all aspects of housekeeping go?

No issues were encountered.

b) How did the berth assignments go?

I found making arrangements for the scientific berthing very trying. On UNOLS vessels the assignment of personnel to the science staterooms is entirely at the discretion of the Chief Scientist. This was not the case on the *USCGC Healy*. Non-science personnel were assigned to the science staterooms without my permission. On occasion, the berthing assignments that I made were changed without consulting me. A photographer/artist who was not associated with the science party was given a private room, while senior science personnel were placed in shared rooms. In general, the assignment of berths took much more time and effort than I have ever encountered on a UNOLS vessel.

c) How were the check-in/check-out processes?

No issues were encountered.

d) Other

The science party was surprised to learn at the last minute that we were expected to bring our own towels, soap, and laundry detergent. All of these items are normally supplied on UNOLS vessels.

18) Medical

a) Were needs, if any, met?

Not applicable.

b) Medical history questionnaires

i) Could the forms be improved?

The medical questionnaire seems fine.

ii) How did the submission process go? (timing, acknowledgement of receipt, etc.)

We were asked to fill out the medical questionnaires in March, months before the cruise and before the make-up of the scientific party was even fixed. This seemed rather premature.

19) Other comments (if any)

I thought that the STARC technicians were seriously underutilized. These are experienced, sea-going technicians who are accustomed to working both on deck and in the lab. On UNOLS vessels they provide the interface between the ship's crew and the science party. Some thought needs to be given to better defining how they will interact with the ship's personnel to take advantage of their experience.

Appendix – Additional Questions for Specific Activities or Instruments. Answer only if appropriate for your cruise.

1) Multibeam

a) How much real-time watchstander effort was required?

We used the multibeam system primarily to determine the local bathymetry and depth at each mooring location. We are also interested in the bathymetry along the lines between the moorings, although this information was not terribly critical in this case since the mooring array is located on the relatively featureless Canada Abyssal Plain. At each mooring location I typically monitored the real-time multibeam output while we did a swath beginning 4 nm before we reached the nominal mooring site and continuing until we were 4 nm past it.

b) How much onboard ping editing was done in the post-processing?

No onboard ping editing was really needed during the cruise, although Jason Otero-Torres from the National Geospatial-Intelligence Agency (NGA) did do some multibeam processing/editing.

c) In both cases, who provided the people? Who was responsible for training the people?

Mr. Otero-Torres was not part of the science party, but was sent on the cruise by the NGA.

d) Other Multi -Beam issues?

2) Diving

If you conducted scientific diving on your cruise, how did it go?

Not applicable.

3) Operations on the ice

a) Were on-ice operation briefings adequate?

Not applicable. We had hoped to do on-ice operations, but the ice cover was almost non-existent.

b) Was appropriate safety equipment provided and readily available?

c) Were science needs and requirements adequately identified?

d) How well did the operations go overall?

e) Other on-ice operations issues?

4) Science Support in Barrow

Not applicable.