

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

Date of post-cruise teleconference debrief: not applicable

Chief Scientist and contact coordinates:

Robert Pickart, WHOI
rpickart@whoi.edu
508-289-2858

Name of Project:

North Slope Mooring Cruise (AON)

Name of Ship & Cruise Number:

USCGC Healy 13-03

Start and end dates of cruise:

Oct 5 – Oct 29, 2013

*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?

95%.

The cruise was extremely successful. In fact we deployed an extra mooring and did an additional CTD section at the end of the cruise. The only things that were not completed as planned were the zooplankton net tows (see below) and the seabird observations. The latter was due to the fact that the seabird observer couldn't make the cruise because of the government shutdown.

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

Positive aspects: There were many positive aspects. Among them were the following: the weather was surprisingly good throughout the cruise; the ship often steamed at best speed (much appreciated!); the ship's crew worked diligently and efficiently to accomplish all tasks; we had informative planning meetings before carrying out the science operations; the attitude and morale on the cruise was arguably the best I've ever experienced (I attribute this in a large part to the positive tone set by the captain and officers); the ship facilitated a shipment of science gear from

Barrow during the cruise to help us overcome unforeseen instrument difficulties; the through-hull transducer was successfully implemented for communicating to the acoustic releases on the moorings, which significantly streamlined our operations and made them safer; the revamped computer lab was great and made our bottom surveying easier (note: it would be nice to get a permanent high-speed Knudsen readout on the bridge).

Negative aspects: The zooplankton scientist lost her culture samples early in the cruise because the temperature control on her refrigerator was inadvertently jostled when the refrigerator was tied down by the MSTs. Note: I am not assigning blame to the MSTs; ultimately it is the scientist's responsibility to see that his/her equipment is properly secured and functioning. But a lesson was learned by all. I also want to point out that we arranged to get another set of cultures transferred to the ship from Barrow via helicopter, and the ship's crew worked very hard to make this happen. We were all very impressed and thankful for this (unfortunately, bad weather prohibited us from getting the shipment until late in the cruise, which did not help the zooplankton scientist very much). The only other negative aspect was the lack of a fully-functioning mapserver.

2) Pre-Cruise Planning

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

The cruise planning form is useful from my end because it forces me to outline the entire cruise beforehand and make sure that nothing is falling through the cracks. I like that fact that one can continually update the form.

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)?

Yes.

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

Yes.

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

Yes.

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?

Yes I was made aware of the cruise plan in a timely fashion.

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

No.

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?

In my opinion the communication between the chief scientist and USCG was excellent.

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?

From my end the communication between science and the USCG was superb throughout the cruise. The operations officer was available 24/7 (literally!) and incredibly responsive and helpful. The chief MST was constantly checking in with me and the rest of the science party. The nightly meetings were very effective, and, as mentioned above, so were the planning meetings for the various operations carried out during the mission. It was clear that the officers and crew were engaged in the work and wanted our science to succeed, for which I am extremely thankful.

5) Environmental Permitting

a) Was any environmental permitting required?

I needed to get a permit from the Aurora Research Institute for carrying out work along the Canadian North Slope.

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?

It went seamlessly.

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.)

Luckily for us, the North Slope communities of Barrow, Kaktovik, and Nuiqsut were all done with their autumn whale hunts before we reached our study region. Wainwright was still whaling, but we had no science activities in that region. Our community observer, Claudia Koonaloak, did a great job liaising between the ship and the operation centers at Barrow and Wainwright throughout our cruise.

Since we worked in Canadian waters I needed to get clearance via the state department; I would like to thank Dave Forcucci for his help with this.

7) Cargo/Hazmat/Materials Handling

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

The on-load and off-load went well.

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

There were no issues with hazmat.

8) Laboratory and Other Vans

This question is not applicable to the cruise.

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

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 unistrut adjusted appropriately to fit your needs?

Yes.

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?

Everything went well.

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

The TSE mooring winch. We were lucky to have one this year because WHOI had numerous mooring cruises this past summer/fall. We've had this discussion in previous years, and I would like again to express my desire to have this capability as part of the USGC equipment inventory.

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?

I was very pleased with the IT situation on the ship. IT1 was in constant communication with me and the rest of the science party, promptly dealing with any problems that arose and also alerting us beforehand of potential issues.

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?

This was excellent. The science party was able to share data readily among themselves. The data collected from the ship's systems (e.g. CTD, bathymetry, vessel-mounted ADCP) were easily and quickly accessible.

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)

As everyone knows, mapserver was not fully functional. The Healy used to be in a class by itself in this regard, and I sincerely hope that they once again get back to this status.

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.)

Everything worked well.

b) Do you think anything needs to be upgraded?

This is what I said in last year's report: "It would be good if the deck tie-down plugs on the fantail could be replaced with stainless plugs. Some of the ones that are in place now are steel and are in pretty bad shape. There is not much thread left, making this a concern for securing our winch, fair-lead plate, and deck cleats." My mooring technician informed me that these are systematically being taken care of, and I hope that this process continues.

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?

Deck operations went extremely well. As mentioned above, the planning meetings were effective, allowing us to hash out all issues well before operations began. The mooring briefs before each evolution were useful, and the "walk throughs" on deck were beneficial.

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 and efficient manner.

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

Absolutely. All aspects of the mooring deployments and recoveries went well, including superb ship handling, excellent use of the small boat to attach to the top floats, and skilled work by the deck crew. The CTD operations also went extremely well. As I said earlier, the positive attitude displayed by the crew was really impressive, and I was struck by how interested everyone was in the science and their dedication to making the field program a success.

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?

This was very effective. I was regularly provided imagery and ice analysis products.

14) Small Boat Operations

We used the small boat on every mooring recovery to attach a messenger line to the top float of the mooring. The crewmembers doing this were skilled and communicative, and helped make this process go very smoothly. I will also add that the weather was marginal in some cases for small boat ops. The USCG did an excellent job assessing the situation each time, and, within the proper safety bounds, did their best to accommodate us.

If appropriate, please comment on:

a) Adequacy of boat briefs

b) Provision and availability of appropriate safety equipment

c) Identification of science needs and requirements

d) How well the operations went

e) Other

15) Helicopter Operations

As mentioned above, we were able to get some additional science equipment to the ship using the Barrow SAR helicopter to help us overcome some unforeseen instrument difficulties. Many people and organizations worked together to make this possible, including of course the Healy. Here is the email that I sent out to everyone following that successful operation.

“I want to express my sincerest thanks for everyone's role in the helicopter operations yesterday. I am the chief scientist on board, and today we successfully deployed a mooring on the outer shelf of the Chukchi Sea using the equipment that you delivered to us. This mooring filled a critical gap in the array that arose due to unforeseen instrument difficulties. It will have a huge impact on our scientific results when we recover the mooring array next fall. I want to also mention that the cultures you flew out to us are helping one of the graduate students on board who inadvertently lost her cultures earlier in the cruise. I am struck by how many people offered to help us in this predicament, especially those of you in the North Slope community, giving your time and expertise. I will not forget your generosity, and will always remember the sight of the SAR helicopter approaching the ship in between the snow showers. Thank you again for helping to make this mission a success!”

If appropriate, please comment on:

a) Adequacy of flight briefs

b) Provision and availability of appropriate safety equipment

c) Identification of science needs and requirements.

d) Other

16) Food Service

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

There was always a vegetarian option, which was greatly appreciated.

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 quality of the food and the service were superb. I want to offer my sincere thanks to the food service department for doing such an outstanding job.

c) Other

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

a) How did all aspects of housekeeping go?

Very well.

b) How did the berth assignments go?

Very well.

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

They went very smoothly.

d) Other

18) Medical

a) Were needs, if any, met?

No issues here.

b) Medical history questionnaires

i) Could the forms be improved?

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

The entire process went very smoothly. I have no recommendations.

19) Other comments (if any)

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?*
- b) *How much onboard ping editing was done in the post-processing?*
- c) *In both cases, who provided the people? Who was responsible for training the people?*
- d) *Other Multi -Beam issues?*

2) Diving

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

3) Operations on the ice

- a) *Were on-ice operation briefings adequate?*
- 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