

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

Date of post-cruise teleconference debrief: not applicable

Chief Scientist and contact coordinates:

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Name of Project: Hanna Shoal Ecosystem Study

Name of Ship & Cruise Number:

USCGC Healy 13-01

Start and end dates of cruise: July 29-August 15, 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?

>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)

No major problems; almost every aspect of the cruise went remarkably well. The following are verbatim comments from one of the senior scientists:

The HLY1301 cruise was much better than the HLY1201 cruise. I attribute this to the USCG command. In 2013, the Captain, XO, Operations Officer, and other officers were extremely dedicated to seeing the science mission succeed. This spirit clearly infiltrated throughout the crew. I did not feel that this was the case in 2012. During that earlier cruise I did not feel that the Capt or XO were particularly interested in the science operations. It is extremely important that the Healy be served by staff dedicated to the success of the science mission. I emphasize that there was a world of difference between the HLY1201 and HLY1301 operations and that this was a function of the executive leadership and interest.

I also think that the USCG must re-think their personnel alignments on the Healy. The rapid turnover of personnel does not permit accumulation of experience and knowledge for arctic operations. This bears directly on the USCG's support of science as well as its impending requirements for other activities in the Arctic. Only an experienced crew will be able to respond

effectively to emergencies in the Arctic. Experience is gained through time. I suggest that the USCG re-consider its approach to crew rotation on the Healy and/or install a skeleton crew of permanent (USCG or civilian) staff, who can develop arctic experience. In the absence of an experienced crew, the full potential of the Healy will never be realized and this results in inefficient use of time and money.

Verbatim comments from another senior scientist:

The enthusiasm and hard work of the newly configured Healy science deck crew (MSTs AND BMs) was greatly appreciated.

The food was great.

The STARC and ESU team worked very hard to support our cruise, despite having to overcome a number of technical difficulties stemming from the complete re-do of the computer systems (basically, the systems were not ready for prime time when we sailed).

The can-do attitude of the Healy crew was a real pleasure. They really were interested in supporting our science. Great job!

The lack of MapServer capability compromised our cruise, both scientifically and operationally (ship driving).

The computer lab re-do, particularly the switch to new computers and operating systems, also compromised our cruise. The STARC and ESU team had to spend a lot of time making things work. This should have been done before our cruise, not during our cruise. STARC/ESU also could have asked to send additional personnel on our cruise, at their expense, to make sure the systems were operating properly (and we would have been even more cozy in the cabins).

Not having access to the Radarsat images until half way through the cruise also compromised us operationally.

2) Pre-Cruise Planning

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

I think the form is working well; the icefloe website still has some difficulties in terms of the way it is organized, e.g. finding links intuitively, but it is improving.

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?

For the most part yes, probably some footnotes to explain bandwidth, wire types, and other details wouldn't hurt for people who haven't used the ship before.

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

It was submitted iteratively as information became available.

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?

The plan we submitted was fairly general and more decisions were made onboard, but it seemed to have satisfied all parties.

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

I think footnotes or probably better, links to specific places on the icefloe website might help future chief scientists answer some of the more arcane questions with respect to details that they wouldn't necessarily know about unless they were very familiar with the ship.

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?

Communications were very good to excellent. Operations officer (Jake) was way out in front this year.

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?

Yes, responsibilities were clear and the CG command was fully engaged.

5) Environmental Permitting

a) Was any environmental permitting 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?

Not applicable

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.)

We were willing to talk with local communities, but it didn't turn out that there were any concerns expressed.

7) Cargo/Hazmat/Materials Handling

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

Things went well on both ends.

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

The locking of the hazmat locker creates some minor difficulties. Some members of our science party didn't have plans to deal with hazmat at the end of the cruise. Since this has happened several times to me, as chief scientist, I think anyone sending hazmat to the ship for use on the cruise should also be required to file a written plan for how they will dispose of any remaining chemicals. I am aware that University of Washington is not interested in taking care of leftover chemicals, but it would be a great initiative if STARC could explore other options. Are there other universities in the greater Puget Sound area that could use excess chemicals?

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?*

Not applicable.

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

Not applicable.

d) *Was adequate time available to obtain the vans? NA*

e) *How well did the vans perform? NA*

f) *Were they appropriately equipped with ship connections? NA*

g) *How well did load and offload go?*

The onload went smoothly and the crew were helpful.

The offload was very smooth, with all gear offloaded on pallets to the dock and ready for shipment.

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?*

Lab set up went fine.

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?*

Not applicable for our cruise.

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

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?

All communication systems worked well.

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?

I think this is an area where improvements could be made. We weren't aware that all of the underway systems were not working well until after the cruise was over. The hard drive capturing data from the cruise remains a little elusive to understand. STARC could help us as science parties by developing a detailed guide to the contents of the hard drive, i.e. how the files are organized, what are the units, what software is needed to open files, etc. Folders with no content can be deleted.

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).

The lack of a functional Map Server was probably the most significant failure for our cruise. The Google Earth alternative provided was clearly a failure "out of the box" and did not substitute for the robust system we had previously. On the other hand, closed circuit cameras, the winch display on the back deck, etc. were in better shape than prior cruises and were very useful.

Some additional verbatim comments from science party members:

The lack of a functioning mapserver system was detrimental to planning of day –to – day activities. This feature has been an extremely valuable asset in the past for science planning; overlaying of satellite imagery, ship-tracks, convenient scenario planning for station routing, etc. I would argue that Mapserver be maintained at the level that it was in previous years.

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.).

There were no obvious problems with any of these shipboard systems, however one of the science party comments is as follows:

It struck me that there was considerable inter-sensor variability in the data collected by the underway systems, this included temperature, salinity, and several of the met. Sensors.

Another science party comment:

It was also noted that the readout for the 3/8th inch wire was not calibrated with the display on the aft con controls. This created some unfortunate trawling of the bottom with a plankton net.

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?

Very well.

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?

Yes, one concern was too many people on deck, both scientists and crew, at times, but I'm not sure this really posed a safety hazard.

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

Yes

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

Yes, although some learning curves on deployment (winch speeds) and some of the crew deployed to the deck were inexperienced in handling gear.

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 a topic where in the past we had help from the Map Server, with seamless integration of imagery onto the ship's geographical information system, but the transmission of ice imagery and conversion into coordinates linked with the navigation system was unavailable. We had develop our own home-grown solution, using a student onboard who had GIS skills, so eventually we were able to largely overcome the failure to have a working map server system at least as to where ice was relative to the ship position.

14) Small Boat Operations

If appropriate, please comment on:

a) Adequacy of boat briefs.

Good

b) Provision and availability of appropriate safety equipment.

Provided

c) Identification of science needs and requirements.

Excellent

d) How well the operations went.

Excellent

e) Other:

The small boat crew went back and got a sample of the red water in Dutch Harbor. We were able to figure out why the water was red from that sample. Much appreciated!

15) Helicopter Operations

If appropriate, please comment on:

a) Adequacy of flight briefs

Didn't turn out to be needed.

b) Provision and availability of appropriate safety equipment

Good.

c) Identification of science needs and requirements.

Coordination between USCG and science personnel was very good.

d) Other

16) Food Service

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

I didn't hear of many concerns.

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 food seems to be on an upward spiral. Cooks seemed to take the quality of food that they provided to be a point of pride.

Verbatim comment: The galley did extremely well, given the numbers of crew and scientists. They had considerable food diversity and good quality. They should be acknowledged for their efforts in producing high quality meals.

Another comment: I thought that the food was excellent. I don't remember any problems with Mid-Rats, that is always a tough meal.

c) Other

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

a) How did all aspects of housekeeping go?

Good in my opinion, but I did have the following suggestions from one of the senior scientists:

Small detail but really, someone needs to go through the science cabins and make sure that 1) each bunk has FUNCTIONING curtains, 2) all of the bunk lights work, and 3) there are minimum three FUNCTIONING towel racks per room. For the latter, functioning means that the door to the locker on which the towel rack can be opened completely so that the drawers inside can be accessed. For some rooms, the towel racks block the locker doors from opening completely. For the bunk lights, well, there aren't three bunk lights yet we are increasingly under pressure to have three people per cabin. Enough said.

I know, towel racks AGAIN.

The vacuums stunk too but I am not sure that I really want to go there.

I suggest that the crew check the inside of the shower curtains for mold prior to the each field season; I had to scrub the inside of our curtain when we moved in. It was pretty gross.

Likewise, I don't think that the head in my cabin was all that clean...or rather, perhaps it was the deck and the walls (the head LOOKED clean).....since we were the first cruise, I don't think that this was the fault of the previous science party.

Some of the science cabins are getting pretty scruffy (e.g., there is at least one with no door to the head). It might be a good time to take a hard look. Some of the cabins have some pretty awful carpet (e.g., stained, dirty) in them and there are no door mats at the entrance door in some of the rooms.

b) How did the berth assignments go?

Went well, no problems.

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

Very well, efficiently handled.

d) Other

18) Medical

a) Were needs, if any, met?

No major medical problems

b) Medical history questionnaires

i) Could the forms be improved?

Probably

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

Good; no misplaced or missing forms as far as I am aware of.

19) Other comments (if any)

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

1) Multibeam

Not used on our cruise.

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

None

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

3) Operations on the ice

None

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

Very good, we appreciate the efforts on the local NSF contractors in picking us up at the beach and facilitating transportation to the airport.