

## Healy & Polar Class cruise debrief, held via teleconference (Rev 01/10)

Date of post-cruise teleconference debrief: 16 November 2010

Chief Scientist: Kevin Arrigo

Name of Project: ICESCAPE

Name of Ship & Cruise Number: HLY1001

Start and end dates of cruise: June 15-July20, 2010

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

Attending this debrief: Jon Alberts (UNOLS), Healy CO Capt. Bill Rall, Healy OPS LCDR Eric St. Pierre, Healy MSO LTJG Chris Skapin, Hedy Edmonds (NSF), Karen Frey (Clark U.), Robin Muench (ESR), Kevin Arrigo (Stanford U.), Don Perovich (USACRREL), Bob Campbell (URI).

### *1) Overall Success of Cruise:*

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

100% - maybe higher. We did twice as many stations as planned!

**Kevin Arrigo: We completed 140 stations as compared with the expected 70, the weather was good, and the ship's crew was great.**

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

The weather was great, the crew was outstanding, and the science team was prepared and flexible.

**Kevin Arrigo: A possible personnel issue, and an issue with CTD going in and out over the side. These are discussed further below, but were relatively minor issues.**

### *2) Pre-Cruise Planning*

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

Very helpful.

*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.

**Kevin Arrigo: IceFloe was helpful. It was unclear how often CG people looked at the updates prior to the cruise. Do the CG people stay in contact with the IceFloe site information? Not a big deal ... only a name or two out of place. IceFloe was very easy to work with. Possibly could be some clarifications on the site for new users, relating to page updates and making sure changes are saved.**

**Healy: Perhaps we need to define a point where we transfer over from IceFloe to in-person meetings aboard ship. Access to IceFloe is difficult from the ship when underway.**

*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 and yes.

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

It is not clear that all parties paid close attention to what was posted. Most did, but some did not.

### ***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?*

Lines of communication were very smooth. I knew who my contact person on the Healy was and the science party had weekly telecons (often with Healy personnel on the line), so there was lots of back and forth prior to 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?*

I think this worked very well. Captain Rall knows how to run a meeting!

### **5) Environmental Permitting**

*a) Was any environmental permitting required?*

No.

*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?*

### **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 brought an indigenous observer on the ship with us. He handled the communications with the local communities. It went very smoothly.

**Kevin Arrigo: It was unclear at the outset just what was expected here and what it was supposed to accomplish. It was difficult keeping him busy, and he seemed to have difficulty staying engaged. He was however very helpful with operations involving the ice stations.**

**Robin Muench: Lee Cooper is working on additional information for Ice Floe that should address some of these questions.**

**Healy: His involvement with the ice party actually worked out pretty well. He was very helpful on the ice stations and enjoyed getting out onto the ice.**

### **7) Cargo/Hazmat/Materials Handling**

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

Very well. It was all handled by NASA's contractor, Quincy Allison.

(from Quincy Allison) In general things went really well, although there were some surprise shipments that never got logged onto the Healy shipment tracking site. I think this can be easily fixed next year with a little more communication to entire PI group and not just the individual PI.

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

Very well. It was all handled by NASA's contractor, Quincy Allison.

(from Quincy Allison) Again, I think this went very well. One minor glitch with sending chemicals that needed to stay cold but ended up in Coast Guard storage for several days, this just needs to be coordinated better.

**Kevin Arrigo: It was unclear exactly to whom perishable items should be sent.**

**Healy: An extra phone call to the ship would be in order in the case of incoming perishable items. This sounds like a breakdown in email comms. Ideally, everything should come through the Chief Scientist. Quincy was in charge of the tracking system, and there were several PIs, and the involvement of more people increases chances of communication errors.**

#### ***8) Laboratory and Other Vans***

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

Yes, we used two radioisotope vans.

*b) How did the procurement go?*

Smoothly, handled by Dave Forcucci.

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

Yes.

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

Yes.

*e) How well did the vans perform?*

Fairly well. One had a non-functioning scintillation counter that we never got to work.

**Kevin Arrigo: Hopefully this can be addressed prior to next year's cruise to avoid this problem. There was also a minor problem with the electrical outlet of one of**

the rad vans, fortunately, the ships electrician was able to fix it. A second available counter worked satisfactorily.

**Hedy Edmonds:** Was UNOLS notified of the scintillation counter issues? (The answer to this was "yes".)

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

**Kevin Arrigo:** The vans didn't appear to be plumbed in, and the sinks were unusable. While this was not a showstopper, it would have been convenient.

**Healy:** Believes that at least one van was plumbed in.

Yes.

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

Not sure.

(from Quincy Allison) There was a large unexpected shipping expense from Seward, AK; we were told the vans would stay on the ship until it returned to Seattle.

**Healy:** There was a change in shipping plan due to a need to clear the fantail space adequately for coring planned for the next cruise. Ship isn't sure who actually paid. This was a short-term change in shipping plans, and Arrigo was unaware of the change.

### ***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?*

Went very smoothly. The science party toured the ship ahead of time, so we had the spaces pretty well mapped out.

*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, we planned ahead and all installations went smoothly.

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

A track system for moving the CTD rosette in and out during deployment.

(from Quincy Allison) A stand alone refrigerator for storing chemicals and hazmat.

**Healy:** A track system for the CTD is presently in the works.

**Kevin Arrigo:** Purchased a cheap refrigerator at our own expense. There was a misunderstanding about there being one already aboard.

**Healy:** Does pre-cruise questionnaire have a place for requesting such a facility.

There used to be free-standing refers in the aft staging area, but these are apparently no longer there.

**Healy:** Do UNOLS vessels have a separate refer for storage of hazmats?

**Jon Alberts:** Yes, they do.

#### ***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?*

They were better than I had expected.

*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?*

They were OK. Maybe not as well as I would have hoped.

**Kevin Arrigo:** I got only a subset of data on a hard disk at the end of the cruise rather than everything. CS needs to check for this to make sure everything is being archived rather than only selected items. No information was lost, though, as there were redundant copies. Dale Chayes and Steve Roberts are the responsible parties.

**Healy:** Will check with Dale on this. This facility is for the material to which the scientists do not routinely have direct access. This needs to be clarified during the cruise planning process, and revisited before scientists depart the ship.

*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).*

This worked very well. It's a great system.

### ***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.)*

No problems with any of it that I know of.

**Kevin Arrigo: One of the controlled climate chambers was malfunctioning, but that was not a problem for our operation. The ship is addressing the issue.**

*b) Do you think anything needs to be upgraded?*

Not that I am aware of.

### ***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.

*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.

*g) Other*

**Kevin Arrigo: CTD deployment and recovery would be difficult in any sort of sea state, but there were no problems during our operation because most of it was in ice covered waters. The ship is addressing this issue.**

### ***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?*

Some of the satellite data took too long to arrive, but I'm not sure who's fault that was. Usually, we were able to assess ice conditions in a timely manner.

**Kevin Arrigo: Ice condition update delays of up to ~5 days caused problems, and there was no indication of how to get at the issue.**

**Healy: Nobody really understood what was going on. Everything comes through the NIC, so we will provide feedback to them on the issue.**

**Karen Frey: MODIS and some other stuff was downloaded directly off the internet rather from the NIC.**

**Kevin Arrigo: We were set up to email ocean color to ourselves on the ship, but not ice.**

**Karen Frey: Only radarsat and ice concentrations were obtainable from NIC.**

**Kevin Arrigo: We actually couldn't obtain any ice information for several days.**

#### ***14) Small Boat Operations***

*If appropriate, please comment on:*

##### *a) Adequacy of boat briefs*

Very thorough.

##### *b) Provision and availability of appropriate safety equipment*

Fine as far as I know.

##### *c) Identification of science needs and requirements*

This was done very well. We had pretty strict requirements, and the Healy staff was very cooperative in getting our optical systems up and running.

##### *d) How well the operations went*

Very well.



**Kevin Arrigo:** These went very fast and actually saved time for additional activities. A minor issue involved the requirement to have one person on the boat and a second person spotting for them, which tied up an extra person.

**Healy:** It's ok to work alone from a small boat if working in the cabin rather than over the side.

e) Other

### **15) Helicopter Operations**

*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?

Very well (although my lactose intolerant, gluten-free, vegetarian student might disagree). Certainly as well as can be expected.

**Healy:** This info was entered on the website, but there was an internal comm issue where word wasn't passed in advance to the food service. It ultimately worked out ok, but we will plan this out better in the future.

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)?)

It was very good.

c) Other

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

a) How did all aspects of housekeeping go?

Very well, once we understood what our responsibilities were.

**Kevin Arrigo: We were unaware of the cleaning assignments, but sorted it out.**

*b) How did the berth assignments go?*

Very smoothly.

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

Very smooth.

*d) Other*

**18) Medical**

*a) Were needs, if any, met?*

Yes.

*b) Medical history questionnaires*

*i) Could the forms be improved?*

I'm not sure how.

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

Very well, as far as I know. Two people boarded the ship without having turned in their forms, but this was soon rectified.

**Healy: We're not sure why this was, but the omission may have been a function of not getting the most recent list off the website. The missing forms were in fact completed before sailing.**

**19) Other comments (if any)**

(from Quincy Allison) One issue that came up when everyone arrived was lack of shipboard approved power strips. This will be addressed in the planning meetings and participants will be asked to purchase their own.

**Kevin Arrigo: This is listed on the website as a requirement.**

**Healy: We carry a supply aboard, so they were able to install proper strips.**

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*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?*