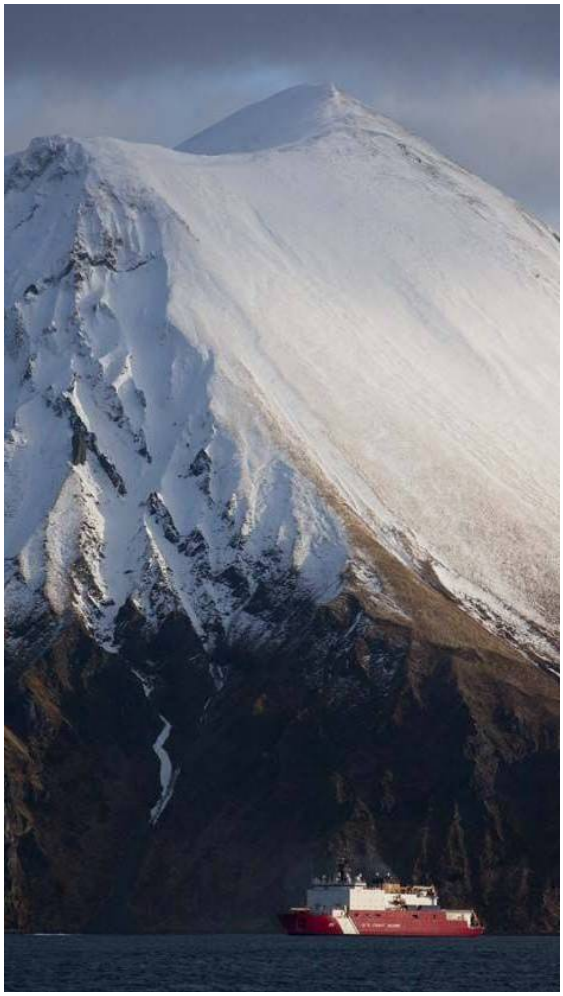
ARCTIC WEST
SUMMER/WINTER 2011
&
NOME ENERGY SUPPORT OPERATION



USCGC HEALY (WAGB-20)
27 May 2011 – 05 Feb 2012
Cruise Report

Front Cover: **Figure i-1** USCGC HEALY heading into Dutch Harbor, AK at the end of HLY-11-03.

Figure i-2 Deck and Science Divisions recover a scientific mooring during HLY-11-03.

Figure i-3 CGC HEALY escorts T/V RENDA through the ice en route Nome.

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United States Coast Guard

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16155
02 May 2013

MEMORANDUM

From: B. A. Havlik, CAPT
CGC HEALY (WAGB 20)

To: COMDT (CG-WWM-3)
Thru: CG PACAREA (PAC-37)

Subj: ARCTIC WEST SUMMER-WINTER 2011 CRUISE REPORT

Ref: (a) Polar Icebreaker Cruise Reports, COMDTINST 16155.2B

1. This report is submitted in accordance with reference (a) and covers the period from 27 May 2011 to 05 February 2012.

#

Executive Summary

Arctic West Summer-Winter 2011 (AWSW-11) consisted of four scientific research missions and the landmark Nome Energy Support Operation. HLY-11-01 was conducted by researchers from Stanford University and NASA using various optical tools on the ice, in the water, and in the air, to measure light properties. HLY-11-02 was a joint operation with the Canadian Coast Guard collecting data in support of delineation of the U.S. and Canadian Extended Continental Shelves. The mission was focused on multibeam sonar bottom-mapping and escort of CCGS LOUIS S. ST. LAURENT to facilitate use of sensitive multi-channel seismic equipment. HLY-11-03 was a recurrent mission to conduct annual service of hydrographic moorings to study the Alaskan Boundary Current. HLY-11-04 marked the first ever winter research mission. Data and samples were collected to characterize the overwintering behavior of the copepod. The Nome Energy Support Operation extended the deployment to escort the Russian tanker vessel RENDA to deliver 1.3 million gallons of fuel Nome, AK. Following successful delivery of fuel to Nome, HEALY returned to Base Seattle on 05 February 2012 after 254 consecutive days away from homeport.

More than 34,000 nm were transited during Arctic West Summer-Winter 201, to include 147 days of science support and 26 days Nome Energy Support Operation.

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Chronological Events

27 May 11	Departed Seattle from Pier 36
04 Jun 11	Moored Honolulu at Aloha Tower
12 Jun 11	Departed Honolulu from Aloha Tower
13 Jun 11	Shifted TACON from COMPACAREA to D-17
21 Jun 11	Stood into Bering Sea at Akutan Pass
22 Jun 11	Moored Dutch Harbor at UMC Pier
24 Jun 11	Embarked HLY-11-01 science party
25 Jun 11	Departed Dutch Harbor from UMC Pier
28 Jun 11	Stood into Arctic Ocean at Bering Strait
29 Jun 11	Crossed Arctic Circle at 167°56’W longitude
25 Jul 11	Crossed Arctic Circle at 168°17’W longitude
25 Jul 11	Stood into Bering Sea at Bering Strait
27 Jul 11	Stood into Gulf of Alaska at Unimak Pass
29 Jul 11	Moored Seward at Alaska Railroad Cruise Ship Pier
30 Jul 11	Disembarked HLY-11-01 science party
06 Aug 11	Departed Seward from Alaska Railroad Cruise Ship Pier
08 Aug 11	Stood into Bering Sea at Unimak Pass
09 Aug 11	Moored Dutch Harbor at UMC Pier
11 Aug 11	Departed Dutch Harbor from UMC Pier
14 Aug 11	Stood into the Arctic Ocean at Bering Strait
14 Aug 11	Crossed Arctic Circle at 168°58’W longitude
15 Aug 11	Embarked HLY-11-02 science party via helicopter at Barrow
23 Aug 11	Rafted with CCGS LOUIS S. ST. LAURENT at 78°36’N, 163°45’W
23 Aug 11	Transferred 265,528 gals of diesel fuel to CCGS LOUIS S. ST. LAURENT
23 Aug 11	Commenced joint operations with CCGS LOUIS S. ST. LAURENT
31 Aug 11	Crossed International Date Line at 87°03’N latitude
01 Sep 11	Reached 88°27’N, 159°42’E, highest latitude of deployment
02 Sep 11	Crossed International Date Line at 87°53’N latitude
22 Sep 11	Completed joint operations with CCGS LOUIS S. ST. LAURENT at 75°55’N, 138°37’W
25 Sep 11	Crossed Arctic Circle at 168°23’W longitude
25 Sep 11	Stood into Bering Sea at Bering Strait
28 Sep 11	Moored Dutch Harbor at UMC Pier
28 Sep 11	Disembarked HLY-11-02 science party
01 Oct 11	Embarked HLY-11-03 science party
02 Oct 11	Departed Dutch Harbor from UMC Pier
04 Oct 11	Stood into Arctic Ocean at Bering Strait
04 Oct 11	Crossed Arctic Circle at 168°30’W longitude
24 Oct 11	Crossed Arctic Circle at 168°28’W longitude
25 Oct 11	Stood into Bering Sea at Bering Strait
27 Oct 11	Moored Dutch Harbor at UMC Pier
28 Oct 11	Disembarked HLY-11-03 science party
29 Oct 11	Departed Dutch Harbor from UMC Pier

30 Oct 11	Stood into Gulf of Alaska at Unimak Pass
01 Nov 11	Moored Seward at Alaska Railroad Cruise Ship Pier
06 Nov 11	Embarked HLY-11-04 science party
07 Nov 11	Departed Seward from Alaska Railroad Cruise Ship Pier
10 Nov 11	Stood into Bering Sea at Unimak Pass
11 Nov 11	Crossed 60°N latitude at 168°19’W longitude
13 Nov 11	Stood into the Arctic Ocean at Bering Strait
13 Nov 11	Crossed Arctic Circle at 168°30’W longitude
29 Nov 11	Crossed Arctic Circle at 168°26’W longitude
30 Nov 11	Stood into Bering Sea at Bering Strait
05 Dec 11	Crossed 60° N Latitude at 172°55’W longitude
17 Dec 11	Moored Dutch Harbor at UMC Pier
30 Dec 11	Received tasking for Nome Energy Support Operation
30 Dec 11	Embarked AVDET
04 Jan 12	Departed Dutch Harbor from UMC Pier
06 Jan 12	Commenced escort of T/V RENDA at 58°37’N 167°37’W
06 Jan 12	Crossed 60°N latitude at 167°55’ W longitude
14 Jan 12	Arrived in Nome with T/V RENDA.
20 Jan 12	Departed Nome with T/V RENDA.
27 Jan 12	Crossed 60°N latitude at 167°50’W longitude
30 Jan 12	Completed escort of T/V RENDA at 54°06’N 166°35’W
30 Jan 12	Disembarked AVDET to Dutch Harbor, AK
30 Jan 12	Stood into Gulf of Alaska at Akutan Pass
02 Feb 13	Shifted TACON from D-17 to COMPACAREA
05 Feb 12	Moored Seattle at Pier 36

I. Deployment Phases

I.A. Pre-deployment Preparation

I.A.1. Ship Operations

I.A.1.a. Vessel Operations

Scheduling AWSW-11 was complicated by competition between the participating science parties for August-September. With the exception of HLY-11-04, all science teams wanted to focus their research during the sea ice extent minimum to avoid slower transits and other complicating factors posed by the presence of ice. Balancing the priorities of the scientific community with the PACAREA port call standards, and providing the crew with destinations other than Dutch Harbor, is continually a challenge. Once the deployment schedule was finalized in the summer of 2011, the plan included 217 days away from homeport, with 159 occurring in FY11. The deployment ultimately included 254 days away from home port upon completion of the Nome Energy Support Operation.

The 2011 deployment consisted of three familiar science missions (a five week NASA mission, a six week Extended Continental Shelf (ECS) mission, a three week North Slope Moorings mission) and one entirely new mission (a six week National Science Foundation (NSF) Winter Biomass mission). The Winter Biomass mission was HEALY's first designated winter Arctic science operation.

A detailed description of the schedule is provided in Appendix 1. Operations orders (OPORD) and deployment summary (DEPSUM) are contained in Appendix 2.

Shakedown

From 25 April thru 07 May, we performed our annual Shakedown following the winter maintenance availability. Shakedown was combined with a port call and Change of Command ceremony in San Francisco, CA. An itemized schedule of the Shakedown cruise is contained in Appendix 3. Vendor work acceptance trials were performed, grooms were conducted on various systems, and emergency drills were conducted. An aggressive training and science system shakedown was scheduled and largely achieved.

I.A.2. Air Operations

I.A.2.a. Operations

A series of training evolutions was conducted with an HH-60 from Air Station Astoria off the Oregon Coast during the transit from San Francisco to Seattle.

I.A.3. Navigation

I.A.3.a. Ship's Track

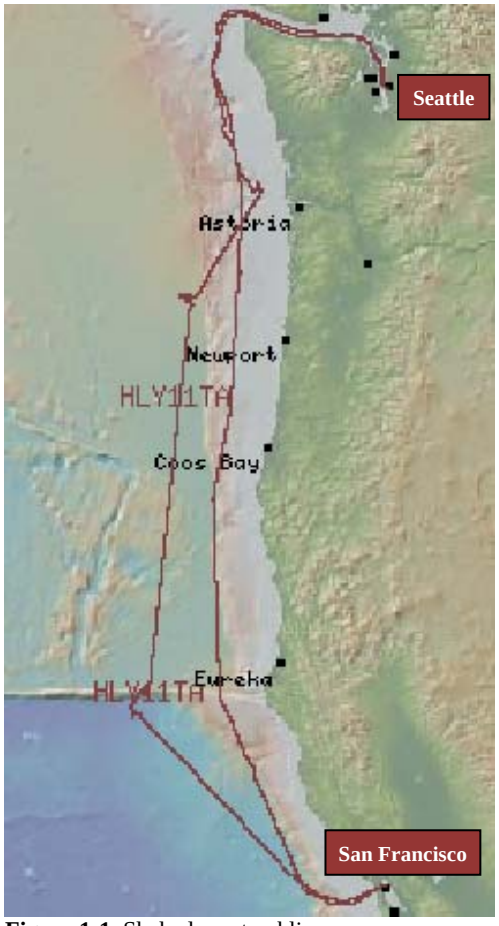


Figure 1-1 Shakedown trackline.

I.A.4. Science Operations

I.A.4.a. Projects

Onloads

Several tons of scientific equipment and supplies were onloaded in preparation for AWSW-11. Two specialized radiation vans were loaded onto the fantail to support the unique needs of HLY-11-01. Most of the loading process was executed smoothly, however, some shipments arrived to Base Seattle prior to the planned onloads or arrived without proper markings. Both complicating factors caused inefficiencies, forcing searches of base holding facilities for gear or inconvenient placing of gear in the load plan. Guidance for science parties arriving to and departing from the ship has been updated in icefloe.net to clearly articulate the importance of proper labels and timely arrival of gear.

Equipment upgrades

- Testing was completed to validate the move of the ADCP cable run from IC Gyro to MICA. Testing showed a vast improvement of the data quality in contrast to previous years. Based on the data quality collected throughout the deployment, a more permanent installation may be initiated.
- An instrument designed to measure the partial pressure of Carbon Dioxide (pCO2) was integrated into the science seawater system prior to Shakedown and was fully tested and calibrated while underway. This new instrument will enhance our passive collection capabilities.
- Terrascan software was upgraded and loaded onto a faster and more powerful computer.
- Cable runs between Aft Conn and the sensors above the HCO Shack were replaced and/or rerouted to improve connectivity.
- The power supply issue with the POS/MV antenna splitters in HCO was corrected.
- A hydrophone was installed for noise measurement tests planned during the transit from Honolulu to Dutch Harbor.

I.B. Transit from Seattle to Honolulu

I.B.1. Ship Operations

I.B.1.a. Vessel Operations

Vibration analysis and TACAN calibration was completed between homeport and Port Angeles. Technicians were transferred ashore by small boat at Port Angeles upon completion of testing.

On 04 June the ship moored to pier 9 at Aloha Tower. Tours were offered to the public for four days. Refer to Public Relations, Section VII, for details.

I.B.1.b. Boat Operations

Date	Sortie Type	Exact Mission	Boat	Time
27 May	Ops	PAX Transfer	224711	1h 43m

Table 1-1 Transit to Honolulu Small Boat Sortie Log.

I.B.2. Air Operations

I.B.2.a. Operations

Flight deck landing qualifications were conducted on 03 June with an HH65 from AIRSTA Barbers Point.

I.B.3. Navigation

I.B.3.a. Items of Interest

Captain Thomas Heberle of the Hawaii Pilot Association in Mamala Bay embarked approximately 0.5 nm south of Safe Water Mark “Hotel.” P&M tug TIGER #9 was made off to the port quarter to assist in our starboard side to mooring. Good water leading up to pier allows for a port or starboard side mooring. Water was the only service provided. Trash was off loaded by the crew and sewage was taken by a truck daily.

I.B.3.b. Ship's Track

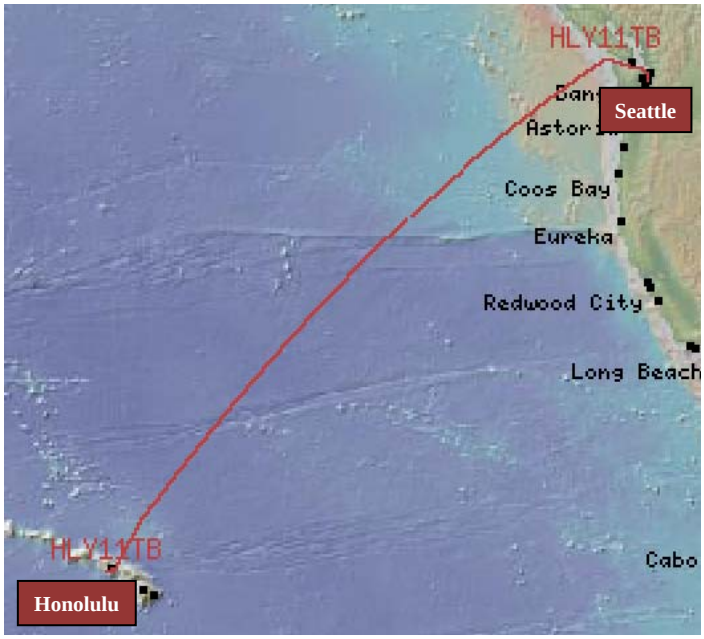


Figure 1-2 Transit to Honolulu trackline.

I.C. Northbound Transit to Dutch Harbor, AK

I.C.1. Ship Operations

I.C.1.a. Vessel Operations

Upon departure, a team of two inspectors from JMS Naval Architects and Salvage Engineers conducted an inspection of our science winches and gear for the National Science Foundation. The intent of the inspection was to evaluate our compliance with the University-National Oceanographic Laboratory System (UNOLS) Research Vessel Safety Standards. When complete, we anchored in Anchorage Area D with 7 shots of chain on deck in 144 feet of water to a sand/coral bottom. The JMS inspectors were taxied back to shore with our small boat. On 13 June, the starboard anchor was weighed and secured for sea.

I.C.1.b. Boat Operations

Date	Sortie Type	Exact Mission	Boat	Time
13 Jun	Ops	PAX Transfer	224711	1h 16m
21 Jun	Ops	Line Handlers	224711	24m

Table 1-2 Transit to Dutch Harbor Small Boat Sortie Log.

I.C.2. Navigation

I.C.2.a. Ship's Track

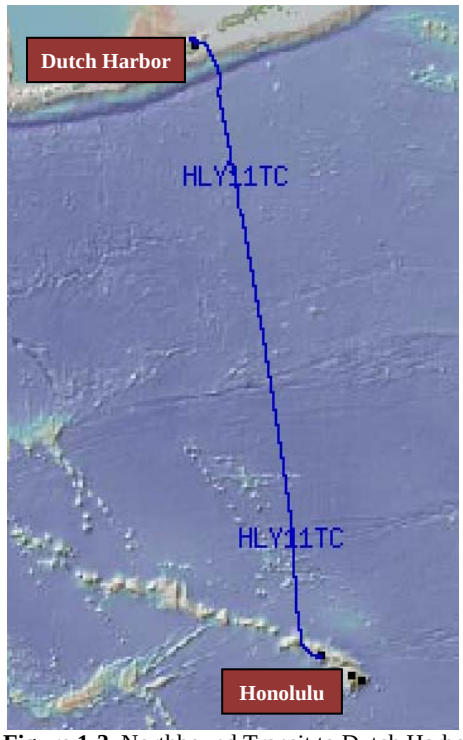


Figure 1-3 Northbound Transit to Dutch Harbor trackline.

I.C.3. Science

I.C.3.a. Projects

JMS Inspection

A comprehensive inspection report of the JMS inspection is saved on our public server at W:\Operations\MST Division\JMS 2011. Inspectors determined the equipment and programs were in compliance with the safety standards, but suggested areas for improvement.

Calibration tests

Multibeam and ship's noise tests were conducted during the transit to Dutch Harbor. Multibeam tests evaluated the heading, roll and pitch biases of the system at prescribed speeds. The system was deemed to be in good working order and calibrations were recorded. The noise tests were not effective during the transit because the sound produced by the engineering plant drowned out the desire water flow and bubble sounds. Tests were planned to take a baseline "black ship" noise measurement by shutting down all non-essential equipment and running on the Auxiliary Diesel Generator (ADG). A fire in the UPS room made it necessary to remain on two MDEs and the test was never conducted.

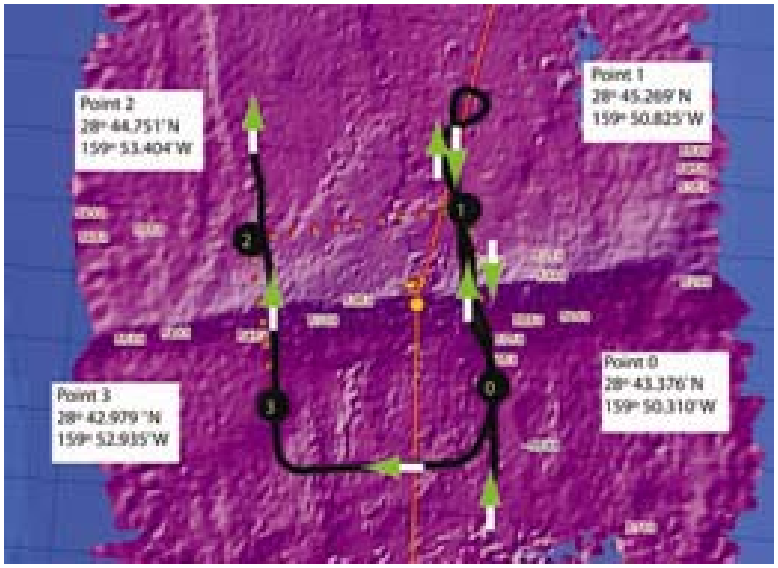


Figure 1-4 Tracklines for multibeam calibration and patch test.

Drift Arrows

Drift arrows, marked with contact information, were deployed in groups of ten at latitudes conducive to specified ocean currents. 100 arrows were deployed in total. Reports from beachcombers will be compared with drift projections to gain insight into ocean currents of the region.

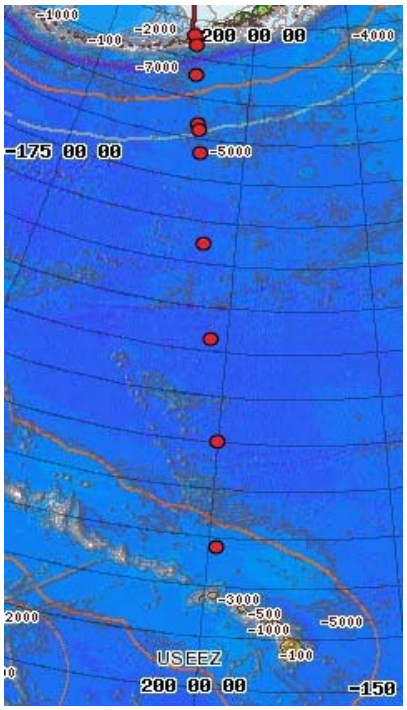


Figure 1-5 Drift arrow deployment sites during transit from Honolulu to Dutch Harbor**.**

Equipment upgrades

A 5-megapixel camera was installed in Aloft Conn to replace a lower resolution camera. Initial installation situated the camera too far away from the window, causing significant glare in certain light conditions; this problem was corrected later in the deployment. The high resolution camera provided improved quality images and performed significantly better in low light conditions.

I.D. HLY-11-01

I.D.1. Ship Operations

I.D.1.a. Vessel Operations

This was the second year of the NASA Impacts of Climate on EcoSystems and Chemistry of the Arctic Pacific Environment (ICESCAPE). The mission had an unusually large footprint of science gear and personnel. 49 members of the science party filled science berthing and lab spaces to near capacity. A specialized optical sensor suite was installed on the ASB and a 50ft collapsible mast was mounted on the flying bridge.

The three main components of the mission included field operations from the ship at open water stations, ASB operations, and on-ice deployments. The optimal scenario for productivity included all three components concurrently. Active management of personnel transfers, qualifications, and watch rotations allowed simultaneous completion of these tasks.

Upon completion of the mission, all personnel and gear was offloaded in Seward, AK on 29 – 30 July.

I.D.1.b. Deck Operations

Arctic Survey Boat (ASB) Operations

The ASB (38251) was launched 15 times to transport scientists away from the shadow of HEALY to perform optical measurements and water column sampling in an undisturbed environment.

The Apparent Optical Properties (AOP) device was a small 15 lb instrument with slight negative buoyancy that would sink slowly when deployed. The AOP would be deployed from the bow ramp to keep the ASB from interfering with optical measurements. The coxswain would back away while the crew hand-tended the gear. The Inherent Optical Properties (IOP) was a larger package that housed multiple smaller instruments and weighed approximately 100 lbs. It was deployed using the J-Bar davit and a crew-served hand crank. Vertical movement required constant hand-tending.

On-Ice Deployments

We conducted 10 ice stations in total: 9 for science and 1 for crew morale. The ice brow was deployed from the foc'sle cut-out each time to focus activity on undisturbed ice. After the ice brow was placed, the bow crane was detached from the brow and used to move gear to the ice. To mitigate risk, no personnel were allowed to traverse the brow while it was not attached to the crane.

Figure 1-6 The brow is rigged for an on-ice deployment.

I.D.1.c. Boat Operations

Date	Sortie Type	Exact Mission	Boat	Time
28 Jun	Ops	Science	38251	3h 49m
02 Jul	Ops	Science	38251	3h 31m
03 Jul	Ops	Science	38251	3h 45m
08 Jul	Ops	Science	38251	4h 23m
09 Jul	Ops	Science	38251	4h 05m
10 Jul	Ops	Science	38251	2h 00m
11 Jul	Ops	Science	38251	2h 39m
13 Jul	Ops	Science	38251	2h 01m
15 Jul	Ops	Science	38251	3h 14m
16 Jul	Ops	Science	38251	2h 35m
17 Jul	Ops	Science	38251	3h 45m
18 Jul	Ops	Science	38251	3h 41m
20 Jul	Ops	Science	38251	4h 25m
22 Jul	Ops	Science	38251	3h 59m
22 Jul	Ops	PAX Transfer	224711	2h 41m
22 Jul	Ops	PAX Transfer	224711	1h 24m
22 Jul	Ops	Assistance to 11	224710	33m
23 Jul	Ops	Science	38251	2h 38m
29 Jul	Ops	Line Handlers	224710	12m

Table 1-3 HLY-11-01 Small Boat Sortie Log.

I.D.2. Air Operations

I.D.2.a. Operations

Flight operations were with an Air Station Kodiak HH-65 and HH-60 south of Kodiak Island on 07 August.

I.D.3. Navigation

I.D.3.a. Items of Interest

Tug JUNIOR and tug CHAHUNTA assisted our starboard side to approach at the Alaska Railroad Cargo Dock in Seward. Water and sewage were received via shore tie. Recent dredging in the nearby basin permitted us to moor at any tide state. An updated bathymetric survey of the basin is included as Appendix 4.

Figure 1-7 HEALY Approaches Seward, AK

I.D.3.b. Ice Operations

Operations were conducted within the pack ice from 04 July (at 72-18N 167-23W) to 20 July (at 72-21N 151-13W). Conditions ranged from 6/10 to full coverage with an average ice thickness of 4 ft (7 ft maximum). Most ice was decaying multiyear, small to medium floes mixed with first year ice with plentiful melt ponds and ridges within the multiyear area. Based on local conditions and the occasional need for additional power, 2 or 3 main diesel engines were kept online. On occasion control was shifted to Aloft Conn to assist in spotting target floes for on-ice stations.

I.D.3.c. Ship's Track

Figure 1-8 HLY-12-01 trackline

I.D.4. Science

I.D.4.a. Projects

NASA ICESCAPE Mission

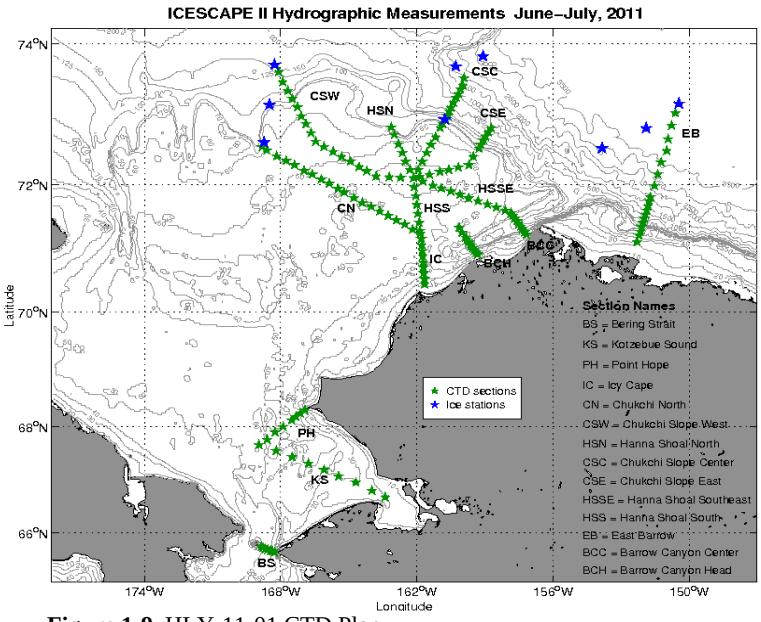


Figure 1-9 HLY-11-01 CTD Plan.

NASA's ICESCAPE, led by Dr. Kevin Arrigo of Stanford University, was a multidisciplinary study of the Arctic environment that focused on measuring the stability and changes of the Arctic ecosystem through analysis of the water column profile, surface ice data and optical properties. The science team consisted of 49 scientists from 19 scientific and educational institutions. Data collected during this study will document the rapidly fluctuating Arctic environment.

The mission began in Dutch Harbor on 25 June. The first science station commenced on 27 June and data collection continued along multiple tracklines into and through the ice pack.

Figure 1-10 Sediment sampling with the Van Veen Grab.

Unique instruments used during ICESCAPE are itemized below:

Inherent Optical Properties (IOP): Deployed from the Aft A-Frame to measure light attenuation with depth. This data can be used to refine inferred optical properties collected remotely by satellite.

Profiling Reflective Radiometer (PRR): Deployed by hand from the bow (or via small boat) to measure light reflection at shallow depths.

Thorium Pump (Th Pump): Deployed from Aft A-Frame to measure Th levels in the water. Th levels are used to infer biological productivity in the area.

Ice Core Sampling: Collected by hand during on-ice deployments. Ice cores can be used to deduce climatological changes through examination of geochemical ratios captured within the sample. CTDs, water samples, ice thickness surveys, and optical measurements were also conducted during on-ice deployments.

During HLY-11-01, we occupied 173 science stations, where 188 Conductivity-Temperature-Depth (CTD) casts, 41 Inherent Optical Properties (IOP) sensor deployments, 34 Profiling Reflective Radiometer (PRR) deployments, 28 Expendable Bathythermograph (XBT) launches, 25 Thorium Pump deployments, 17 Van Veen Grabs, and 11 Expendable CTD (XCTD) casts

were completed. Nine on-ice deployments and 15 Arctic Survey Boat (ASB) evolutions were conducted to collect samples and data.

Figure 1-11 On-ice science station.

There was also one meteorological buoy set for the Bureau of Ocean Energy Management (BOEM). Data collected will be used to refine a high resolution meteorological model for the Arctic. The buoy was retrieved during the HLY-11-03 mission.

An un-hypothesized phytoplankton bloom was consistently observed under the ice during HLY-11-01. This unexpected area of productivity is presumed to be attributed to sun light penetrating sea ice as it thins. This large scale bloom is so significant that it likely needs to be considered by large scale global climate models.

Figure 1-12 Deployment of the meteorological buoy in the Bering Sea.

I.D.5. Phase Recommendations

Assign a Bear Watch aboard the ASB when operating within 15 nm of ice or land; it was not uncommon to encounter large marine mammals when operating relatively close to ice or land. In one instance, a previously undetected polar bear surfaced within 50 yards of the ASB.

Simultaneous shipboard, ASB, and on-ice operations are possible if a stable ice floe is available. Position the ship port side to the stable floe to deploy personnel from the port bow. Ensure an ice free area is cleared (or already present) on the starboard side in order to lower the ASB and deploy science casts from the ship.

On-ice deployments are all hands evolutions that require cross-departmental qualifications to support simultaneous ASB, on-ice, and shipboard science operations.

I.E. Mid-Patrol Break 1 (Seward, AK) and Transit to Barrow, AK (via Dutch Harbor)

I.E.1. Air Operations

I.E.1.a. Operations

During the transit from Seward to Dutch Harbor, Admiral Papp (Commandant of the Coast Guard) and Alice Hill (Senior Counsel to S-1) were brought aboard by an HH-65 from Air Station Kodiak. Deck Landing Qualifications with an HH-60 were conducted after the brief visit.

I.E.2. Navigation

I.E.2.a. Items of Interest

Recent dredging activity allowed approach to the Alaska Railroad Cruise Ship terminal regardless of the tide stage. An updated high-resolution bathymetric survey of the basin is included as Appendix 4.

I.E.3. Phase Recommendations

If the brow is rigged at the quarterdeck cut-out in Seward, it must be closely monitored at low-tide. Removing the wooden rails on the pier's edge may be necessary to provide clearance at low tide.

I.F. HLY-11-02

I.F.1. Ship Operations

I.F.1.a. Vessel Operations

This mission was largely focused on dual ship operations with the CCGS LOUIS S. ST. LAURENT (LSSL). HEALY broke a straight path through the ice collecting multibeam data while the LSSL towed a seismic survey array. LSSL was limited to using only their outboard shafts while their array was in tow, restricting their maneuverability. LSSL followed in our path at 1000-1400 yards, with a typical escort speed of 4-5 kts.

Figure 1-13 HEALY and LOUIS S. ST. LAURENT taking turns leading through heavy ice.

To manage ship's speed, steering, and communication with the LSSL, the bridge watch was augmented to include 3 OODs, including break-ins. Auto-pilot reliably kept the straightest course through the ice, so it was heavily relied upon. When LSSL became best, we broke them free using a standard parallel direct assist maneuver on both sides, then faired in ahead of them. When ice conditions prohibited continued use of LSSL's towed array, they assumed escort lead, allowing us to collect higher quality multibeam data.

On two occasions, LSSL stopped the escort to conduct multibeam surveys with an autonomous underwater vehicle. During these times, we continued with our own multibeam surveys, supplemented with CTD casts and ice buoy deployments.

HEALY and LSSL rafted on two occasions; once to provide fuel and once to conduct a professional exchange at the end of the mission. To receive LSSL, HEALY came hove-to in the ice and LSSL made an approach on our starboard side. They were made fast using four mooring lines. The ice brow was placed over the starboard side of the flight deck to allow personnel to safely transit between the two ships. During the fueling evolution 265,520 gallons of diesel fuel was provided to LSSL. During the professional exchange, seamanship and baking competitions were held. LSSL hosted HEALY crew for dinner in their hangar.

Towards the end of the mission, LSSL suffered a casualty to their hub taper fitting between their centerline shaft and propeller. The casualty occurred near the end of the mission so the impact to mission execution was low. HEALY escorted LSSL to the ice edge, then proceeded to Dutch Harbor.

Figure 1-14 CCGS LOUIS S. ST-LAURENT approaches HEALY for raft-up.

I.F.2. Air Operations

I.F.2.a. Operations

HLY-11-02 mobilized offshore of Barrow, AK, via a Maritime Helicopters Bell 206 L3 helicopter. 14 trips to the ship were needed to bring the 33 personnel and their gear aboard. Favorable conditions allowed an efficient transfer.

Figure 1-15 CCGS Louis S. St. Laurent Eurocopter BO-105 Helicopter.

LSSL's Eurocopter BO-105 helicopter (CG-363) landed on HEALY 6 times during the joint operations period to support science objectives, logistics, and professional exchanges. Waivers to operate with unfamiliar aircraft are attached as Appendix 5.

I.F.3. Navigation

I.F.3.a. Ice Operations

Ice conditions ranged between 5/10 – 10/10 coverage with an average ice thickness of 6 ft 22 August – 23 September. Maximum thickness encountered was 8 ft. Most of the ice was multiyear medium to big floes with occasional patches of first year ice. Floe size and thickness increased with latitude. Ridges were plentiful on the multiyear ice and occasionally required avoidance. Back and ram maneuvers were frequently necessary and three engines were typically required. On one occasion, 34 back-and-rams, in a herringbone pattern, were required to break through a large multiyear floe. Speed through the ice was maintained at less than 7 kts, occasionally increasing to 8-9 knots during back-and-rams. The ice edge retreated approximately 80 nm over the course of the mission.

I.F.3.b. Ship's Track

Figure 1-16 HLY-11-02 trackline

I.F.4. Science

I.F.4.a. Projects

Extended Continental Shelf Mission

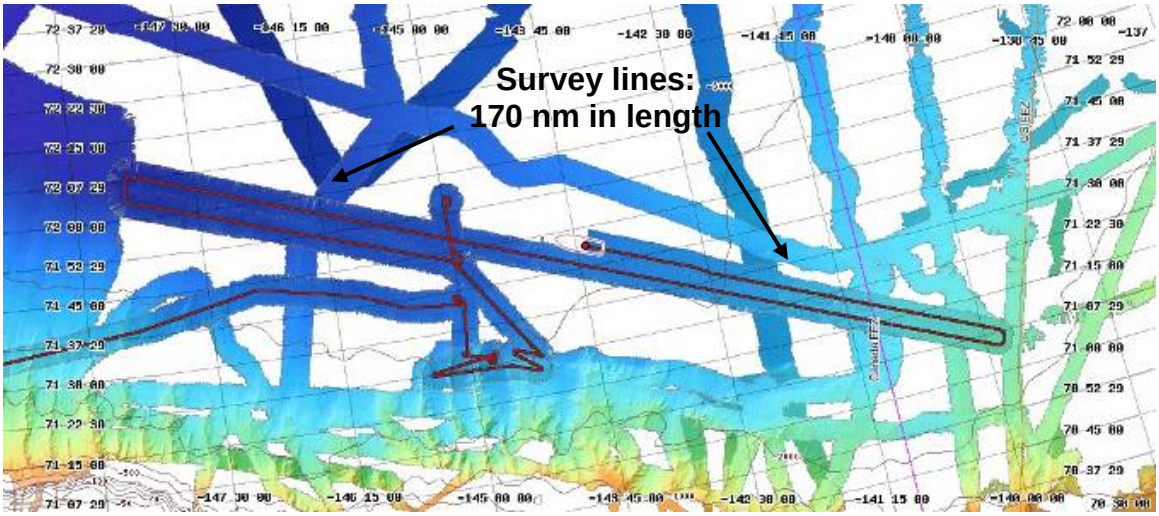


Figure 1-17 Multibeam survey mapping near the foot of the continental shelf.

The Extended Continental Shelf mission was led by Dr. Larry Mayer of the University of New Hampshire and Andy Armstrong, retired Captain from the National Oceanic and Atmospheric Association. The primary objective for the mission was to collect multibeam sonar data to support any potential claim to sovereign rights over resources on the sea floor. Expendable Bathythermographs (XBT) and Conductivity, Temperature, Depth (CTD) casts were conducted to calibrate the multibeam. The science party was comprised of an additional 29 members representing 14 US and Canadian institutions.

Prior to commencing the bathymetric surveys, two days of multibeam sonar calibrations were conducted to account for pitch, roll and heading biases. After four days of surveying a previously unmapped area, progress was made north to rendezvous with LSSL. The LSSL command and science parties came aboard for planning meetings during the fuel transfer.

Combined survey operations began north from the Chukchi Cap through the western extent of the Nautilus Basin to the Alpha-Mendeleev Ridge. Ice conditions slowly but steadily increased in coverage and thickness.

While LSSL conducted UAV surveys, HEALY continued independent mapping operations, CTD casts, and deployed four ice buoys. In addition to calibration for the multibeam, the CTD casts provided subsurface water samples for the U.S. Geological Survey (USGS) Ocean Acidification Project. Ice observers from the Naval/National Ice Center collected ship-based sea ice observations in an effort to validate or improve interpretation of satellite derived ice imagery. Representatives from the U.S. Navy deployed weather balloons to gather air profile data. The *Raven,* a U.S. Air Force hand-launched, unmanned aerial vehicle, conducted 12 flights from the

LSSL flight deck. U.S. Fish and Wildlife Service observers recorded marine mammal and bird observations.

Over 6,600 nm of the Arctic sea floor was mapped through the mission. The Science Division stood a 12-hour watch rotation and assisted with a total of 54 XBT, 8 CTD, 40 weather balloon, and 10 ice buoy deployments.

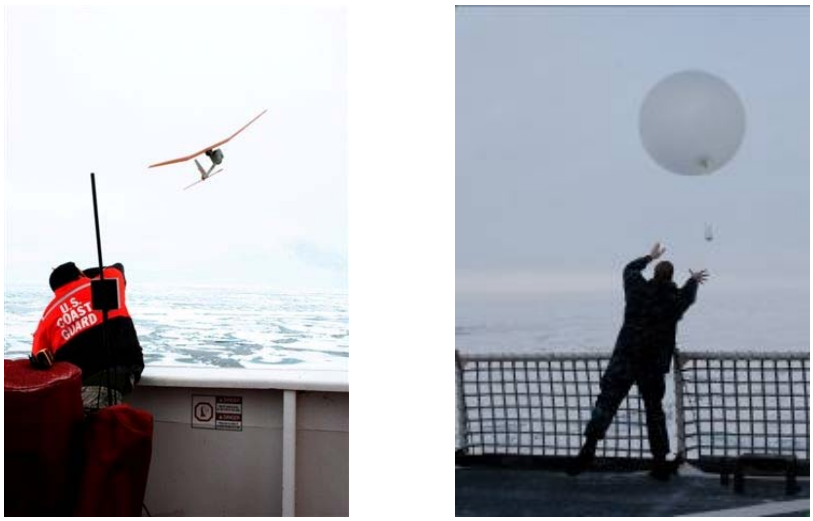


Figure 1-18 Supplemental operations included daily weather balloon launches and unmanned aerial vehicle deployments (*Raven*) from the LSSL.

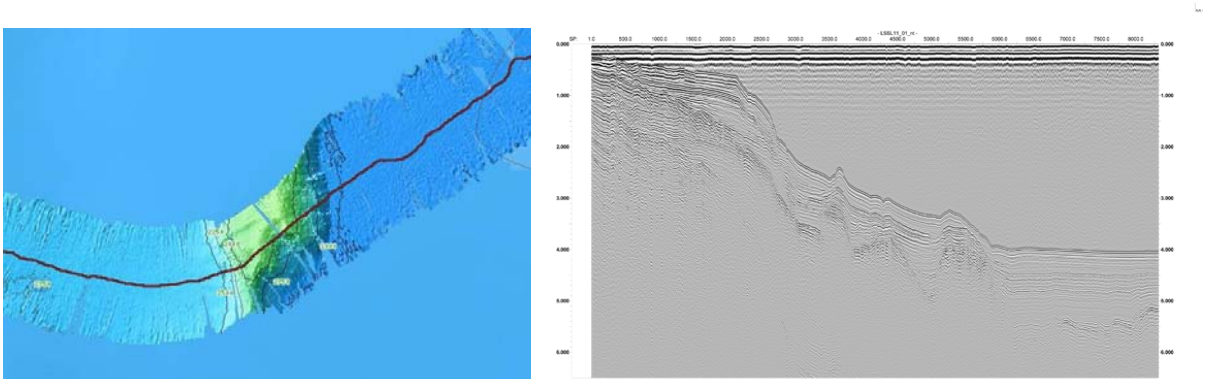


Figure 1-19 Examples of bathymetric multibeam and seismic surveying techniques of ocean floor mapping.

I.F.5. Phase Recommendations

Nearly 6 ft thick sea ice required three engine operations. Continuous throttle control was essential to maintain the average speed of 3 kts. The OOD controlling the throttles was rotated every hour to ensure proper speed management. Quick and clear communications were essential to escort safety. Any changes in speed needed to be quickly relayed to LSSL so they could adjust their speed and keep a safe distance.

On occasions when direct assists were necessary, Parallel and Figure 8 direct assist tactics were employed with a success rate of approximately 75%. Backing down, or "flushing" techniques, never yielded successful results.

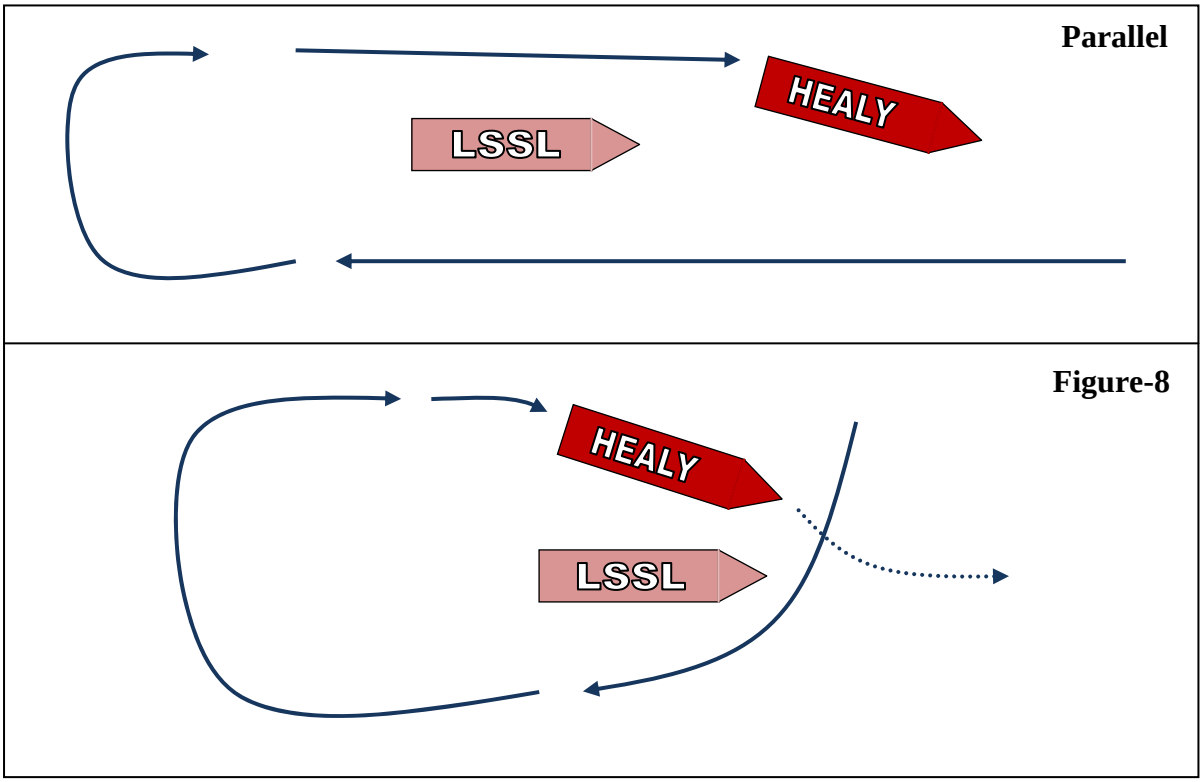


Figure 1-20 Direct Assist methods.

I.G. HLY-11-03

I.G.1. Ship Operations

I.G.1.a. Vessel Operations

The third science mission's focus was to service scientific moorings on Alaska's North Slope. All but two of the planned moorings were recovered, serviced and deployed. Two moorings did not surface after the hydrostatic releases were activated and were presumed to be trapped by sediment. 203 CTD casts were completed, producing the first comprehensive sectional CTD survey of the Western Arctic Boundary Current from Barrow to the entrance to the M'Clure Strait.

The two biggest challenges encountered during the mission were weather conditions that exceeded operating parameters for the CB-L and the whaling activity near Barrow. The mission plan was adjusted to allow mooring operations during periods of favorable weather and the embarked Community Observer facilitated communications with the whaling community to allow completion of the planned stations in the whaling exclusion zone.

I.G.1.b. Boat Operations

Date	Sortie Type	Exact Mission	Boat	Time
02 Oct	Ops	Line Handlers	224710	1h 30m
05 Oct	Ops	Mooring Recovery	224711	26m
06 Oct	Ops	Mooring Recovery	224711	34m
07 Oct	Ops	Mooring Recovery	224710	1h 11m
08 Oct	Ops	Mooring Recovery	224711	1h 39m
10 Oct	Ops	Mooring Recovery	224710	1h 28m
11 Oct	Ops	Mooring Recovery	224711	2h 19m
27 Oct	Ops	Line Handlers	224711	2h 5m

Table 1-4 HLY-11-02 Small Boat Sortie Log.

Small Boat Operations in support of moorings

Small boat operations were conducted six times in support of science mooring recoveries. The small boat approached the aft A-frame to receive the messenger, then would approach the mooring to attach the messenger. After a slow approach, the mooring would be brought into tow, and recovered using the aft A-frame. The small boat would stand by off the stern during the recovery.

Figure 1-21 The small boat runs a messenger line to the meteorological buoy in preparation for recovery.

I.G.2. Air Operations

I.G.2.a. Operations

To complete recertification requirements and conduct training, flight operations were conducted north of Dutch Harbor, AK with CG-6544 (embarked on CGC SHERMAN).

I.G.3. Navigation

I.G.3.a. Ice Operations

The only significant ice encountered was along the western edge of the Canadian archipelago and at the mouth of M'Clure Strait. Conditions ranged from zero to full ice coverage, all young ice, with an average thickness of 1 ft. Two engine operations provided ample power and no backing and ramming was necessary. Topside icing accumulated on the foc'sle from heavy spray.

Figure 1-22 Ice accumulation on the foc'sle (after removal) in McClure Strait.

I.G.3.b. Ship's Track

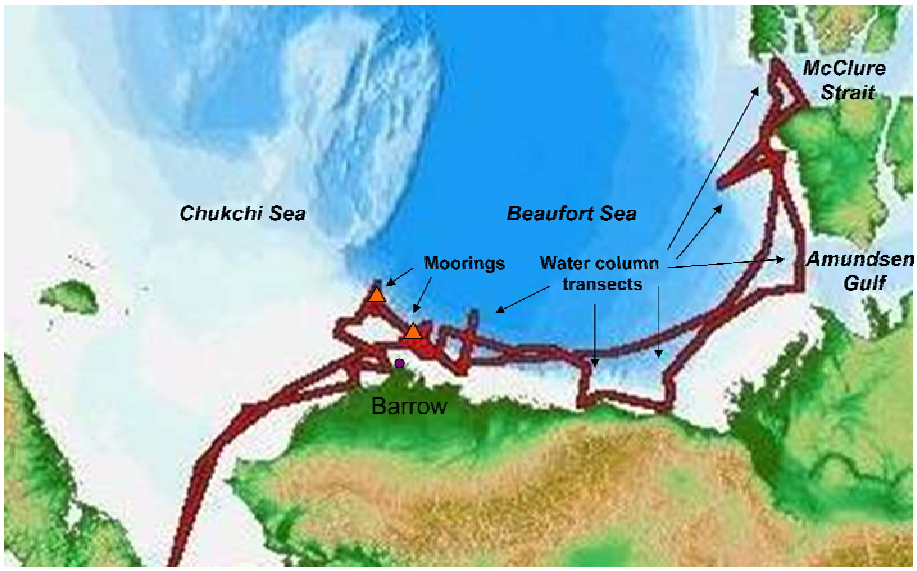


Figure 1-23 HLY-11-03 trackline.

I.G.4. Science Operations

I.G.4.a. Projects

North Slope Moorings Mission

Dr. Bob Pickart of Woods Hole Oceanographic Institute served as the chief scientist for this annually recurrent mission. Mooring work, CTD and other observations are focused on the Western Arctic Boundary Current which flows out of Barrow Canyon onto the continental slope of the Beaufort Sea. The science team consisted of 31 scientists and technicians representing 10 education and research institutions.

Figure 1-24 Snowy owl and walrus sightings were frequently recorded by bird and mammal observers.

Figure 1-25 After being hooked with the messenger line, the meteorological buoy is recovered with the TSE winch and Aft A-Frame.

HEALY made its first appearance in the Northwest Passage since 2003 and performed the first-ever high resolution hydrographic/velocity survey section across the mouth of M'Clure Strait. Amundsen Gulf was also visited to performed similar measurements using the ship's Acoustic Doppler Current Profiler and CTD equipment, gaining valuable insight into the region's physical oceanographic characteristics during the early freeze-up cycle.

Science evolution	Number
CTD casts	162
XCTD deployments	41
ADCP casts	10
Plankton net tows	7
Mooring recoveries	6
Mooring deployments	5
Drift buoy deployments	5

Table 1-5 HLY-11-03 Science Statistics

I.G.5. Phase Recommendations

The CTD winch, starboard staging area door, and the air operated winch (air tugger) all failed to operate at least once and delayed science stations. Isolation from cold weather and improved maintenance scheduling would likely decrease this type of failure in the future.

A transceiver hand-tended by a science party member that was used to communicate with the subsurface moorings was lowered too far over the side while screws were turning. The transceiver was fouled in the starboard shaft. There was a language barrier between the scientist lowering the gear and Science Division Personnel. Recommend installation of a permanent

transceiver in HEALY's spare transducer well and assigning more experienced personnel to handle these types of deployments.

Figure 1-26 Conducting CTD casts along the mouth of M'Clure Strait.

I.H. Mid-Patrol Break 2 (Seward, AK) & Transit to Dutch Harbor, AK

I.H.1. Ship Operations

I.H.1.a. Vessel Operations

High winds and heavy snow conditions forced a delay in mooring by several hours. In addition, one of the tug boats scheduled to assist suffered an engine casualty but was repaired on scene and assisted in the moorage.

I.H.1.b. Boat Operations

Date	Sortie Type	Exact Mission	Boat	Time
29 Oct	Ops	Line Handlers	224711	58m

Table 1-6 Mid Patrol Break and Transit Small Boat Sortie Log.

I.H.2. Air Operations

I.H.2.a. Operations

During transit from Dutch Harbor to Seward, HEALY conducted flight operations with Air Station Kodiak MH-65 on 31 October.

I.H.3. Navigation

I.H.3.a. Items of Interest

The tug JUNIOR made off to the starboard bow and the tug CHAHUNTA made off to the starboard quarter. Winds were 45 kts out of the north and the current was less than one knot. The state of tide was +8 feet and falling. Range of tide during the ship's stay averaged 8.3 feet. Water and sewage shore ties were provided for the duration of the port visit.

I.I. HLY-11-04: Winter Biomass (Ashjian), 07 November – 17 December, 2011

I.I.1. Ship Operations

I.I.1.a. Vessel Operations

Operating in the Chukchi and Bering Sea during the freeze up was extremely weather dependent due to the intense and frequent passing low pressure systems. As the ice edge advanced, areas of reduced fetch allowed continued operations. Extremely cold temperatures became a complicating factor to contend with. The entire crew was issued extreme cold weather gear to ensure safe transit about the weather decks was possible. Improperly adjusted heat in seldom accessed areas, such as the HCO shack, caused pipes to freeze and burst. When the temperatures dipped to approximately -40° F more than 17,000 sq. ft. of the exterior paint system failed on the 02 and 01 decks.

Figure 1-27 Paint failures were the most evident on the 02 weather decks.

I.I.1.b. Boat Operations

Date	Sortie Type	Exact Mission	Boat	Time
07 Nov	Ops	Line Handlers	224711	56m
07 Nov	Ops	Training – MOB	224711	27m
16 Dec	Ops	Training – Night	224710	30m
16 Dec	Ops	Training – Night	224711	30m
17 Dec	Ops	Line Handlers	224711	1h 48m

Table 1-7 HLY-11-04 Small Boat Sortie Log.

I.I.1.c. Cargo Operations

Scientific equipment and personnel were mobilized in Seward, Alaska, on 05 November. The onload was rescheduled due to severe winter weather that delayed HEALY's arrival and exceeded safety parameters for crane operations.

I.I.2. Air Operations

I.I.2.a. Operations

Two crew members were transferred ashore using commercial helicopters. The North Slope Borough Search and Rescue helicopter N401ES was used to transfer one to Barrow and an Evergreen Helicopters Eurocopter BO-105 was used to transport the other crewmember to Nome.

I.I.3. Navigation

I.I.3.a. Ice Operations

The ice edge rapidly advanced over the course of this winter mission and greatly assisted science sampling while in the Chukchi Sea. When operating in the Bering Sea refuge was frequently sought in the newly formed ice as a safe haven from the high seas caused by winter storms. The average thickness of ice encountered was 1 ft. Topside icing was frequent. The high seas that caused the icing also regularly broke it up, and flushed the pieces overboard before accumulation grew to an unacceptable level.

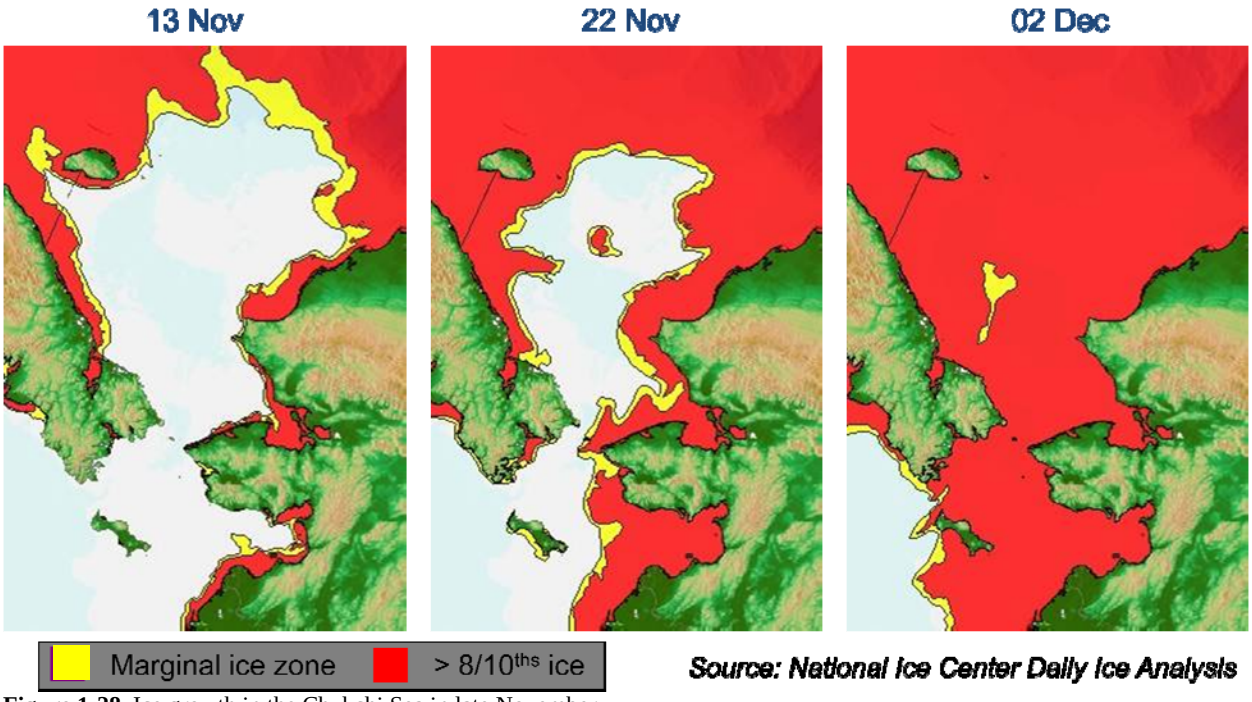


Figure 1-28 Ice growth in the Chukchi Sea in late November.

I.I.3.b. Ship's Track

Figure 1-29 HLY-11-04 trackline

I.I.4. Science Operations

I.I.4.a. Projects

Winter Biomass Mission

The mission was led by Chief Scientist Dr. Carin Ashjian of Woods Hole Oceanographic Institute and primarily used nets and the CTD to conduct a biomass survey of the Beaufort, Chukchi, and Bering Seas. Copepods and other bio-indicators were collected to document the productivity during the winter freeze up. The science team consisted of 18 scientists and technicians representing various educational and research institutions.

Severe and unpredictable weather was the primary challenge encountered through the mission. Science operations were frequently adjusted to avoid sampling during periods of heavy weather. Samples were collected using various types of nets deployed from the aft A-frame.

Science evolution	Number
CTD casts	107
Bongo net	76
Ring net	58
Multi-net	11
VPR	101

Table 1-8 HLY-11-04 Science Statistics

I.I.5. Phase Recommendations

Contingency plans for cargo storage and onload should be considered when operating during the onset of winter. Cargo lifts may be delayed due to wind and weather conditions.

I.J. Mid-Patrol Break 3 (Dutch Harbor, AK)

I.J.1 Ship's Operations

I.J.1.a. Vessel Operations

While the details of the Nome Energy Support Operation materialized the ship remained pierside at the UMC Pier from 18 December through 03 January. RENDA arrived in Dutch Harbor late on 01 January to receive a port state control inspection and conducted a fuel onload from Delta Western.

I.J.1.b. Boat Operations

Date	Sortie Type	Exact Mission	Boat	Time
02 Jan	Ops	Op-test	11	1h

Table 1-9 Mid-Patrol Break 3 Small Boat Sortie Log.

I.J.2. Air Operations

I.J.2.a. Operations

On 03 January, 2012, CG-6599 and an aviation detachment (AVDET) from Air Station Kodiak were embarked.

I.K. Nome Energy Support Operation: 04 – 29 January 2012

I.K.1 Ship's Operations

I.K.1.a. Vessel Operations

HEALY and RENDA departed en route Nome on 04 January. Shortly after departure, RENDA suffered a failed exhaust valve and returned to Dutch Harbor to anchor and effected repairs. The valve was repaired and inspected and the northbound transit resumed on 05 January. The ships entered the ice on 06 January south of Nunivak Island and arrived offshore of Nome in the fuel offload position on 14 January. The combination of heavy ice conditions and RENDA's limited power required escort distances of 200-400 yards. HEALY's bridge watch was expanded to include 5 OOD's to properly manage the close distance and escort speeds of 4-9 knots.

Both vessels remained hove-to in shore fast ice near Nome 14-20 January while the fuel was transferred ashore. The crew transited over the ice to visit Nome and enjoy liberty ashore. RADM Tom Ostebo (D17 Commander), Mayor Denise Michaels (Nome, AK), Senator Lisa Murkowski (R-AK), Lieutenant Governor Mead Treadwell (AK) and other community officials where hosted aboard while hove to.

The transit from Nome back out to the ice edge was conducted from 20-29 January. While ice conditions were challenging, strong north winds persisted creating leads in the ice that assisted in the escort and contributed to the transit while hove to during nighttime hours.

Figure 1-30 HEALY performs a direct assist of T/V RENDA.

I.K.1.b. Boat Operations

Date	Sortie Type	Exact Mission	Boat	Time
29 Jan	Ops	PAX Transfer	224710	34m

Table 1-10 Nome Energy Support Operation Small Boat Sortie Log.

I.K.2. Air Operations

I.K.2. Operations

The embarked AVDET conducted ice reconnaissance flights to assist in identifying the most favorable ice conditions for transit, namely polynyas and open leads. A HEALY crewmember participated in the reconnaissance flights to assess ice conditions and relay information back to HEALY. Flight operations were limited to a distance no farther than the ship could travel in 2 hours in order to render assistance to a downed aircraft, which was typically 10 miles or less. Flight Operations competed for valuable daylight time alongside escort operations, as both could not occur simultaneously. Keeping the flight deck clear of ice was challenging in order to maintain an adequate profile of exposed nonskid. The Air Craft Commander made the final determination on the adequacy of this effort.

I.K.3. Navigation

I.K.3.a. Items of Interest

NOAA weather products and NIC ice imagery were essential for route planning during the Nome Energy Support Operation. Their routing recommendations augmented our on scene observations. The route was chosen to incorporate information presented and remained clear of the protected marine habitat for the Spectacled Eider south of St. Lawrence Island.

As the ships neared Nome, RENDA remained hove-to a safe distance from shore while we surveyed the approaches to the harbor. We discovered that the actual depths were greater than the charted depth so RENDA could be positioned closer to Nome than initially expected. We escorted RENDA to within 460 yards of the harbor breakwater. From here, RENDA again assumed a hove-to posture to complete the fuel transfer.

I.K.3.b. Ice Operations

We encountered heavy and diverse ice conditions between 06 and 29 January. Ice thickness ranged between 1-6 feet thick and coverage was between 7/10 and 10/10. Leads and small polynas were fairly common and mostly encountered when the wind subsided. At times, up to 1 foot of snow accumulated on top of the ice and significantly increased resistance.

Early in the escort it became clear that the escort distances employed while operating with the LSSL would not suffice. The combination of heavy ice and RENDA's lack of power required escort distances to decrease to 200-400 yards. Even while operating at these closer distances, RENDA became beset 2-6 times per day, each instance requiring an average 2-4 direct assist approaches. In addition to the "Parallel" and "Figure 8" direct assist tactics, we used "Crossing the T" and "Plunger" methods in the most challenging conditions. To properly manage the communications and close quarters ship handling, the bridge watch was augmented to include 5 OODs (2 throttleman, 1 radio operator, 1 navigator, 1 safety).

Figure 1-31 Crew assess ice conditions and relay distances to the bridge during direct assist attempt.

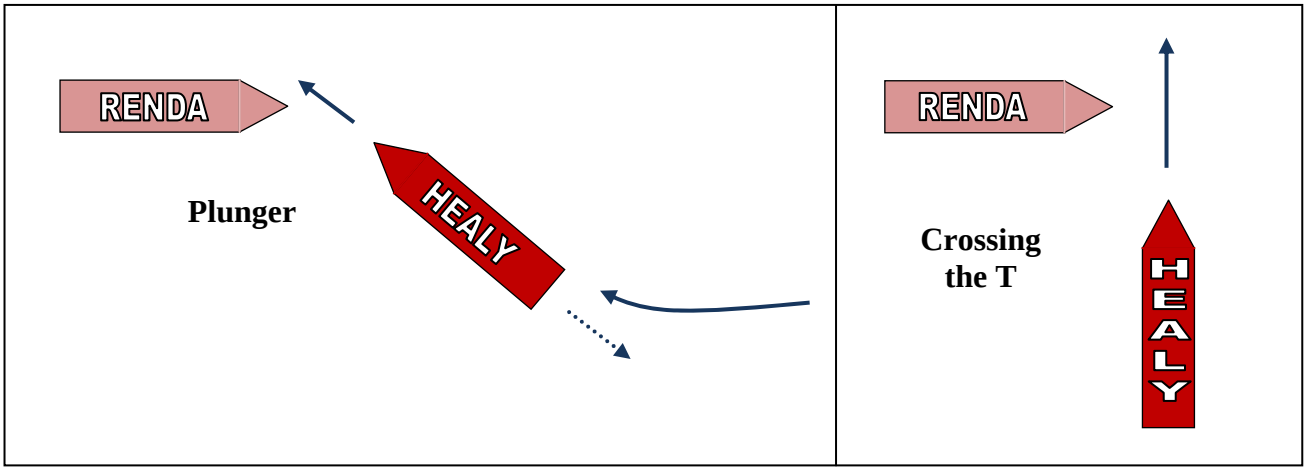


Figure 1-32 Secondary direct assist methods.

Winds out of the Northwest persisted for most of the transit to Nome. These conditions led to areas of high pressure and ridging, especially between St. Lawrence Island and the Alaskan mainland. During the transit from Nome, similar environmental conditions offered more leads and allowed greater distances to be covered each day.

I.K.3.c. Ship's Track

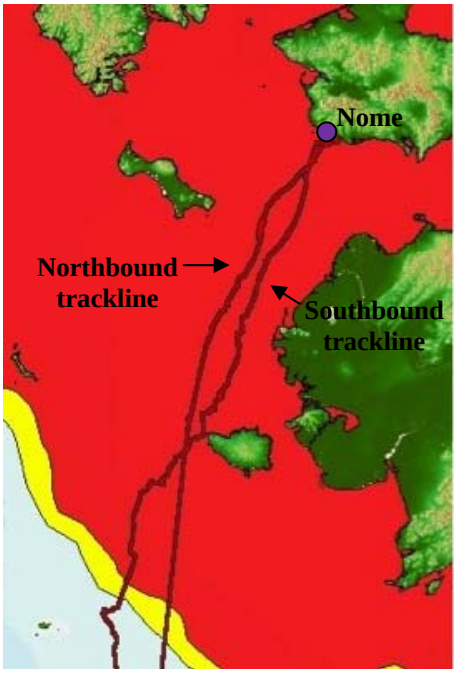


Figure 1-33 Nome Energy Supply Mission trackline.
(Red = ice coverage; Yellow = marginal ice zone)

I.K.4. Phase Recommendations

Communications:
Communication barriers complicated the escort. While a translator was embarked on RENDA, he was not familiar with maritime terminology. To mitigate this language barrier, a HEALY OOD embarked RENDA during the southbound escort to serve as a radio operator.

Standardized Procedures and Training:
Unlike other CG communities, such as Aviation, Law Enforcement, and other specialized positions, there is no guiding doctrine or training center for breaking ice. All experience is accrued on the job and varies from unit to unit, season to season. Consideration should be given to developing an icebreaking seamanship doctrine and a centralized training center. Between increasing presence in the Arctic, existing missions in the Great Lakes, First, and Fifth Districts, there is an existing base of personnel who could benefit from such a program. Standard procedures, training, and use of simulators would enhance our posture to support these unique mission requirements.

Ice Classification Standards:
RENDA's capabilities were ill suited for the Nome Energy Support Operation. This is partially attributed to the lack of an ice capability standard. Clearly delineating the acceptable operating parameters of vessels operating in diverse ice conditions would ensure appropriate vessels are identified to carry out similar operations in the future.

I.L. Southbound Transit to Seattle, WA

I.L.1 Ship's Operations

I.L.1.a. Vessel Operations

The primary concern during our transit from Dutch Harbor to Seattle was mitigating high leak rates from the shaft seals. A mitigation strategy and ballast management plan was developed prior to departure to ensure it could be completed safely.

Strong low pressure systems persisted throughout the transit across the North Pacific. During the transit HEALY was diverted for search and rescue to assist the M/V DRY BEAM; a cargo vessel that had lost a partial load of timber in heavy seas. After arriving on scene, CCGS JOHN P. TULLY assumed escort duties.

I.L.2. Navigation

I.L.2.a. Items of Interest

Upon departure from Dutch Harbor, a rhumbline track was followed from Akutan Pass to Seattle to avoid the traffic expected along the Great Circle route.

I.L.2.b. Ship's Track

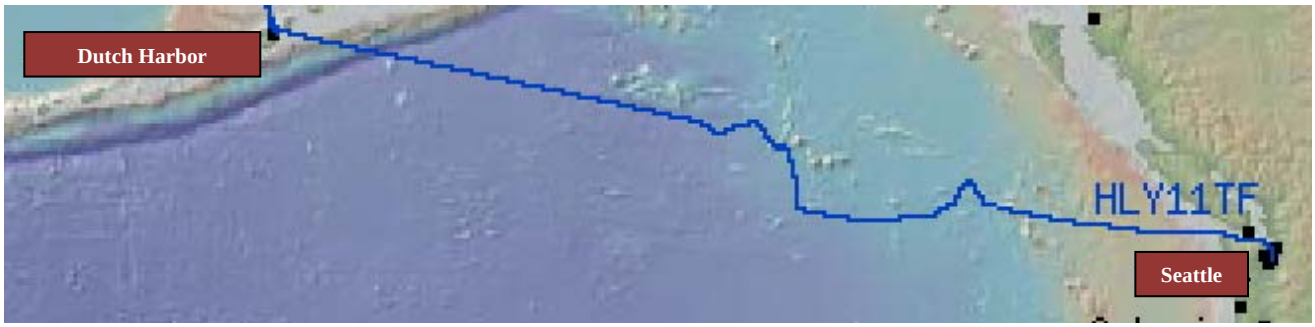


Figure 1-34 Southbound Transit to Seattle trackline.

II. Communications and Electronics

II.A. Communications

INMARSAT-B internet connectivity remained reliable to 80°N. Above 80°N, coverage waned and was completely lost by 81°30'N. At this point, a request to increase the signal strength restored connectivity up to 87°N. All connectivity was lost again above 87°N. When INMARSAT coverage was no longer available, email was still available using the Science Data Network Iridium Reach Back System.

II.B. Electronics

Voyage Management System (VMS)
VMS freeze-ups and crashes began at the end of AWS-10 and continued into AWSW-11. Sperry technicians believed the problems were caused by the ENC-557 charts. Additional troubleshooting refined the diagnosis and attributed the difficulties to the configuration file and network hardware. Following corrections and upgrades to these components, VMS operated properly inport, but became unstable while underway. Further investigation revealed incompatible feeds between the steering system and VMS. Correcting the frequency of this input corrected the VMS problems.

Aloft Conn
Hurricane force winds caused the S-band RADAR pedestal to fail. Onboard spares were used to replace the pulse bearing board and restore operations. Water intrusion also caused failures with the aloft conn camera power supply and RADAR computer power supply. Spares were used to restore both systems.

III. Engineering

Several casualties were sustained through AWSW-11, including 12 that required a General Emergency response. The most significant casualties included a main diesel engine casualty, MCPMS component failure, and shaft seal leaks.

The jacket water hose assembly on the #3 main diesel engine ballooned. Replacement hoses were ordered, delivered and installed by ship's force during the next port of call. This failure caused a loss of system redundancy when operating in heavy ice conditions where 3 engines were required.

The GEM-A component of the Machinery Plant Control and Monitoring System (MPCMS), which manages all of the incoming and outgoing data processed within the system, unexpectedly locked up and caused power loss. Under normal configuration GEM-A has a redundant counterpart (GEM-B) that can assume the processing load in the event of a failure. When operating with only GEM-B, there is a single point of failure that can cause catastrophic loss of power. When operating in close quarters during escorts, lack of redundancy for this system significantly elevated the risk. A replacement component was ordered and installed during the next port call.

Shaft seal failures that occurred during the Nome Energy Support Operation allowed seawater into shaft alley at an accelerating rate. By the end of the deployment, the leak rate had risen to approximately 6000 gallons per day. A creative dewatering system was implemented to continually divert the incoming water to ballast tanks using submersible pumps. The water was contaminated with oil so it had to be retained. Approximately 30,000 gallons of flood water was pumped to the port trim tank for holding until the completion of the deployment. Any additional extension to the deployment would have required use of additional ballast tanks and creative storage to manage the large volume of water. The shaft seals were scheduled for work during the summer 2012 dockside availability.

IV. Administration

IV.A. Morale

Unique morale events were organized after morale dinners prepared and served by voluntary divisions on Saturdays.

Figure 4-1 Tamale Preparations for Saturday Morale Meal.

Underway morale events included soccer and basketball tournaments in the hangar, a Monte Carlo game night, Rave N' Steak (a combination disco dance and steak grill), a sumo wrestling competition, and a deployment-culminating skit night.

Figure 4-2 Morale Rave 'N' Steak Event.

Figure 4-3 Sumo Night in the hangar.

Unique inport morale events included a pool party and a softball tournament held at public Dutch Harbor facilities.

Figure 4-4 Softball in Dutch Harbor, AK

The morale committee also sponsored several long-running programs during the deployment. For the Iron Sailor competition, a fitness committee monitored, recorded, and encouraged healthy and active lifestyles for participants. A winner was selected at the end of each science mission and awarded with an Iron Sailor t-shirt. To encourage safe weight loss prior to semiannual weigh-ins, the Biggest Loser contest was initiated. Twelve crew members participated in the game. The ship's Physician Assistant monitored all participants to provide

counsel and ensure practices. Upon assignment to the Nome Energy Support Operation, a crew member submitted a T-shirt design to the Morale Committee. The design was approved and sold at cost to the crew. Overall, the T-shirts were a huge hit among crew and guests.

V. Supply

V.A. Ship's Store

Furniture: Approximately $2,000.00 in furniture (including an L-shaped service counter) was purchased for the ship store prior to deployment. This increased storage space in the store and created more room for seating and customers.

Figure 5-1 The new ship's store furniture.

The new counter's placement also allowed for a table and chairs to be placed in the room, allowing crewmembers to come in, relax, and enjoy a treat.

Provision Onload: Before leaving Seattle, over $32,000 in clothing and snacks were onloaded by ship's force. Shipments continued to arrive in Honolulu & Seward. A reprovisioning run was made to Anchorage while the ship was docked in Seward for the November mid-patrol break; $597.53 in drinks and food were purchased to re-stock supplies.

Sales: Between 25 May 2011 and 04 February 2012, the ship's store sold $51,760.62 of merchandise, averaging $204 of sales per day.

VI. Medical

A crew member experienced numbness in his hands and reddened face from extreme cold. Member was on the flight deck tasked with radio communications while the wind chill was -34°F. After only 15 minutes on station, the member retreated from the cold and sought medical evaluation. The member wore an extreme cold weather parka but only regular gloves. After a few minutes of warming, the member recovered with no lasting symptoms of exposure.

A member participating in a tour in Nome sustained a spine fracture. Member was being towed on a sled by a snowmobile when the injury occurred. Emergency medical services transported the member to a local emergency room. The flight surgeon was immediately notified and provided guidance to coordinate transport of the member back to Seattle for more specialized care.

VII. Public Relations

All Press Releases for AWSW-11 are located in Appendix 7.

While in Honolulu, three hours each day were designated for public tours. The tours were advertised via press release and also via a large sign posted at the base of the brow. The tours were guided by crewmembers, through a route clearly marked with ropes and signs. There were three designated stations - the flight deck/hangar, the bridge, and ECC - where posters offered information about the ship and its missions. Additional crewmembers were stationed at these locations to answer questions. For security reasons, all members of the public coming onboard were required to show a valid picture ID and sign in and out at a table located at the base of the brow. Bags were subject to search. The tours were very successful with many members of the public offering very positive feedback on the ship and the crew. Over the course of three days, a total of 250 people visited HEALY.

While in Seward in August, many members of the crew participated in community service events, which included home repair for a Native Elder and trail restoration with Seward Parks and Recreation. For their efforts, the crew was honored at the Seward City Council meeting and received a Proclamation of Welcome and Appreciation from Seward's Mayor (included as Appendix 6).

Figure 7-1 Members of the DC division repairing a home in Seward.

During the ECS mission, PAO arranged the purchase and managed the assembly of a gift to commemorate the cooperation and collaboration of the HEALY and LOUIS S. ST. LAURENT. The gift was a shadow box containing a folded Canadian Flag, CG Arctic Service Medal, and Ship's coin and was presented at the end-of-mission ceremony.

Figure 7-2 Presentation of the joint-ECS mission plaque to CAPT Havlik.

National Geographic embarked a film crew during the mob/demob of HLY-11-01/HLY-11-02. The film crew was onboard for 6 hours and highlighted the work of Dr. Larry Mayer for the ECS mission.

The Nome Energy Support Operation was arguably the most high profile Coast Guard operation of 2012. The media interest in the story was immediate and insatiable. Our public affairs team pushed non-stop video and still images out to D17 to distribute Public Affairs for further distribution. Additionally, several phone interviews were conducted via satellite phone with National Public Radio, Associated Press, and various other media outlets. On the outbound transit from Nome, a film crew was embarked by Al Roker for The Weather Channel.

VIII. Personnel Embarked

VIII.A. Permanent Party

OFFICER PERSONNEL ABOARD		*REMARKS*
CAPT	HAVLIK, BEVERLY A.	
CDR	REEVES, JOHN D.	PCS DEPART 06AUG11
CDR	TLAPA, GREGORY B.	PCS ARRIVE 03AUG11
LCDR	DRZEWIECKI, JEFFERY A.	
LCDR	KING, LAURA E.	
LCDR	ST. PIERRE, ERIC R.	
LT	CRISS, CHARLENE R.	
LT	SKAPIN, CHRIS S. (NOAA)	PCS DEPART 06NOV11
LTJG	CUSTER, NICHOLAS S.	PCS DEPART 06JUN11
LTJG	KEHRT, EMILY T.	PCS DEPART 11JUN11
LTJG	SINKS, CHARLES A.	PCS DEPART 06AUG11
ENS	CUPRAK, TANYA M.	REPORTED 23JUN11; E-LEAVE 22JUL11 – 12AUG11; TDY 28OCT11 – 26DEC11
ENS	FROOKS, ARTHUR E.	PCS ARRIVE 15AUG11
ENS	HOHNSTADT, SARAH E.	
ENS	JOHNSTON, ROBERT Y.	
ENS	MCNAIR, HOLLY A.	
ENS	SCHWARTZ, ERIC A.	PCS ARRIVE 23JUN11; TDY 28DEC11-
ENS	SHERIDAN, ERIN D.	PCS ARRIVE 10JUN11
ENS	STECKLE, EVAN J.	
ENS	WESTON, AVERY L.	
CWO4	GALE, COLIN C.	
CWO3	LYONS, SEAN R.	PCS DEPART 10JUN11
CWO3	PLACIDO, JONATHAN A.	
CWO2	JOHNSON, KENNETH L.	PCS DEPART 22JUN11
CWO2	GOBLE, ROBERT E.	PCS ARRIVE 03AUG11
ENLISTED PERSONNEL ABOARD		*REMARKS*
BMCM	RYAN, CARY O.	PCS DEPART 10JUN11
ETCM	LIPPMANN, MARCUS B.	E-LEAVE 22JUN11 -
EMCS	DONZE,FRANK R.	
FSCS	GILBERT, PAMELA C.	
HSCS	APOLITO, BRIAN J.	
BMC	WHITMAN, MICHAEL R.	
BMC	TITILAH,SCOTT D.	
DCC	PULATIE,MITCHELL T.	
ETC	MOLLER, BRIAN C.	PCS DEPART 29SEP11
MKC	AKERMAN, LOUIS J.	PCS ARRIVE 06AUG11
MKC	LAMBERT,DOUGLAS R.	PCS DEPART 22JUN11
MSTC	STEWART, KIERAN M.	
OSC	HORNE, TIMOTHY M.	
SKC	ETTINGER, PATRICK	
YNC	STORY, CHRISTOPHER A.	E-LEAVE 01DEC11 -

BM1	CADDELL, GREGORY D.	
BM2	HIRTZEL, JERRY E.	MED LEAVE 18JAN12
BM2	MCCANN,GERALD P.	
BM3	GANGL, BRIAN R.	MED LEAVE 22JUN11 – 11JAN12
BM2	KAY, JEREMY R.	PCS ARRIVE 23JUN11
BM3	KIMMEL, PATRICK M.	PCS DEPART 07JUN11
BM3	MILIAN, DIANA	
BM3	VOLKERSON, JONATHAN D.	
DC1	OROZCO, NICOLAS A.	TDY 11AUG11 – 28OCT11
DC2	MANDRIE, MONTARNO A.	
DC2	DOYON, JOEL L.	
EM1	IRWIN,PAUL J.	PCS DEPART 22JUN11
EM1	CLINE, RICHARD E.	
EM1	PADILLA,ANDREW R.	
EM2	NEGRILA, CARLY L.	PCS DEPART 06NOV11
EM2	O'NEAL, OTIS L.	
EM2	OLSON,JAMES K.	
EM3	ENNIS, RYAN L.	
ET1	CLIMACOSA,MARK A.	
ET2	COBB, MACON R.	
ET2	GAINEY,JEREMY H.	
ET3	ADAMS,IVAN J.	
ET3	VALDIVIA, ALEXANDRO N.	PCS ARRIVE 30SEP11
FS1	CARTER II, JOHN B.	
FS2	BONDURANT, DOMINIQUE L.	
FS3	ARNDT, GARY T.	
FS3	GOMES,MELISSA J.	
FS3	YOUNG,ZACHARY J.	E-3 ON 17AUG11
IT1	BINGHAM, JOANN M.	PCS DEPART 06NOV11
IT1	BIRD, COLIN	PCS ARRIVE 15JAN12
IT1	URIBARRI, MIGUEL A.	
MK1	LEMAS, TIMOTHY	PCS ARRIVE 28SEP11
MK1	MALLOY, COREY R.	CPO 01JUN11
MK1	MYERS,JON R.	TDY 11AUG11
MK1	PORTER, MARTIN H.	PCS ARRIVE 06AUG11
MK1	WADA, MICHAEL J.	PCS DEPART 04AUG11
MK2	GAVALDON,CAMILLE F.	
MK2	JONES,JOASH E.	
MK2	SCHUMACHER, CHRISTOPHER A.	
MK3	BOGDANOFF, MICAH J.	
MK3	FORD, CHRISTOPHER W.	
MK3	OSBURN, SAMUEL B.	
MST1	BRITTLE, HORACE L.	
MST2	DICKS, OWEN T.	PCS DEPART 04AUG11
MST2	JARRETT,DANIEL N.	
MST3	ADAMS, ELIZABETH I.	PCS ARRIVE 10AUG11
MST3	CURTAZ, SHANNON M.	
MST3	PURSE,DANIEL C.	

SK1	BOUDREAU, KEVIN L.	
SK1	GONZALEZ, DAMIAN	
SK1	MORGAN, MARK D.	PCS DEPART 22JUN11
FNSK	BOOTH, MATTHEW C.	
FN	BUSHONG, KRISTEN C.	
FN	LINDEN, ALEXANDRIA A.	
FN	MCCOSKEY,JEFFREY D.	PCS DEPART 12JUN11
FN	TORRES, JESSE M.	PCS ARRIVE 05AUG11
FN	WATKINS, RYAN M.	
SNBM	JOZWIK,JOHN A.	
SN	BURGESON,EVAN K.	TDY 24DEC11 -
SN	DOVE, WILLIAM H.	PCS ARRIVE 19DEC11
SN	DRESCHER, ADELYNN N.	SNBM 30OCT11
SN	GONZALEZ, CHRISTOPHER	PCS ARRIVE 30SEP11; E-LEAVE 22NOV11
SN	HILDEBRAND, BETHANY A.	
SN	HELFRICH, FAITH M.	PCS DEPART 04AUG11
SN	NOCERINI, BENJAMIN D.	
SN	RAMSEY, ELII	REPORTED ON 11JAN11
SN	RUPP, MATHEW	REPORTED 23JUN11
SN	WELDING, BRENDA T.	

Table 8-1 Permanent Party Embarked

VIII.B. Temporary Assigned Duty (TAD) Personnel

OFFICER PERSONNEL TDY		*REMARKS*
CAPT	WACKOWSKI, STEVE (USAF)	TDY 15AUG11 – 28SEP11
CDR	PRIKASKY, IVO (USN)	TDY 15AUG11 – 28SEP11
CDR	HOLLINGSWORTH, JOHN L.	AVDET 27DEC11 – 11JAN12
LT	BUTTERWORTH, LILLIAN R.	TDY 28OCT11 – 02NOV11
LT	SUITOR, WILLIAM F.	TDY 28OCT11 – 02NOV11
LT	BLAIR, WILLIAM K.	AVDET 27DEC11 – 30JAN12
ENS	OLSEN, THOMAS E.	TDY 27MAY11 - 28SEP11
ENS	WOODBRIDGE, MARGARET W.	TDY 27MAY11 – 28SEP11
ENLISTED PERSONNEL TDY		*REMARKS*
AMTC	KELLY, DANIEL C.	AVDET 27DEC11 – 30JAN12
ETCM	REICHERT, RUSS R.	TDY 27MAY11 – 11JUN11
EMCM	PODHORA, CURTIS A.	TDY 28OCT11 - 06NOV11
MKCS	ALLARD, CHRISTOPHER E.	TDY 22JUN11 – 01AUG11
DCC	SMILEY, WILLIAM G.	TDY 15JAN12 – 05FEB12
EMC	NEARING, LINCOLN E.	TDY 28OCT11 - 06NOV11; TDY 15JAN12 – 05FEB12
MKC	AKERMAN, LOUIS J.	TDY 27MAY11 – 11JUN11
MKC	RILEY, SHANNON D.	TDY 15JAN12 – 05FEB12
OSC	HASSELBRING, PATRICK A.	TDY 04NOV11 – 05FEB12
SKC	DAVIS, MICHAEL R.	TDY 04NOV11 – 17JAN12
AET1	LUTZ, ADAM R.	AVDET 27DEC11 – 30JAN12
AG2	DEARING, WILLIAM (USN)	TDY 15AUG11 – 28SEP11
AMT2	GRIFFIN, CHAD E.	AVDET 27DEC11 – 30JAN12
AST2	FISHER, CHRISTOPHER A.	AVDET 27DEC11 – 20JAN12

AG1	MCLAREN, CHAD (USN)	TDY 04NOV11 – 18DEC11
BM1	SKINNER, JOHN N.	TDY 04NOV11 – 22DEC11
DC1	PAULINO, BLAINE L.	TDY 27MAY11 – 11JUN11
DC1	PAULINO, ROBERTO A.	TDY 05AUG11 – 28OCT11
EM1	WORRELL, KENNETH W.	TDY 27MAY11 – 11JUN11
EM1	HURTADO, DANIELL E.	TDY 27MAY11 – 11JUN11
EM2	SAMAYOA, MARVIN A.	TDY 27MAY11 – 11JUN11; TDY 09AUG11- 28OCT11
EM3	CHURCHES, CHAD E.	TDY 27MAY11 – 11JUN11
IT1	BURNS, ERIC R.	TDY 04NOV11 – 18DEC11
IT1	WHITTY, ALEXANDER J.	TDY 27MAY11 – 11JUN11
MK1	VOLZ, JOSEPH J.	TDY 28OCT11 - 06NOV11
MK2	WILSON, DEVON M.	TDY 04NOV11 – 05FEB12
MK3	BAGGS, JOSHUA K.	TDY 04NOV11 – 05FEB12
MK3	GRAHAM, CHRISTOPHER W.	TDY 04NOV11 – 05FEB12
MK3	DRAGA, TETYANA P.	TDY 27DEC11 – 30JAN12
MK3	LUCAS, ANDREW L.	TDY 15JAN12 – 05FEB12
FN	BRINDLE, KEITH	TDY 29SEP11 – 16NOV11; PCS 16NOV11
FN	MCNEASE, TYYLER K.	TDY 08JUN11 – 15AUG11; PCS 15AUG11
SN	ANDREW, SHANNON L.	TDY 04NOV11 – 05FEB12
SN	JONES, LAURENCE E.	TDY 04NOV11 – 05FEB12
SN	NAGEL, ALYSHA J.	TDY 04NOV11 – 05FEB12
SN	SWEETEN, ZACHARY N.	TDY 04NOV11 – 05FEB12
CADETS		*REMARKS*
1/C	BALKE, DEREK	TDY DEPART 04AUG11
1/C	GAYMAN, HEIDI	TDY DEPART 22JUN11
1/C	MARTIN, NICHOLAS	TDY DEPART 22JUN11
1/C	PEEK, KATHRYN	TDY DEPART 22JUN11
1/C	SHUNTICH, NATALIE	TDY DEPART 04AUG11
1/C	WEBSTER, RYAN	TDY DEPART 22JUN11
3/C	CHASE, DANIEL	TDY DEPART 22JUN11
3/C	DE VISSER, GRANT	TDY DEPART 22JUN11
3/C	DURAND, CATHERINE	TDY DEPART 22JUN11
3/C	EUCHLER, KRISTEN	TDY DEPART 22JUN11
3/C	HALL, JOHN	TDY DEPART 11JUN11
3/C	HAWLEY, CASSANDRA	TDY DEPART 22JUN11
3/C	JOCIS, STEPHANIE	TDY DEPART 22JUN11
3/C	OSTROW, RACHEL	TDY DEPART 22JUN11
3/C	PFAFF, ROBERT	TDY DEPART 22JUN11
3/C	SCHAFFNER, KEVIN	TDY DEPART 11JUN11
3/C	WOLHAUPTER, BENJAMIN	TDY DEPART 22JUN11

Table 8-2 TDY Embarked

VIII.C. Very Important Persons (VIPs) and Visitors

VISITORS	*REMARKS*
ARNESEN, ERIK	(OSU) 12-22JUN11
BEDUHN, TAMI	PREARRIVAL FOR HLY-11-02

BOLMER, TOM	27MAY11 – 22JUN11
CHAYES, DALE	(WOODS HOLE) 12-22JUN11
COLBERN, TED	JMS INSPECTION
COBB, DARRYL	CONTRACTOR; 28OCT11 – 01NOV11
CROMER, THOMAS	CONTRACTOR; 28OCT11 – 01NOV11
DUNCAN, LANCE	CONTRACTOR; 28OCT11 – 01NOV11
GEORGE, JEFF	CONTRACTOR; 28OCT11 – 01NOV11
FORCUCCI, DAVE	USCG; 12-22JUN11
GIFFORD, ALAN	27MAY11 – 22JUN11
HASSILEV, DAVID	STARC; PREARRIVAL FOR HLY-11-02
HAUSER, BRADLEY	ARE FILM CREW; 20-28JAN12
JENSON, DAVE	CONTRACTOR; 28OCT11 – 01NOV11
KAYE, SARA	ESU
LARSEN, JEFF	ARE FILM CREW; 20-28JAN12
LEWIS, BEN	CONTRACTOR; 28OCT11 – 01NOV11
MATTEILIGH, BILL	CONTRACTOR; 28OCT11 – 01NOV11
MEYER, RICK	CONTRACTOR; 28OCT11 – 01NOV11
MICHAEL, EUGENE	CONTRACTOR; 28OCT11 – 01NOV11
MOERKESETH, SONDRE	CONTRACTOR; 28OCT11 – 01NOV11
PLACE, ASHLEY	CONTRACTOR; 28OCT11 – 01NOV11
PONCELET, PAUL	CONTRACTOR; 28OCT11 – 01NOV11
RANUM, RUSS	CONTRACTOR; 28OCT11 – 01NOV11
MARTIN, TOBY	OSU; 12-22JUN11
MCGOVERN, TIM	JMS INSPECTION
MORRIS, FRED	27MAY11 – 04JUN11
PERRY, RICHARD	12-22JUN11
POWELL, BLAKE	JMS INSPECTION
RINGELBERG, JACK	JMS INSPECTION
ROBERTS, STEVE	STARC
SAISSLIN, LONNIE	CONTRACTOR; 28OCT11 – 01NOV11
SANCHEZ, MIKE	CONTRACTOR; 28OCT11 – 01NOV11
SHEPPARD, PAUL	JMS INSPECTION
SUTHERLAND, WOODY	STARC; 12-22JUN11
WHITE, MICHAEL	CONTRACTOR; 28OCT11 – 01NOV11
WILSON, JIM	JMS INSPECTION
WITT, DON	COVERTEAM; HLY-11-02

Table 8-3 Visitors Embarked

VIII.D. Science Parties

HLY-11-01

Last Name	First Name	Institution	Position	Date on	Date off
Arrigo	Kevin	Stanford University	Chief scientist	23-Jul-11	29-Jul-11
Martin	Shanique	Stanford University	Student	23-Jul-11	29-Jul-11
Brown	Zachary	Stanford University	Student	23-Jul-11	29-Jul-11
van Dijken	Gert	Stanford University	Technician	23-Jul-11	29-Jul-11
Mills	Matthew	Stanford University	Res. Assoc.	23-Jul-11	29-Jul-11

Lowry	Kate	Stanford University	Student	23-Jul-11	29-Jul-11
Santiago	Alessandra	Stanford University	Student	23-Jul-11	29-Jul-11
Reynolds	Rick	Scripps Inst. Oceanography, UCSD	Scientist	23-Jul-11	29-Jul-11
Ehn	Jens	Scripps Inst. Oceanography, UCSD	Post-doc	23-Jul-11	29-Jul-11
Tatarkiewicz	Kuba	Scripps Inst. Oceanography, UCSD	Scientist	23-Jul-11	29-Jul-11
Zheng	Guangming	Scripps Inst. Oceanography, UCSD	Student	23-Jul-11	29-Jul-11
Laney	Samuel	Woods Hole Oceanographic Instititon	Scientist	23-Jul-11	29-Jul-11
Brownlee	Emily	Woods Hole Oceanographic Instititon	Student	23-Jul-11	29-Jul-11
Mitchell	B. Greg	Scripps Institution of Oceanography	Scientist	23-Jul-11	29-Jul-11
Schieber	Brian	Scripps Institution of Oceanography	Staff Researcher	23-Jul-11	29-Jul-11
Knowles	Ben	University of California San Francisco	Staff Researcher	23-Jul-11	29-Jul-11
Pal	Sharmila	University of South Carolina	Graduate Student	23-Jul-11	29-Jul-11
Bennett	Melissa	University of South Carolina	Student	23-Jul-11	29-Jul-11
Weiss	Elliot	Scripps Institution of Oceanography	Undergrad Student	23-Jul-11	29-Jul-11
Weingartner	Laura	University of Alaska-Fairbanks	Student	23-Jul-11	29-Jul-11
Garley	Rebecca	Bermuda Institute of Ocean Sciences	Scientist	23-Jul-11	29-Jul-11
Shake	Kristen	University of Alaska-Fairbanks	Scientist	23-Jul-11	29-Jul-11
Freeman	Scott	NASA	Scientist	23-Jul-11	29-Jul-11
Christensen	Michael	NASA	Technician	23-Jul-11	29-Jul-11
Chaves	Joaquin	NASA	Scientist	23-Jul-11	29-Jul-11
Perovich	Don	Cold Regions Research and Engineering Laboratory	co-Chief Scientist	23-Jul-11	29-Jul-11
Webster	Melinda	Washington	Student	23-Jul-11	29-Jul-11
Polashenski	Chris	Dartmouth College	Student	23-Jul-11	29-Jul-11
Frey	Karen	Clark University	Scientist	23-Jul-11	29-Jul-11
Mayer	David	Clark University	Student	23-Jul-11	29-Jul-11
Wood	Christie	Clark University	Student	23-Jul-11	29-Jul-11
Kelly	Holly	Farragut High School	Scientist	23-Jul-11	29-Jul-11
Swift	James	Scripps Institution of Oceanography	Scientist	23-Jul-11	29-Jul-11
Becker	Susan	Scripps Institution of Oceanography	Technician	23-Jul-11	29-Jul-11
Gire	Ben	Scripps Institution of Oceanography	Technician	23-Jul-11	29-Jul-11
Hiller	Scott	Scripps Institution of Oceanography	Technician	23-Jul-11	29-Jul-11
Schatzman	Courtney	Scripps Institution of Oceanography	Technician	23-Jul-11	29-Jul-11
Engle	Ryan	Scripps Institution of Oceanography	Technician	23-Jul-11	29-Jul-11
Pickart	Bob	Woods Hole Oceanographic	Scientist	23-Jul-11	29-Jul-11

		Institition			
Bahr	Frank	Woods Hole Oceanographic Institition	Technician	23-Jul-11	29-Jul-11
Matsuoka	Atsushi	Villefranche	Scientist	23-Jul-11	29-Jul-11
Ortega-Retuerta	Eva	Biologique de Banyuls	Post-doc	23-Jul-11	29-Jul-11
Balch	Barney	Bigelow	Scientist	23-Jul-11	29-Jul-11
Bowler	Bruce	Bigelow	Technician	23-Jul-11	29-Jul-11
Lubelczyk	Laura	Bigelow	Technician	23-Jul-11	29-Jul-11
Stephens	Michael	Colby College	Student	23-Jul-11	29-Jul-11
Roberts	Steve	UCAR	Software engineer	23-Jul-11	
Hansen	Kathryn	NASA/Wyle Is	Journalist	23-Jul-11	29-Jul-11

Table 8-4 Science Personnel Embarked, HLY-11-01.

HLY-11-02

Last Name	First Name	Institution	Position	Date on	Date off
Mayer	Larry	University of New Hampshire	Chief Scientist	15-Aug-11	28-Sep-11
Armstrong (CAPT. ret)	Andrew	NOAA	Co-chief Scientist	15-Aug-11	28-Sep-11
Calder	Brian	University of New Hampshire	Scientist	15-Aug-11	28-Sep-11
Arsenault	Roland	University of New Hampshire	Scientist	15-Aug-11	28-Sep-11
Mitchell	Garrett	University of New Hampshire	Grad Student	15-Aug-11	28-Sep-11
Flinders	Ashston	University of New Hampshire	Grad Student	15-Aug-11	28-Sep-11
Fandel	Christy	University of New Hampshire	Grad Student	15-Aug-11	28-Sep-11
Beduhn	Tami	University of New Hampshire	Grad Student	05-Aug-11	28-Sep-11
Miao	Dandan	University of New Hampshire	Grad Student	15-Aug-11	28-Sep-11
Alavera	Jorge	University of New Hampshire	Grad Student	15-Aug-11	28-Sep-11
Hall	John	Geol Survey of Israel	Scientist	15-Aug-11	28-Sep-11
Moore	Barbara	State Dept.	Scientist	15-Aug-11	28-Sep-11
Chayes	Dale	Lamont Doherty Earth Observatory	Chief of Everything	05-Aug-11	28-Sep-11
Roberts	Steve	LDEO/UCAR	Asst. Chief of Everything	23-Jul-11	
Hassilev	David	STARC	Ship's Support	05-Aug-11	28-Sep-11
Thompson	Matt	NAVO	Scientist	15-Aug-11	28-Sep-11
Lamberton	Natalie	NAVO	Scientist	15-Aug-11	28-Sep-11
Buczkowski	Brian	USGS	Scientist	15-Aug-11	28-Sep-11
Knorr	Paul	USGS	Scientist	15-Aug-11	28-Sep-11
DeFore	Chris	USGS	Scientist	15-Aug-11	28-Sep-11
Wynne	Jonathan	Univ. of South Florida/USGS	Scientist	15-Aug-11	28-Sep-11
Robbins	Lisa	USGS	Scientist	15-Aug-11	28-Sep-11
Brumley	Kelley	Stamford University	Grad Student	15-Aug-11	28-Sep-11
Clemente-Colon	Pablo	National Ice Center	Scientist	15-Aug-11	28-Sep-11
Orlich	Alice	National Ice Center	Scientist	15-Aug-11	28-Sep-11
Collin	Jacques	Canadian Ice Center	Scientist	15-Aug-11	28-Sep-11
Russell	Leanna	CH2MHILL	Community Participant and	15-Aug-11	28-Sep-11

			MMO		
Webb	Sophie	USFWS	Scientist	15-Aug-11	28-Sep-11
Resio	Jennifer	NGA OGN	Scientist Assigned to USCG	15-Aug-11	28-Sep-11
Street	David	Canadian Hydrographic Service	Scientist	15-Aug-11	28-Sep-11

Table 8-5 Science Personnel Embarked, HLY-11-02.

HLY-11-03

Last Name	First Name	Institution	Position	Date on	Date off
Pickart	Bob	WHOI	Chief Scientist	01-Oct-11	28-Oct-11
Mathis	Jeremy	UAF	Co-Chief Sci	01-Oct-11	28-Oct-11
Kemp	John	WHOI	Mooring Tech	01-Oct-11	28-Oct-11
Ryder	Jim	WHOI	Mooring Tech	01-Oct-11	28-Oct-11
Bahr	Frank	WHOI	VMADCP/Instrument tech	01-Oct-11	28-Oct-11
Hiller	Scott	UCSD	CTD Tech	01-Oct-11	28-Oct-11
Gong	Donglai	WHOI	CTD watchstander	01-Oct-11	28-Oct-11
McEnery	Winn	TBD	CTD watchstander	01-Oct-11	28-Oct-11
Mao	ChongYuan	TBD	CTD watchstander	01-Oct-11	28-Oct-11
Schulze	Lena	WHOI	CTD watchstander	01-Oct-11	28-Oct-11
Lewis	Kate	WHOI	CTD watchstander	01-Oct-11	28-Oct-11
McNeil	Craig	Univ. of Washington	Mooring Tech	01-Oct-11	28-Oct-11
Litchendorf	Trina	Univ. of Washington	Mooring Tech	01-Oct-11	28-Oct-11
Itoh	Motoyo	JAMSTEC	Moorings JAMSTEC	01-Oct-11	28-Oct-11
Idai	Toru	JAMSTEC	Mooring Tech JAMSTEC	01-Oct-11	28-Oct-11
Cross	Jessica	UAF	Water Chemistry	01-Oct-11	28-Oct-11
Roberts	Steve	UCAR	Science Support	23-Jul-11	
Reisdorph	Stacey	UAF	Water Chemistry	01-Oct-11	28-Oct-11
Kong	Mike	UAF	Water Chemistry	01-Oct-11	28-Oct-11
Rosenwaks	Gaelin	TBD	Water Chemistry	01-Oct-11	28-Oct-11
Stockwell	Dean	UAF	Water Chemistry	01-Oct-11	28-Oct-11
Easley	Regina	USF	Water Chemistry	01-Oct-11	28-Oct-11
Juranek	Laurie	KISAO-UW/NOAA-PMEL	Water Chemistry	01-Oct-11	28-Oct-11
Byrne	Robert	USF	Water Chemistry	01-Oct-11	28-Oct-11
Liu	Sherwood	USF	Water Chemistry	01-Oct-11	28-Oct-11
Ma	Jian	USF	Water Chemistry	01-Oct-11	28-Oct-11
Elliott	Matthias	USF	Water Chemistry	01-Oct-11	28-Oct-11
Jones	Josh	UCSD	Marine Mammals	01-Oct-11	28-Oct-11
DeCicco	Luke	TBD	Sea Bird Observer	01-Oct-11	28-Oct-11
Arnesen	Erik	Oregon State	Science Support	01-Oct-11	28-Oct-11
Russell	Leanna	TBD	Community Observer	15-Aug-11	28-Oct-11

Table 8-6 Science Personnel Embarked, HLY-11-03.

HLY-11-04

Last Name	First Name	Institution	Position	Date on	Date off
Ashjian	Carin	Woods Hole Oceanographic	Chief Scientist	06-Nov-11	18-Dec-11

		Inst.			
Campbell	Robert	University of Rhode Island	Scientist	06-Nov-11	18-Dec-11
Okkonen	Stephen	University of Alaska Fairbanks	Scientist	06-Nov-11	18-Dec-11
Alatalo	Philip	Woods Hole Oceanographic Inst.	Technician	06-Nov-11	18-Dec-11
Gelfman	Celia	University of Rhode Island	Technician	06-Nov-11	18-Dec-11
Van Keuren	Donna	University of Rhode Island	Technician	06-Nov-11	18-Dec-11
Llopiz	Joel	Woods Hole Oceanographic Inst.	Postdoc	06-Nov-11	18-Dec-11
Rose	Chantelle	Graham High School	PolarTrec Teacher	06-Nov-11	18-Dec-11
Leech	David	University of Alaska Fairbanks	Technician	06-Nov-11	18-Dec-11
Longnecker	Krista	Woods Hole Oceanographic Inst.	Scientist	06-Nov-11	18-Dec-11
Roberts	Steve	UCAR	Technician		18-Dec-11
Martin	Toby	Oregon State University	Technician	06-Nov-11	18-Dec-11
Arnesen	Erik	Oregon State University	Technician		18-Dec-11
Laney	Samuel	Woods Hole Oceanographic Inst.	Scientist	06-Nov-11	18-Dec-11
Terpis	Kristina	University of Rhode Island	Intern	06-Nov-11	18-Dec-11
Pavlik	David	USFWS	Bird Observer	06-Nov-11	18-Dec-11
McLaren	Chad	NIC	Ice Analyst	06-Nov-11	18-Dec-11
Stockwell	Dean	University of Alaska Fairbanks	Scientist	06-Nov-11	18-Dec-11

Table 8-7 Science Personnel Embarked, HLY-11-04.

Appendix 1: CGC HEALY Deployment Schedule AWSW-11

CGC Healy Deployment Schedule for 2011
Revision Date: 6/3/2011

#				Days	DAFHP	IPAFHP	U/W	I/P Ops	I/P Stby	Port Call	Maintenance	Notes
1	12 Oct (Tue)	26 Oct (Tue)	Post-Deployment Standdown & CART Preparations	15							15	
2	27 Oct (Wed)	29 Oct (Fri)	SMART/CART Assessment Visit	3				3				
3	30 Oct (Sat)	28 Nov (Sun)	Inport Maintenance & TSTA Preparations	30							30	
4	29 Nov (Mon)	16 Dec (Sat)	TRAV/TSTA Assessment	20	6		8	7	5			
5	19 Dec (Sun)	25 Jan (Tue)	Inport Maintenance & Dockside Preparations	38							38	
6	26 Jan (Wed)	28 Mar (Mon)	Dockside Maintenance Availability	62							62	
7	29 Mar (Tue)	31 Mar (Thu)	u/w Sea Trials (u/w 1400 3/29, moor Manchester 1600 3/31)	3	3		3					
8	1 Apr (Fri)	1 Apr (Fri)	Inport Manchester - Fueling	1	1	1		1				
9	2 Apr (Sat)	2 Apr (Sat)	u/w Enroute Seattle (Deps' Cruise; day trip in Puget Sound)	1			1					
10	3 Apr (Sun)	24 Apr (Sun)	Post-Dockside Maintenance/Shakedown Preparations	22							22	
11	25 Apr (Mon)	28 Apr (Thu)	u/w Shakedown (u/w 1300 4/25, moor 1600 4/28)	4	4		4					890NM / 74hrs @ 12kts (3d 2 hrs)
12	29 Apr (Fri)	1 May (Sun)	Inport San Francisco	3	3	3		1	2	3		
13	2 May (Mon)	7 May (Sat)	u/w Shakedown (u/w 1000 5/2, moor 0900 5/7)	6	5		6					[AirSta Astoria DLQs]
14	8 May (Sun)	26 May (Thu)	Pre-Deployment Preparations/Science Gear Onloads	19							19	** Science Onloads 09-11 May
15	27 May (Fri)	4 Jun (Sat)	u/w Enroute Honolulu (u/w 1400 5/27, moor 0900 6/4)	9	9		9					2400NM / 178hrs @ 12kts (8d 8hrs) [AirSta Barbers DLQs]
16	5 Jun (Sun)	11 Jun (Sat)	Inport Honolulu - Logistics & Liberty	7	7	7			7	7		
17	12 Jun (Sun)	22 Jun (Wed)	u/w Multibeam Characterization (u/w 1000 6/12, moor 1600 6/22)	11	11		11					2030NM / 169hrs @ 12.0 kts (7d 1hr) [JMS Inspect - 6/12-6/13]
18	23 Jun (Thu)	23 Jun (Thu)	Inport Dutch Hbr - Fueling & Logistics	1	1	1		1				
19	24 Jun (Fri)	24 Jun (Fri)	Inport Dutch Hbr - mob HLY-11-01 (NASA ICESCAPE II)	1	1	1		1				
20	25 Jun (Sat)	29 Jul (Fri)	u/w HLY-11-01 NASA (u/w 0800 6/25, moor 2100 7/29)	35	35		35					
21	30 Jul (Sat)	30 Jul (Sat)	Inport Seward - dmo HLY-11-01 NASA	1	1	1		1				
22	31 Jul (Sun)	5 Aug (Fri)	Inport Seward - Logistics & Liberty	6	6	6			6	6		
23	6 Aug (Sat)	9 Aug (Tue)	u/w Enroute Dutch Harbor (u/w 1800 8/6, moor 1000 8/9)	4	4		4					768NM / 64hrs @ 12 kts (2d 16hrs) [AirSta Kodiak DLQs]
24	10 Aug (Wed)	10 Aug (Wed)	Inport Dutch Harbor - Fueling & Logistics	1	1	1		1				
25	11 Aug (Thu)	14 Aug (Sun)	u/w Enroute Barrow (u/w 0600 8/11)	4	4		4					1140NM / 95hrs @ 12kts (3d 23hrs)
26	15 Aug (Mon)	15 Aug (Mon)	u/w offshore Barrow - mob HLY-11-02 (ECS)	1	1		1					
27	16 Aug (Tue)	27 Sep (Tue)	u/w HLY-11-02 ECS	43	43		43					1140NM / 95hrs @ 12kts (3d 23hrs) Barrow - Dutch
28	28 Sep (Wed)	28 Sep (Wed)	Inport Dutch Harbor - dmo HLY-11-02 (moor 0800)	1	1	1		1				
29	29 Sep (Thu)	1 Oct (Sat)	Inport Dutch harbor - Fueling, Logistics & Liberty	3	3	3		1	2	2		
30	2 Oct (Sun)	2 Oct (Sun)	Inport Dutch Harbor - mob HLY-11-03 (u/w at 1600 10/2)	1	1		1					
31	3 Oct (Mon)	27 Oct (Thu)	u/w HLY-11-03 Moorings (moor 1600 10/27)	25	25		25					1140NM / 95hrs @ 12kts (3d 23hrs) Barrow - Dutch
32	28 Oct (Fri)	28 Oct (Fri)	Inport Dutch Harbor - dmo HLY-11-03 & Fueling	1	1	1		1				
33	29 Oct (Sat)	31 Oct (Mon)	u/w enroute Seward (u/w 1600 10/29)	3	3		3					722NM / 60hrs @ 12 kts (2d 12hrs)
34	1 Nov (Tue)	5 Nov (Sat)	Inport MPB Seward (moor 0900 11/1)	5	5	5			5	5		
35	6 Nov (Sun)	6 Nov (Sun)	Inport Seward - mob HLY-11-04	1	1	1		1				
36	7 Nov (Mon)	20 Dec (Tue)	u/w HLY-12-01 - Winter Cruise (u/w 1000 11/7, moor 1600 12/20)	44	44		44					
37	21 Dec (Wed)	23 Dec (Fri)	Inport Dutch Harbor - dmo HLY-12-01	3	3	3		1	2	2		
38	24 Dec (Sat)	29 Dec (Thu)	u/w Enroute Seattle (u/w 1400 12/24)	6	6		6					1707 NM / 142hrs @ 12.0 kts (5d 23hrs)
39	30 Dec (Fri)	31 Jan (Tue)	RTHP Seattle (moor 1300 12/30) - Standdown & logistics	33			1				32	
40	1 Feb (Wed)	20 Apr (Fri)	Dockside Maintenance Availability	80							80	
41			**FY 2011 (01 Oct 2010 to 30 Sep 2011) Totals**	**365**	**159**	**26**	**137**	**18**	**24**	**20**	**186**	
42			**AWSW-11 Deployment (27 May - 30 Dec 2011) Totals**	**217**	**217**	**31**	**186**	**9**	**22**	**22**	**0**	

Appendix 2: OPORD, DEPSUM (UNCLAS/FOUO)

A. Operations Order

UNCLAS //N03170//
SUBJ: HEALY ARCTIC WEST SUMMER-WINTER 2011 (AWS-11) OPERATIONS ORDER A. USCGC HEALY 141657Z APR 11 B. COMPACAREA 191614Z JAN 07, DAILY OPSUM FORMAT UPDATE C. COMPACAREA SOP D. COMPACAREA 031850Z JAN 03, AT/FP AND FORCE PROTECTIONS CONDTION GUIDANCE E. COMPACAREA 011933Z JAN 03, AREA MAJOR CUTTER SAILING LIST POLICY 1. SITUATION: THIS OPORDER COVERS FOUR SCIENCE MISSIONS, NSF SCIENCE INSPECTION AND MULTI-BEAM ACCEPTANCE TRIALS.
2. MISSION: HEALY WILL DEPLOY FOR 217 DAYS IN SUPPORT OF FOUR ARCTIC SCIENCE MISSIONS AND MULTI-BEAM ACCEPTANCE TRIALS.
3. EXECUTION:
A. COMPACAREA WILL MAINTAIN OPCON AND ADCON OF HEALY THROUGHOUT MISSION. D17 WILL ASSUME TACON OF HEALY UPON DEPARTURE FROM HONOLULU, HI ON 14JUN.
B. COMCOGARD SFLC (IBCT) WILL PROVIDE LOGISTICS, ENGINEERING AND ADMIN SUPPORT FOR HEALY AS REQUIRED.
C. CGC HEALY SHALL:
1. CONDUCT SUBJ MISSION PER FOLLOWING ITINERARY (PROPOSED IN REF A) AS OPERATIONS AND WEATHER PERMIT:
08MAY-26MAY: I/P SEATTLE PRE DEPLOYMENT PREPS
27MAY-04JUN: U/W EN ROUTE HONOLULU, HI
05JUN-11JUN: I/P HONOLULU, HI
12JUN-13JUN: NSF SCIENCE INSPECTION
14JUN-22JUN: U/W MULTI-BEAM TRIALS EN ROUTE DUTCH HBR, AK
23JUN-24JUN: I/P BSL DUTCH HBR, AK
25JUN-29JUL: U/W HLY-11-01 NASA ICESCAPES II
30JUL-02AUG: I/P KODIAK, AK
03AUG-05AUG: U/W EN ROUTE DUTCH HBR, AK
06AUG-06AUG: I/P BSL DUTCH HBR, AK
07AUG-10AUG: U/W EN ROUTE BARROW, AK
11AUG-11AUG: U/W MOB HLY-11-02 ARCTIC ECS
12AUG-27SEP: U/W HLY-11-02 ARCTIC ECS
28SEP-02OCT: I/P BSL DUTCH HBR, AK
03OCT-27OCT: U/W HLY-11-03 NORTH SLOPE MOORINGS
28OCT-28OCT: I/P BSL DUTCH HBR, AK
29OCT-31OCT: U/W EN ROUTE SEWARD, AK
01NOV-06NOV: I/P SEWARD, AK
07NOV-20DEC: U/W HLY-11-04 WINTER MISSION
21DEC-23DEC: I/P BSL DUTCH HBR, AK
24DEC-29DEC: U/W EN ROUTE SEATTLE, WA
30 DEC: RTHP SEATTLE, WA
2. ANTICIPATE OPERATIONS WITH UNFAMILIAR HELICOPTERS. A WAIVER REQUEST PENDS THE IDENTIFICATION OF THE AVIATION SERVICE PROVIDER.
3. REPORT OPERATIONS PER REF B.
4. DIVING OPERATIONS ARE NOT AUTHORIZED AND ARE NOT SCHEDULED FOR THE SCIENCE MISSION.
5. SERVICE SUPPORT: LOGISTICS PER STANDARD PROCEDURES.
6. SHIP-PROVIDED SUPPORT: WHILE DEPLOYED, DISTRICTS MAY PROVIDE HEALY WITH TASKING THAT DOES NOT INTERFERE WITH ASSIGNED OPS, TACON CHANGES OR HOMEPORT RETURN DATES. IF TASKING IS PROVIDED, INFO PACAREA.
DISTRICTS ARE ENCOURAGED TO PASS INFO REGARDING HIGH THREAT AREAS AND SPECIFIC TOI INFO TO ENABLE HEALY TO TRANSIT THOSE AREAS AND MAKE APPLICABLE INTEL AND SIGHTING REPORTS AS OPERATIONS ALLOW.
7. COORDINATING INSTRUCTIONS:
A. DIRLAUTH ALCON.
B. THIS ORDER IS EFFECTIVE ON RECEIPT AND CANCELLED ON RECEIPT OF A REVISED MESSAGE OR COMPLETION OF MISSION.
8. COMMAND AND SIGNAL:

A. COMMS IAW STANDARD COMMUNICATIONS PROCEDURES IN ANNEX K OF REF C AND AS AMPLIFIED BY PACAREA (PAC-6). CURRENT INMARSAT/IRIDIUM POLICY MESSAGES ARE PROVIDED ON PACAREA (PAC-3) INTRANET:
HTTP://CGWEB.PACAREA.USCG.MIL/PACAREAPO/POHOMEPAGE.HTM THEN CLICK THE POLICY MESSAGES LINK.
B. OPCON POC IS THE PACAREA COMMAND CENTER (510) 437-3701.
9. MAINTAIN FPCON ALFA FOLLOWING GUIDANCE IN REF D.
10. PACAREA POC: LCDR GREG SOMERS AT (510) 437-3815.

UNCLAS //N03170//
SUBJ: HEALY ARCTIC WEST SUMMER-WINTER 2011 (AWS-11) OPERATIONS ORDER
- CHANGE ONE
A. MY 211530Z APR 11
1. AMEND PARAGRAPH 3.C OF REF (A) AS FOLLOWS:
CGC HEALY SHALL CONDUCT SUBJ MISSION IAW THE FOLLOWING ITINERARY AS OPERATIONS AND WEATHER PERMIT:
30JUL-05AUG: I/P SEWARD, DEMOB HLY-11-01 NASA ICESCAPES II
06AUG-09AUG: U/W EN ROUTE DUTCH HBR, AK
10AUG-10AUG: I/P DUTCH HBR, BSF
11AUG-14AUG: U/W EN ROUTE BARROW, AK
15AUG-15AUG: U/W MOB HLY-11-02 ARCTIC ECS
16AUG-27SEP: U/W HLY-11-02 ARCTIC ECS
28SEP-02OCT: I/P BSL DUTCH HBR, AK
03OCT-27OCT: U/W HLY-11-03 NORTH SLOPE MOORINGS
28OCT-28OCT: I/P BSL DUTCH HBR, AK
29OCT-31OCT: U/W EN ROUTE SEWARD, AK
01NOV-06NOV: I/P SEWARD, AK
07NOV-20DEC: U/W HLY-11-04 WINTER MISSION
21DEC-23DEC: I/P BSL DUTCH HBR, AK
24DEC-29DEC: U/W EN ROUTE SEATTLE, WA
30DEC: RTHP SEATTLE, WA
2. THIS INCORPORATES A CHANGE TO PORTCALL DATES AND LOCATIONS, A CHANGE TO DEMOB LOCATION OF HLY-11-01, AND MOB AND MISSION DATES FOR HLY-11-02.
3. PACAREA POC: CDR PATRICK ST JOHN AT (510)437-3833
BT
NNNN

UNCLAS //N03170//
SUBJ: HEALY ARCTIC WEST SUMMER-WINTER 2011 (AWS-11) OPERATIONS ORDER
- CHANGE TWO
A. MY 211530Z APR 11
B. MY 082117Z JUN 11
1. COMMANDERS INTENT: SUPPORT D17 TO SAFELY AND EFFICIENTLY AFFECT RELIEF OF NOME FUEL DELIVERY WITHOUT COMPROMISING HEALYS FUTURE MISSION COMMITMENTS AND OUR ABILITY TO RECOVER AND RECONSTITUTE THE CREW AND CUTTER.
2. AMEND PARAGRAPH 1 OF REF (B) AS FOLLOWS:
17DEC: I/P DUTCH HBR, AK
TBD: U/W OP NOME ENERGY SUPPORT
TBD: U/W EN ROUTE SEATTLE, WA
3. REMAIN UNDER D17 TACON PENDING FINAL DETERMINATION ON ESCORT OF T/S RENDA'S FUEL DELIVERY TO NOME AK. OUTCHOP AND TRANSIT TO ARRIVE HP NLT 21 JAN 2012.
4. PACAREA POC: LCDR DOUG WYATT AT (510) 437-6612.
BT
NNNN

B. Deployment Summary

UNCLAS FOUO //N16240//
SUBJ: USCGC HEALY DEPLOYMENT SUMMARY 27MAY11 - 05FEB12 A. COMPACAREA SOP, ANNEX R, APPENDIX 5 B. COMPACAREA 211530Z APR 11, HEALY ARCTIC WEST SUMMER-WINTER 2011 (AWS-11) OPERATIONS ORDER
C. COMPACAREA 082117Z JUN 11, HEALY ARCTIC WEST SUMMER-WINTER 2011 (AWS-11) OPERATIONS ORDER - CHANGE ONE D. COMPACAREA 201507Z DEC 11, HEALY ARCTIC WEST SUMMER-WINTER 2011
(AWS-11) OPERATIONS ORDER - CHANGE TWO E. CCGDSEVENTEEN 301906Z DEC 11, NOME ENERGY SUPPORT TASK ORDER F. COMDT (CG-711) 111421Z AUG 11, WAIVER TO CONDUCT FLIGHT OPERATIONS WITH CONTRACT HELICOPTERS
G. COMDT (CG-711) 301614Z NOV 11, WAIVER TO CONDUCT HELO OPS WITH NON-USCG HELICOPTERS
H. COMDT (CG-711) 271807Z JAN 12, EXTENSION OF HEALY AVCERT I. MY 302118Z DEC 11, CG-6599 AIRCRAFT ARRIVAL J. MY 310437Z JAN 12, CG-6599 AIRCRAFT DEPARTURE 1. PURPOSE OF DEPLOYMENT: ARCTIC WEST SUMMER WINTER ISO SCIENCE AND NOME FUEL SHORTAGE
A. N/B TRANSIT: 9 DAY TRANSIT, 7 DAY INPORT HONOLULU, 10 DAY MULTIBEAM CHARACTERIZATION TEST/TRANSIT TO DUTCH HARBOR (27 MAY - 21 JUN)
B. AWSW-11-01: 35 DAY NASA ICESCAPE (25 JUN - 29 JUL)
C. AWSW-11-02: 45 DAY ARCTIC EXTENDED CONTINENTAL SHELF (15 AUG - 28 SEP)
D. AWSW-11-03: 25 DAY NORTH SLOPE MOORINGS (03 OCT - 27 OCT)
E. AWSW-11-04: 41 DAY WINTER BIOMASS CRUISE (07 NOV - 17 DEC)
F. AWSW-11-05: 26 DAY ESCORT OF RUSSIAN TANKER RENDA TO/FM NOME, AK (04 JAN - 29 JAN)
G. S/B TRANSIT: 7 DAY RETURN TRANSIT (30 JAN - 05 FEB) 2. DEPLOYMENT STATISTICS.
A. DEPARTED HOMEPORT FOR AWS: 27MAY11
B. RETURNED HOMEPORT: 05FEB12
C. DAFHP THIS PATROL: 254
D. DAFHP FY11: 159
E. DAFHP FY12: 127
F. DISTANCE TRAVELED FOR AWSW: 34,417 NM
G. DAYS IN HIGH THREAT AREA: 0
H. TRANSIT DAYS: 44
I. UNPLANNED INPORT DAYS: 17
J. PLANNED INPORT DAYS: 28
3. PORT CALLS.
A. HONOLULU, HI, 05 - 11 JUN, CREW LIBERTY AND TOURS.
B. DUTCH HARBOR, AK, 22 - 24 JUN, FUELING, SCIENCE GEAR ONLOAD AND MOB OF AWSW-11-01.
C. SEWARD, AK, 30 JUL - 06 AUG, SCIENCE GEAR OFF/ONLOAD, DMO OF AWSW-11-01 AND CREW LIBERTY/MID-PATROL BREAK.
D. DUTCH HARBOR, AK, 29 SEP - 01 OCT, FUELING, SCIENCE GEAR OFF/ONLOAD, DMO OF AWSW-11-02 AND MOB OF AWSW-11-03.
E. DUTCH HARBOR, AK, 28 OCT, FUELING, SCIENCE GEAR OFF/ONLOAD, DMO OF AWSW-11-03.
F. SEWARD, AK, 02 - 07 NOV, LOGISTICS, MOB OF AWSW-11-04 AND CREW LIBERTY.
G. DUTCH HARBOR, AK, 18 DEC - 03 JAN, LOGISTICS, DMO OF AWSW-11-04, PREP FOR FUEL SUPPLY MISSION, AND CREW LIBERTY.
4. LAW ENFORCEMENT STATISTICS: NTR.
5. SAR STATISTICS:
A. 26JUN11: DIVERTED BY D17 TO ASSIST THE TUG ARIES, REPORTING DISTRESS WITH 04 POB IN POSN 56-46N 167-20W; RELEASED FM CASE 07 HRS LATER BY D17 AFTER ALL POB SAFELY RECOVERED BY CG HELO.
B. 02JUL11: DIVERTED BY D17 TO ASSIST 22 PPL STRANDED ON ICEFLOE OFFSHORE BARROW, AK; RELEASED 2 HOURS LATER BY D17 AFTER ALL PPL SAFETY RECOVERED BY NORTH SLOPE BOROUGH SAR HELO.
C. 03FEB12: DIVERTED BY RCC ALAMEDA AT 030710U FEB TO RENDEZVOUS

W/ M/V DRY BEAM AFTER PARTIAL LOSS OF CARGO OF DOUGLAS FIR TIMBER AND DAMAGE SUSTAINED IN ADVERSE WX CONDITIONS PM 02FEB. ARRIVED ON SCENE AND ESCORTED VSL UNTIL RELIEVED BY CCGS JOHN P. TULLY AT 040121U FEB.
D. STATISTICS:
1. TOTAL HOURS ON SAR: 28
2. LIVES SAVED: 0
3. PROPERTY SAVED (EST.): $0
6. SCIENCE STATISTICS:
A. SCIENCE CASTS: 955 (465 CONDUCTIVITY-TEMPERATURE-DEPTH, 101 VIDEO PLANKTON RECORDER, 82 EXPENDABLE BATHYMETRIC THERMISTOR, 76 BONGO NET, 58 RING NET, 52 EXPENDABLE CONDUCTIVITY-TEMPERATURE-DEPTH, 41 INHERENT OPTICAL PROPERTIES, 34 PROFILING REFLECTANCE RADIOMETER, 25 THORIUM PUMP, 11 MULTINET, 10 ACOUSTIC DOPPLER CURRENT PROFILER)
B. MOORING (BUOY) EVOLUTIONS: 13 (06 RECOVERIES, 07 DEPLOYMENTS)
C. OTHER EVENTS: 17 VAN VEEN GRABS, 09 ON-ICE STATIONS, 40 WX BALLOONS, 04 ICE BUOY DEPLOYMENTS, 07 DRIFT BUOY DEPLOYMENTS, AND 07 PLANKTON NET TOWS.
D. MET OR EXCEEDED ALL PLANNED DEPLOYMENT GOALS:
1. AWSW-11-01 (NASA): OCCUPIED 12% MORE SCIENCE STATIONS THAN PLANNED (173 ACTUAL VS 150 ORIGINALLY PLANNED).
2. AWSW-11-02 (ARCTIC ECS): MET MAPPING OBJECTIVES COVERING 6,600NM IN THE US AND CANADIAN EEZ'S.
3. AWSW-11-03 (NORTH SLOPE MOORINGS): MET ALL MOORING RECOVERY/DEPLOYMENT OBJECTIVES (EXCEPT THREE MOORINGS THAT FAILED TO SURFACE) AND OCCUPIED 2% MORE CTD AND XCTD STATIONS THAN PLANNED (203 ACTUAL VS 200 PLANNED).
4. AWSW-11-04 (WINTER BIOMASS MISSION): COMPLETED MORE THAN 100% OF PLANNED STATIONS IN CHUKCHI/BEAUFORT SEAS; FIRST MISSION TO SAMPLE THESE AREAS IN WINTER. WEATHER SEVERELY LIMITED SAMPLING IN BERING SEA; WHEN WEATHER ALLOWED SAMPLING, THE SUCCESS RATE WAS AS HIGH AS ACHIEVED IN THE CHUKCHI/BEAUFORT SEAS.
7. DOMESTIC ICEBREAKING STATISTICS:
A. AWSW-11-05 (NOME ENERGY SUPPORT OPERATION): ESCORTED RUSSIAN FLAGGED T/V RENDA THROUGH 800NM OF ICE-COVERED BERING SEA TO DELIVER 1.3M GALS OF FUEL TO NOME, AK.
B. STATISTICS:
1. TOTAL HRS OF DIRECT ASSIST: 145
2. TOTAL FUEL CONSUMED: 216,987 GALS 8. FUEL:
A. DIESEL USED (CUTTER AND BOAT): 2,544,640 GAL (1,643,550 GAL FY11).
B. GAL/DAY PROPULSION AVG PER U/W DAYS: 11,129.8 GAL/DAY.
C. JP-5 USED (AVIATION): 1,239.9 GAL (333.2 GAL FY11).
D. FUELING AFHP AMOUNT AND PRICE PER GALLON.

LOCATION	TYPE	AMOUNT	PRICE	TOTAL
1. DUTCH HARBOR	DIESEL	322,076	$4.02	$1,294,745.52
2. DUTCH HARBOR	DIESEL	451,235	$4.02	$1,813,964.70
3. DUTCH HARBOR	DIESEL	714,105	$4.02	$2,870,702.10
4. DUTCH HARBOR	DIESEL	486,694	$4.02	$1,956,509.88

9. ENGINEERING:
A. MAJOR CASUALTIES:
1. CAT 3 CASREP INITIAL-11032 060742ZJUN11, STEAM PRE-HEATER, MULTIPLE VENTILATION PRE-HEATERS WERE LEAKING AND IN NEED OF REPAIRS. REPAIRS HAVE BEEN ROUTINELY DEFERRED DUE TO LACK OF FUNDING. THESE HEATERS WERE IDENTIFIED AS MISSION-ESSENTIAL FOR THE WINTER MISSION AND PARTS WERE ORDERED. THE MOST CRITICAL HEATERS WERE REPAIRED DURING TRANSIT BTWN DUTCH HBR AND SEWARD PRIOR TO HLY-11-04. THE REST ARE SCHEDULED TO BE REPAIRED AT A LATER DATE.
2. CAT 3 CASREP INITIAL-11036, NR1 BOILER DUCT HEATERS, DURING MAY 2011 TRANSIT, A HEATER OVERHEATED, TRIGGERING A

FIRE ALARM. SHIP'S FORCE DISCOVERED BOILER DUCT ELECTRICAL HEATER WAS GROUNDED AND SEVERELY CORRODED. SFLC ORDERED PARTS AND CONTRACTED REPAIRS FOR DUTCH HARBOR PORT CALL 28 SEP. CONTRACTORS AND PARTS WERE DELAYED AND ARRIVED DURING 27-29 OCTOBER PORT CALL. PARTS WERE INSTALLED AND REPAIRS COMPLETED DURING TRANSIT TO SEWARD. BOILERS' HEATERS OPTESTED SAT. CASCORED 311729ZOCT11.
3. CAT 3 CASREP INITIAL-11037, NR2 BOILER DUCT HEATERS, DURING MAY 2011 TRANSIT NR1 BOILER DUCT HEATER OVERHEATED TRIGGERING A FIRE ALARM. SHIP'S FORCE INVESTIGATED NR2 HEATER AFTER INCIDENT WITH NR1 AND DISCOVERED NR2 BOILER DUCT ELECTRICAL HEATER WAS ALSO GROUNDED AND SEVERELY CORRODED. SFLC ORDERED PARTS AND CONTRACTED REPAIRS FOR DUTCH HARBOR PORT CALL 28 SEP. CONTRACTORS AND PARTS WERE DELAYED, AND ARRIVED DURING 27-29 OCT PORT CALL. PARTS WERE INSTALLED AND REPAIRS COMPLETED DURING TRANSIT TO SEWARD. BOILERS' HEATERS OPTESTED SAT. CASCORED 010844ZNOV11.
4. CAT 4 CASREP INITIAL-11038, VOYAGE MANAGEMENT SYSTEM, THIS WAS THE THIRD VMS CASREP SINCE MID-2010. ORIGINALLY, THE SHIP WAS UNABLE TO STEER RELIABLY USING THE AUTO PILOT OR NAV MODES. NUMEROUS CHANGES AND IMPROVEMENTS WERE MADE TO THE SYS, ENABLING IT TO FUNCTION IN ALL MODES. AFTER A 30-DAY U/W TRIAL PERIOD, NO SIGNIFICANT FAILURES WERE EXPERIENCED. CASCORED 082352ZAUG11.
5. CAT 3 CASREP INITIAL-11052, SUPPLY FAN MOTOR NR55, SHIP'S FORCE DISCOVERED THAT THE BEARINGS ON SUPPLY FAN 55, WHICH PROVIDES REPLENISHMENT AIR TO THE HOUSE, HAD WORN OUT IN LESS THAN A YEAR. NEW BEARINGS AND A NEW MOTOR WERE INSTALLED. CASCORED 110134ZJAN12.
6. CAT 3 CASREP INITIAL-11053, CONDENSATE COOLER, HEALY HAS HAD A STEAM HAMMER PROBLEM IN AMR 1 SINCE COMMISSIONING. SHIP'S FORCE IS WORKING W/ LREPL ON A PERMANENT SOLN.
7. CAT 3 CASREP INITIAL-11054, GPS ANTENNA, THE P-CODE GPS, WHICH SERVES AS THE PRIMARY GPS FEED TO THE SHIP GYRO, WAS FOUND TO BE INOPERABLE DUE TO A FAULTY GPS ANTENNA. A NEW ANTENNA WAS ORDERED AND INSTALLED. WHILE UPGRADING THE SIMRAD 512 GPS EPROM, THE OUTPUT SETTINGS TO THE MRK-39 GYRO COMPASS WERE LOST. TECHS RECONFIGURED THE PORT SETTING AND MRK-39 OPERATION WAS RESTORED. CASCORED 180511ZAUG11.
8. CAT 3 CASREP INITIAL-11055, NR3 COOLER ENDBELL PLATE, THE NR3 MDE CFW END BELL COOLER HAS BEEN REPAIRED MORE THAN 5 TIMES IN THE PAST YEAR. WELD REPAIRS WERE PERFORMED TWICE AND SUBSEQUENTLY COVERED W/ SYNTHOGLASS FOR ADDITIONAL STRENGTH. DUE TO THE REPETITIVE NATURE OF THIS CASUALTY, AN ADDITIONAL BRACKET WAS INSTALLED IN ORDER TO STRENGTHEN THE CONNECTION BETWEEN THE PIPE AND THE COOLER. A FLEXIBLE EXPANSION JOINT WAS INSTALLED TO TAKE THE PLACE OF THE PIPE SPOOL LEADING INTO THE COOLER ASSEMBLY. THESE REPAIRS WERE SUCCESSFUL IN MAINTAINING THE STRUCTURAL INTEGRITY OF THE END BELL COOLER. NEW END BELLS ARE SCHEDULED TO BE FABRICATED AND INSTALLED DURING DOCKSIDE 2012. SF BEGAN WORK ON A TCTO TO ALLOW THIS SOLN TO BE PERMANENTLY IMPLEMENTED. A FOUNDATION INSPECT OF ALL FOUR MDE'S WAS SCHEDULED, AS SF BELIEVED THE FOUNDATION ON MDE3 WAS BAD, CAUSING THE END BELL TO CRACK. CASCORED 010827ZNOV11.
9. CAT 3 CASREP INITIAL-11056, MAIN PROPULSION COMPUTER MONITORING SYSTEM (MPCMS) UNITERRUPTIBLE POWER SUPPLY (UPS), A CLASS CHARLIE FIRE WAS DISCOVERED IN THE MPCMS UPS, RENDERING IT INOPERABLE. A REPLACEMENT UPS WAS ORDERED. SHIP'S FORCE MAINTAINED TWO ENGINES ON LOAD TO DECREASE THE LIKELIHOOD OF TOTAL LOSS OF SHIP'S POWER. A TEMPORARY UPS WAS INSTALLED FOR CERTAIN ITEMS IN THE MPCMS

SYSTEM TO MAKE IT EASIER TO RECOVER FROM A POWER LOSS. THE UPS WAS NO LONGER SUPPORTED AND PARTS WERE UNAVAILABLE SO CONVERTEAM IDENTIFIED AN ACCEPTABLE REPLACEMENT, WHICH WAS INSTALLED AFTER HLY-11-01 IN SEWARD. CASCORED 120352ZAUG11.

10. CAT 3 CASREP INITIAL-11058, NR2 CLIMATE CONTROL CHAMBER, THE CLIMATE CONTROL CHAMBER COULD NOT MAINTAIN REQUIRED TEMPERATURES. NO SYSTEM WIRING DIAGRAMS, MANUALS, OR PRINTS WERE AVAILABLE. REPLACEMENT PARTS WERE INSTALLED. SHIP'S FORCE REQUESTED THAT SFLC LOCATE INSTALLED WIRING DIAGRAMS OR DRAWINGS FOR COMPRESSOR, CLIMATE CONTROL CHAMBER FAN COIL UNIT, AND THE PROGRAMMABLE CHART RECORDER. THE EVAPORATOR FAN BEGAN SINGLE-PHASING WHEN OPERATING IN DEFROST CYCLE AND WHEN THE PARTLOW CONTROL BOX WAS TURNED OFF. SHIP'S FORCE RESEARCHED AND FOUND AN OEM WIRING DIAGRAM. THE EVAPORATOR WAS REWIRED ACCORDING TO SPECS, NEW TEMPERATURE SWITCHES WERE INSTALLED, THE PROGRAMMABLE CHART CONTROLLER WAS CALIBRATED, AND SYSTEM OPTESTED SAT. CASCORED 292115ZAUG11.

11. CAT 3 CASREP INITIAL-11075, MAIN SALT WATER (MSW) PUMP SEAL, THE LOWER VERTICAL PUMP SEAL FAILED, CAUSING WATER TO SPRAY INTO THE BILGE WHEN RUNNING. PUMP REMAINED AVAILABLE FOR EMERGENCY OPERATION. SEAL RENEWAL COULD NOT BE COMPLETED IN PLACE DUE TO NUMEROUS OBSTRUCTIONS. REPAIRS WERE SCHEDULED FOR HEALY'S SECOND SEWARD PORT CALL WITH NESU ASSISTANCE. THE #2 MSW PUMP WAS REPLACED IN SEWARD AND OPERATIONALLY TESTED SATISFACTORY. CASCORED 110422ZNOV11.

12. CAT 3 CASREP INITIAL-11077, BLACK WATER RECIRC PUMP, SHIP'S FORCE DISCOVERED A PAIR OF FOAM EARPLUGS CAUGHT IN THE BLACK WATER COLLECTION HOLDING TANK EJECTOR, CAUSING THE VACUUM RE-CIRC PUMPS TO RUN CONTINUOUSLY. THIS, COMBINED WITH THE AGE OF THE EQUIPMENT AND LACK OF MAINTENANCE CAUSED THE PUMP MOTOR TO SHORT AND THE PUMP TO BURN UP. THE MOTOR ALSO SUFFERED FROM TWO BLOWN FUSES, A GROUNDED WINDING, AND WATER INTRUSION. THIS CASUALTY WAS LARGELY A RESULT OF THE CONSISTENTLY DEFERRED MAINTENANCE ON THESE PUMPS; IT IS HIGHLY RECOMMENDED THAT THEY BE OVERHAULED AT NEXT AVAILABILITY. CASCORED 091931ZAUG11.

13. CAT 3 CASREP INITIAL-11082, NR2 OCEANOGRAPHIC WINCH, THE TRAWL CORE WINCH (TCW) CAPACITORS FAILED. BECAUSE THE TCW WAS NEEDED FOR HLY-11-02, SHIP'S FORCE REPLACED THEM WITH CAPACITORS FROM THE #2 OCEANOGRAPHIC WINCH AND ORDERED 12 REPLACEMENTS TO BE INSTALLED PRIOR TO HLY-11-04. THE PARTS WERE RECEIVED, INSTALLED, AND TESTED SAT. CASCORED 052105ZOCT11.

14. CAT 3 CASREP INITIAL-11083, STARBOARD STAGING DOOR, SHIP'S FORCE DISCOVERED A DAMAGED SHAFT SEAL ON THE DRIVE ASSEMBLY. MOTOR BRAKE WAS FOUND DAMAGED BEYOND REPAIR. AN AIR RATCHET WAS INSTALLED TO ALLOW OPERATION OF THE DOOR. THE DOOR WAS DEEMED MISSION-CRITICAL FOR HLY-11-03 AND HLY-11-04. A RENEWED MOTOR WAS RECEIVED FROM SFLC DURING THE 28 SEP TO 02 OCT PORT CALL, INSTALLED, AND OPTESTED SAT. MORE PARTS ARE EN-ROUTE TO RESTORE THE DOOR TO FULL FUNCTIONALITY, AS THE SHAFT SEAL CONTINUES TO HAVE METAL-ON-METAL CONTACT.

15. CAT 3 CASREP INITIAL-11089, NR3 MDE JW HOSE ASSEMBLY, JACKET WATER OUTLET HOSE ASSEMBLY WAS FOUND BALLOONED IN 3 LOCATIONS. REQUESTED SFLC TO PROCURE AND DELIVER REPLACEMENT ASSEMBLY. RECEIVED THE NEW HOSE ASSEMBLY IN DUTCH HBR. SHIP'S FORCE INSTALLED THE ASSEMBLY, AND AN OPTEST OF THE EQUIPMENT WAS SAT. CASCORED 042232ZOCT11.

16. CAT 3 CASREP INITIAL-11090, NR3 MDE OIL MIST DETECTOR,

THE NR2 MDE OIL MIST DETECTOR PRINTED CIRCUIT BOARD FAILED. BULGING JACKET WATER HOSE ON #3 MDE (SEE CASREP 11089) MADE IT MORE PRACTICAL TO REPLACE THE FAILED CIRCUIT BOARD FROM NR2 WITH THE FUNCTIONING ONE FROM NR3. THIS CASUALTY WAS MISSION-DEGRADING WHEN OPERATING IN THE ICE, REQUIRING 3 MDES. RECEIVED PARTS IN DUTCH HBR ON 01OCT11 AND SENT THE FAILED PRINTED CIRCUIT BOARD OUT FOR REPAIR. CASCORED 030404ZOCT11.

17. CAT 3 CASREP INITIAL-11098, NR2 FIRE PUMP, THE SEAL ASSEMBLY ON THE NR2 FIRE PUMP WAS FOUND LEAKING BY WHEN THE FLOODING ALARM IN AMR NR1 SOUNDED. WHILE ATTEMPTING REPAIRS, SHIP'S FORCE FOUND THE SUCTION VALVE LEAKING BY EXCESSIVELY, AND WAS NOT ABLE TO FULLY REPAIR UNTIL THE SEA BAY WAS DRAINED DOWN. JUST PRIOR TO 27 OCT DUTCH HBR PORT CALL, THE NR3 FIRE PUMP EXPERIENCED A CASUALTY (REFERENCE CASREP 11099), LEAVING ONLY ONE WORKING FIRE PUMP. DURING THE SEWARD PORT CALL, A NEW PUMP WAS SHIPPED TO HEALY, AND MBRS OF NESU SEATTLE INSTALLED THE NEW PUMP. AFTER INSTALL, IT OPTESTED SAT. CASCORED 080444ZNOV11.

18. CAT 3 CASREP INITIAL-11099 NR3 FIRE PUMP, DURING BALLASTING AND DE-BALLASTING OPERATIONS ON 26 OCT, THE FIRE ALARM IN AMR #3 SOUNDED AS THE #3 FIRE PUMP MOTOR BURNED UP AFTER RUNNING FOR AN EXTENDED PERIOD OF TIME. UPON REMOVAL OF THE MOTOR, SHIP'S FORCE NOTICED THERE WAS NO RUBBER IN THE COUPLING BETWEEN THE MOTOR AND THE PUMP. THE FIRE ALARM WAS LIKELY CAUSED BY THE SMOKE FROM THE RUBBER BURNING UP, BUT THE MOTOR MAY HAVE ALSO SUSTAINED DAMAGE. THIS CASUALTY LEFT HEALY WITH ONE WORKING FIRE PUMP, AS THE NR2 FIRE PUMP WAS OOC (REFERENCE CASREP 11098). SHIP'S FORCE USED THE MOTOR FROM THE NR2 FIRE PUMP TO REPLACE THE MOTOR ON THE NR3 FIRE PUMP BEFORE LEAVING DUTCH HARBOR, PROVIDING HEALY WITH TWO WORKING FIRE PUMPS. CASCORED 300557ZOCT11.

19. CAT 3 CASREP INITIAL-11103,OCEANOGRAPHIC WINCH NR1, EXPERIENCED INTERMITTENT FAILURES IN WINCH CONTROL WHILE DEPLOYING AND RECOVERING CTD CASTS. ALL TROUBLESHOOTING RECOMMENDATIONS HAD BEEN TRIED W/ NEGRES, AND EFFORTS CONTINUED W/ HELP FM CONVERTEAM. PLANNED TO USE THE WINCH UNTIL FAILURE AND DEVISED A PLAN TO RECOVER THE GEAR IF IT COULD NOT BE RETRIEVED THROUGH NORMAL OPS. EVEN THOUGH THIS HEALY-SPECIFIC SYSTEM IS MISSION CRITICAL, NO BACKUP SYSTEMS WERE INSTALLED IN CASE OF FAILURE. HEALY EM'S CONTINUED TO TROUBLESHOOT SYSTEM AND FOUND LOOSE RELAY CONNECTIONS. CONNECTIONS WERE SECURED AND SYSTEM OPTESTS WERE SAT. CASCORED 060358ZDEC11.

20. CAT 3 CASREP INITIAL-11104, AUXILARY BOILER NR1, NR1 BOILER INOP DUE TO FAULTY COMBUSTION AIR FLOW SWITCH. RECEIVED AND INSTALLED PARTS, AND SYSTEM OPTESTS WERE SAT. CASCORED 232038ZDEC11.

21. CAT 3 CASREP INITIAL-11108, STRG-GEAR PORT RUDDER AC, SHIP'S FORCE FOUND MINOR OIL LEAKS ON PORT STRG GEAR ACTUATOR DIRECTIONAL CONTROL VALVES DUE TO CRACKED INLINE ACTUATOR CHECK VALVES. STEERING GEAR REMAINS OPERATIONAL, AND WATCHSTANDERS ARE MONITORING LEAKS. AWAITING PARTS TO CONDUCT REPAIRS.

22. CAT 3 CASREP INITIAL-12004, NR2 ASW MOTOR, THE NR2 ASW PUMP MOTOR WAS DAMAGED AS A RESULT OF A MSW PIPING FAILURE. THE MSW SYSTEM CONTINUES TO HINDER OPERATIONS AND DAMAGE ADDITIONAL EQUIPMENT WHEN A LEAK OCCURS. THIS SYSTEMIC PROBLEM CAUSED BY PREMATURE PIPING EROSION AND CORROSION FROM SYSTEM WIDE DISSIMILAR METALS AND GALVANIC CELL ACTIVITY IS GROWING IN SEVERITY AND MUST BE ADDRESSED. A SPARE ASW PUMP MOTOR IN HEALY'S CAGE IN SEATTLE WAS

DELIVERED TO NOME, AK, INSTALLED, AND OPTESTED SAT.
CASCORED 230708ZJAN12.
23. CAT 3 CASREP INITIAL-12010, PORT SHAFT SEAL, THE PORT STERN TUBE SHAFT SEAL ASSEMBLY BEGAN TO LEAK AT A RATE OF 20-50 GALS PER HOUR. SHIPS FORCE INSPECTED THE SHAFT SEAL, ADJUSTED THE TENSION OF THE BELLOWS, AND REALIGNED THE SHAFT SEAL W/ NEGRES. THE LEAK IS SUSPECTED TO BE CAUSED BY WORN SEAL SURFACE COMPONENTS AS A RESULT OF NORMAL WEAR AND DETERIORATION. ON 30 JAN, NEAR DUTCH HBR, THE WEAR ON THE PORT SHAFT SEAL WAS MEASURED AND FOUND TO BE WITHIN PARAMETERS TO ALLOW HEALY TO CONTINUE ON TO SEATTLE, WA. WARTSILA TECH ASSIST, EVAL, AND REPAIR HAVE BEEN REQUESTED TO BE COMPLETED DURING DOCKSIDE 2012.
24. CAT 3 CASREP INITIAL-12015, STBD SHAFT SEAL, THE STBD STERN TUBE SHAFT SEAL ASSEMBLY IS LEAKING AT A RATE OF 100 GALS PER HR. WARTSILA TECH ASSIST, EVAL, AND REPAIR HAVE BEEN REQUESTED TO BE COMPLETED DURING DOCKSIDE 2012.
25. CAT 3 CASREP INITIAL-12017, SUPERSTRUCTURE PAINT FAILURE, SUPERSTRUCTURE PAINT HAS SUFFERED COMPLETE FAILURE. PAINT IS COMING OFF IN SHEETS AND IS APPROX 25 PERCENT GONE. CAUSE IS THOUGHT TO BE EXTREME COLD EXPERIENCED DEC - JAN (-30 DEG F). IDENTIFIED 14,000 SQ FT OF SUPERSTRUCTURE AREA THAT IF NOT PAINTED THIS YEAR WILL DAMAGE STEEL PLATING. PAINT IS CLOGGING DECK DRAINS AND FOULING INTAKES. ALSO A FOD HAZARD FOR FLIGHT OPS AND PRESENTS AN ENVIRONMENTAL STEWARDSHIP PROBLEM. INITIAL ESTIMATE FOR THESE PAINT REPAIRS IS 350,000 USD. SF DID NOT ANTICIPATE OR BUDGET FOR THIS PAINT FAILURE.
B. ENGINEERING CASUALTIES: DAYS THIS PATROL/DAYS FY11
MDE1 MDE2 MDE3 MDE4 SHAFT
00/18 00/00 97/65 00/57 00/00
BOIL1 BOIL2 CYCLO1 CYCLO2 AGEN
00/03 00/00 00/00 00/04 00/00
10. HELO OPS:
A. NO EMBARKED HELO FOR THE SCIENCE MISSIONS OF AWSW-11, HOWEVER, CONDUCTED FREQUENT FLIGHT OPS WITH 'UNFAMILIAR' AIRCRAFT FOR PAX TRANSFER AND WITH CG HELOS TO MEET RECERTIFICATION STANDARDS. EMBARKED AVDET ON 30DEC11 FOR NOME ENERGY SUPPORT MISSION.
B. 05MAY11: 24 TOUCH AND GOS, 13 LANDINGS W/ PRI TIE, 1 HIFR, 1 VERTREP COMPLETED W/ AIRSTA ASTORIA CG-6005 FOR TRNG AND RECERT.
C. 03JUN11: 02 TOUCH AND GOS AND 08 LANDINGS W/ PRI TIE COMPLETED W/ AIRSTA BARBERS POINT CG-6571 FOR TRNG/RECERT.
D. 07AUG11: 02 LANDINGS W/ PRI TIE COMPLETED W/AIRSTA KODIAK CG-6503 FOR PAX XFER; 1 HIFR AND 1 VERTREP COMPLETED W/ AIRSTA KODIAK CG-6005 FOR TRNG AND RECERT.
E. 15AUG11 (AWSW-11-02): 02 TOUCH AND GOS (PILOT FAM), 09 LANDINGS, AND 3 STATIC REFUELING EVOLUTIONS COMPLETED W/ MARITIME HELICOPTERS' BELL 206L3 JETRANGER FOR PAX XFER FM BARROW, AK.
F. AWSW-11-02: 06 LANDINGS OF THE CCGS LOUIS S. ST. LAURENT'S EMBARKED EUROCOPTER BO-105 SUPPORTING SCIENCE/PROFESSIONAL PERSONNEL EXCHANGES ISO THE ARCTIC ECS MISSION.
G. 27OCT11: 08 TOUCH AND GOS, 04 LANDINGS W/ PRI TIE, 1 STATIC REFUELING, AND 1 FLIGHT DECK CRASH DRILL COMPLETED W/ AIRSTA KODIAK CG-6544 FOR TRNG AND RECERT.
H. 31OCT11: 16 TOUCH AND GOS, 09 LANDINGS W/ PRI TIE, AND 1 HIFR COMPLETED W/ AIRSTA KODIAK CG-6529 FOR TRNG AND RECERT.
I. 22NOV11: 01 LANDING COMPLETED W/ MARITIME HELICOPTERS' BELL 420 LONGRANGER (N401ES) FOR PAX XFER TO BARROW, AK.
J. 01DEC11: 01 LANDING COMPLETED W/ EVERGREEN HELICOPTERS EUROCOPTER BO-105 FOR PAX XTER TO/FRM NOME, AK.

K. FUELING/ESCORT MISSION: 07 LANDINGS AND 05 STATIC REFUELING EVOLUTIONS COMPLETED W/ EMBARKED CG-6599 FOR ICE RECON AND PAX XFER TO/FRM NOME, AK. 01 LANDING W/ CG-6503 FRM CGC RUSH FOR PAX AND EQUIPMENT XFER TO DUTCH HBR, AK. ALL EVOLUTIONS INCLUDED PRI TIES.
11. COMMUNICATIONS:
A. IRIDIUM USE: TOTALS PENDING FEEDBACK FM TISCOM.
B. MINI-M USE: TOTALS PENDING FEEDBACK FM TISCOM.
C. CONNECTIVITY: SATELLITE COMMUNICATIONS WERE GENERALLY SATISFACTORY FOR EMAIL, BUT NOT FOR WEB-BASED ADMINISTRATIVE AND SUPPORT REQUIREMENTS. I UNDERSTAND THAT THIS PROBLEM CANNOT BE SOLVED WITHOUT ADDITIONAL RESOURCES THAT ARE NOT CURRENTLY AVAILABLE, HOWEVER THAT DOESN'T CHANGE THE FACT THAT THE BANDWIDTH REQUIRED TO CONDUCT NORMAL DAY-TO-DAY CG BUSINESS HAS FAR EXCEEDED THE BANDWIDTH AVAILABLE TO U/W CUTTERS, AND THIS DISPARITY GROWS EACH YEAR. UNTIL ADEQUATE RESOURCES ARE ALLOCATED TO SOLVE THIS PROBLEM, U/W CUTTERS WILL CONTINUE TO STRUGGLE TO MEET REPORTING/ADMIN RQMTS AND THIS WILL REMAIN A STANDING ACTION ITEM IN ALL AARS.
D. HEALY EXPERIENCED INTERMITTENT INMARSAT CONNECTIVITY IN THE VICINITY OF BARROW (APP LAT 72N) AGAIN THIS YEAR, WELL SOUTH OF STRATOS'S STATED MAXIMUM LAT FOR INMARSAT CONNECTIVITY (APP LAT 80N). TISCOM ARRANGED FOR STRATOS TO INCREASE HEALY'S SIGNAL STRENGTH FM 19.9DB TO 21.9DB (MAXIMUM) RESULTING IN CONSIDERABLY IMPROVED CONNECTIVITY. NEARING 84N, INMARSAT CONNECTIVITY AGAIN BECAME INTERMITTENT, EXPERIENCING DIFFICULTY REMAINING CONNECTED THROUGHOUT THE NIGHT. THE CAUSE OF DAILY PERIODS OF NO CONNECTIVITY IN SPITE OF THE STRONGER SATELLITE SIGNAL WAS NOT CONCLUSIVELY DETERMINED, BUT APPEARED TO BE RELATED TO THE NON-EQUATORIAL ORBIT OF ONE OF STRATOS'S SATELLITES. THIS IRREGULAR ORBIT, COMBINED WITH THE INCREASED SIGNAL STRENGTH ALLOWED HEALY TO MAINTAIN CONNECTIVITY, ALBEIT INTERMITTENT, TO THE LAT 88N (WHERE THE DAILY CONNECTIVITY PERIOD WAS REDUCED TO 1-2 HRS). WE ARE ANXIOUS TO SEE HOW THE NEW FLEET BROADBAND AND KU BAND SYSTEMS WILL WORK IN OUR OPAREA; HOPEFUL THAT THEY WILL AT LEAST MEET THE FOOTPRINT OF THE INMARSAT SOLUTION.
E. RELIABLE HIGH-LATITUDE COMMS: WE CONTINUE TO ADVOCATE FOR DEVELOPMENT OF A MORE RELIABLE HIGH-LATITUDE CONNECTIVITY SOLN. ALTHOUGH WE WERE FORTUNATE TO MAINTAIN INTERMITTENT CONNECTIVITY OVER INMARSAT TO 88N THIS YEAR, IN ORDER TO TRANSMIT CRITICAL MSG TRAFFIC IN A TIMELY MANNER DURING OUR 30 DAYS OF HIGH-LATITUDE WORK THIS YEAR, WE WERE FORCED TO USE ENCRYPTED MS WORD EMAIL ATTACHMENTS SENT OVER THE IRIDIUM REACHBACK (SMALL EMAIL SOLUTION) AVAILABLE ON THE SCIENCE DATA NETWORK AND ASK JRCC JUNEAU TO RELEASE THE MSGS IN CGMS ON OUR BEHALF. IT IS UNFORTUNATE THAT WE MUST RELY ON AN UNCLAS SYSTEM TO SEND FOUO OPERATIONAL EMAIL/MSG TRAFFIC USING AN AWKWARD WORK-AROUND. IDENTIFYING AND IMPLEMENTING A RELIABLE, OFFICIAL CONNECTIVITY SOLN FOR THE POLAR REGION MUST REMAIN A PRIORITY.
12. INTELLIGENCE: NTR.
13. PORT SERVICES COSTS:
PORT DAYS TOTAL COST (LESS PROVISIONS)
A. SAN FRANCISCO 3 $50,606.82 (INCL CHANGE OF COMMAND)
B. HONOLULU 7 $30,263.58
C. DUTCH HBR 3 $31,058.01
D. SEWARD 8 $56,931.59
E. DUTCH HBR 3 $11,806.91
F. DUTCH HBR 1 $10,282.63
D. SEWARD 5 $59,121.72
E. DUTCH HBR 17 $12,759.09
14. LOGISTICAL SUPPORT:

A. RECEIVED GREAT SUPPORT FM D17, BSU KODIAK AND KETCHIKAN, AND ESU SEATTLE.
B. THE MODIFICATION OF DUTCH HBR FUEL CONTRACT TO ALLOW FUELING BY BARGE WAS A WELCOME IMPROVEMENT THIS YEAR; ALLOWED REFUELING OPS TO BE COMPLETED IN JUST ONE DAY, VICE 2-3 DAYS REQUIRED FOR THE VOLUMES INVOLVED WHEN USING ONLY THE PIPELINE.
15. CO'S COMMENTS:
A. THIS HAS TRULY BEEN A MEMORABLE DEPLOYMENT. WE HAVE BEEN A PART OF SOME REMARKABLE DISCOVERIES AND ACCOMPLISHMENTS. IN JUL, OUR NASA RESEARCHERS DISCOVERED ENORMOUS ALGAE BLOOMS UNDER THE MELTING SEA ICE, REDEFINING PREVIOUS KNOWLEDGE OF ARCTIC MARINE ECOLOGY. WORKING W/CCGS LOUIS S. ST. LAURENT IN AUG/SEP, WE COLLECTED A NEARLY-CONTINUOUS 750NM MULTICHANNEL SEISMIC LINE NORTH THROUGH CHALLENGING ICE CONDITIONS IN THE CANADA BASIN - A CRUCIAL DATA SET FOR THE FUTURE U.S. SUBMISSION FOR AN EXTENDED CONTINENTAL SHELF UNDER UNCLOS. DE-CONFLICTING WX AND LOCAL SUBSISTENCE HUNTING ACTIVITIES, IN OCT WE FACILITATED A GEOGRAPHICALLY EXTENSIVE SURVEY OF THE WESTERN ARCTIC PACIFIC BOUNDARY CURRENT FM BARROW CANYON EAST TO M'CLURE STRAIT. IN NOV WE FACILITATED THE LANDMARK STUDY OF COPEPOD WINTERING-OVER ACTIVITY UNDER THE FORMING SEA ICE OF THE CHUKCHI/BEAUFORT SEAS AND BATTLED HOSTILE DEC STORMS TO CONDUCT SIMILAR SAMPLING IN THE BERING SEA. JAN BROUGHT THE CHALLENGE OF ESCORTING A RUSSIAN TANKER THROUGH 800NM OF THE ICE-COVERED BERING SEA TO MAKE A HISTORIC WINTER FUEL DELIVERY TO NOME, AK. THIS IS THE FIRST TIME HEALY HAS CONDUCTED WINTER ARCTIC OPERATIONS - CLEARLY PROVING CAPABILITY FOR WINTER MISSIONS IN THE FUTURE.
B. ALTHOUGH THE NOME ENERGY SUPPORT OPERATION WAS ULTIMATELY SUCCESSFUL IN DELIVERING 1.3M GALS OF FUEL TO NOME, THERE ARE SEVERAL LESSONS-LEARNED THAT SHOULD BE CONSIDERED PRIOR TO ANY FUTURE OPERATION OF THIS KIND.
1. EFFECTIVE COMMS BTWN THE ICEBREAKER AND ESCORTED VSL ARE ABSOLUTELY CRUCIAL. IN THE CASE OF A NON-ENGLISH SPEAKING BRIDGE TEAM, A PROFESSIONAL TRANSLATOR W/ KNOWLEDGE AND UNDERSTANDING OF MARITIME OPS SHOULD BE A REQUIREMENT.
2. AS A PROTOTYPE DOMICE MISSION IN NORTHERN ALASKA, IT IS CLEAR THAT DEVELOPMENT OF AN AOR-SPECIFIC DOMICE POLICY IS NECESSARY. SUCH A POLICY SHOULD ADDRESS WHAT TYPE OF COMMERCIAL VSL (I.E. ICE CLASS, PROPULSION CONFIGURATION, HORSEPOWER-TO-LENGTH RATIO) IS CONSIDERED CAPABLE TO OPERATE, HOW TO VALIDATE A GIVEN VSL'S CLAIM OF CAPABILITY, AND OTHER ASSOCIATED GO/NO-GO FACTORS FOR A FUTURE MISSION OF THIS KIND.
3. ALTHOUGH THERE ARE SEVERAL INFORMAL DOCUMENTS PRODUCED BY ICEBREAKER SAILORS IN YEARS PAST THAT CAPTURE ESCORT TECHNIQUES AND ICEBREAKING PROCEDURES, THERE EXISTS NO CENTRALIZED CG TACTICAL DOCTRINE. DEVELOPMENT OF SUCH A TACTICAL DOCTRINE WOULD BE INVALUABLE FOR MISSIONS OF THIS KIND, WHERE A VSL THAT DOES NOT NORMALLY CONDUCT ESCORT OPS IS TASKED W/ LITTLE NOTICE. WE WERE FORTUNATE TO HAVE POLAR/D9/D1 ICEBREAKING EXPERIENCE TO DRAW FROM ONBOARD, BUT THAT WILL NOT ALWAYS BE ASSURED.
C. WE LOOK FORWARD TO THIS INPORT PERIOD TO ATTEND TO MATERIEL AND CREW READINESS IN PREPARATION FOR ANOTHER SUCCESSFUL DEPLOYMENT NEXT SUMMER.
16. POC: LCDR ERIC ST. PIERRE, OPERATIONS OFFICER, ERIC.R.STPIERRE(AT)USCG.MIL, (206) 217-6300 x408.
BT
NNNN

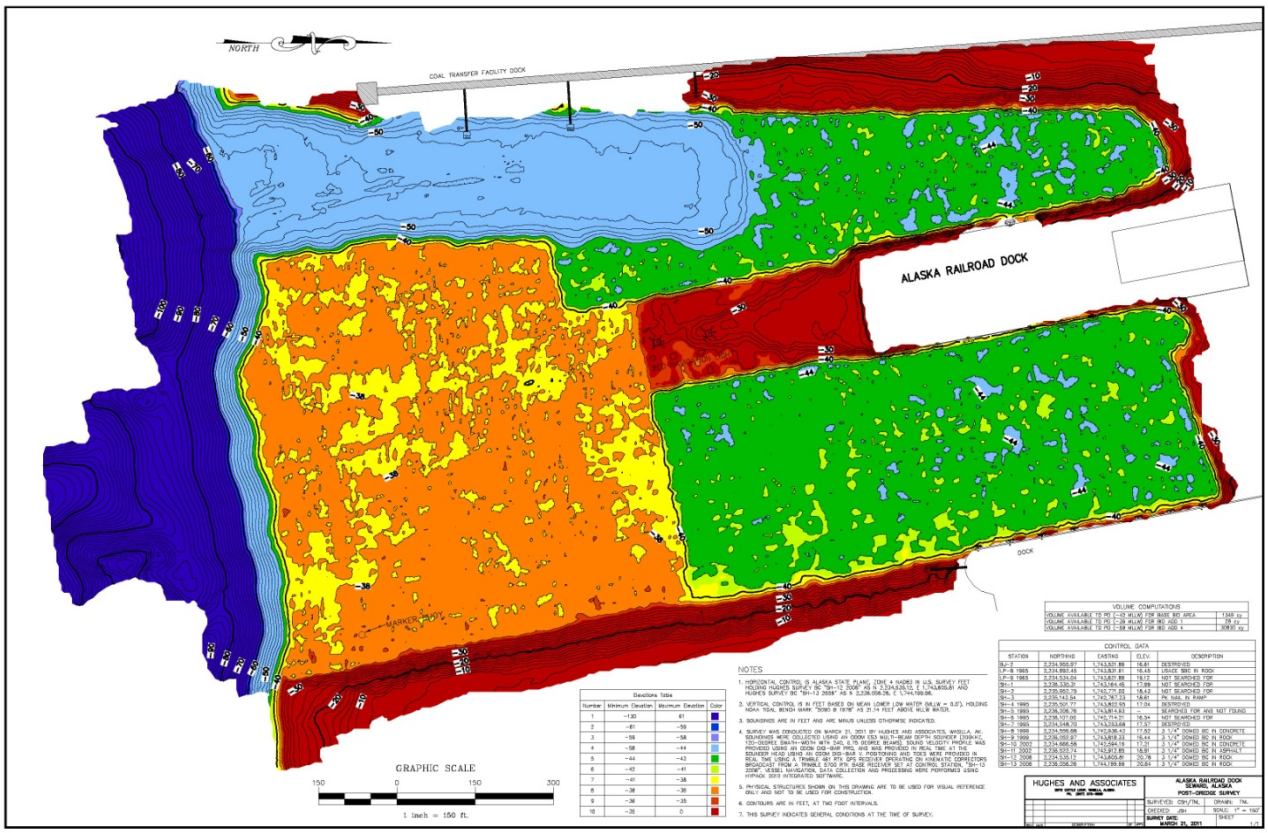
Appendix 3: Shakedown Schedule (25 April – 07 May 2011)

CGC Healy 2011 Shakedown
(revised 5/02/2011)

	Sunday, 24 Apr	Monday, 25 Apr	Tuesday, 26 Apr	Wednesday, 27 Apr	Thursday, 28 Apr	Friday, 29 Apr	Saturday, 30 Apr
location	Seattle	Seattle	U/W	U/W	U/W	Inport San Francisco	Inport San Francisco
a.m.	Inport Seattle	0600- Breakfast 0700- Expiration of Liberty 1100-Lunch	0700 - Breakfast 0730- PCO Meet with CMC 0815- Chief's Call 0900- PCO Meet/ Tour with OPS 1000- Locker Training, High Voltage 1100- Lunch	0700 - Breakfast 0800 -PCO Meet/ Tour with EO 1000 - PCO Meet/Tour with SuppO 1100- Lunch	0700- Breakfast 0800- All Hands Shop/Common Area Field Day 1100- Lunch	0700- Breakfast 0800- Expiration of Liberty 0930- VADM Meeting with CO / PCO 0900- Officers Call 1030- Change of Command	Inport San Francisco
p.m.		1200- Quarters 1300 - U/W outbound for EB 1400 New Passenger In-brief 1430- MOB Man Up/Abandon Ship Drl 1500- PCO meet with XO 1500 Navigation Drill Loss Of ECINS 1530- Navigation Drill/ Low Visibilty 1700 - Dinner 1815 - Evening Mtg 1900 – Officers Call w/ PCO	1230 - High Voltage Drill 1400 - PCO EKMS/CMS Inspection 1815 - Evening Planning Meetin- 2000- Night MOB Drill Small Boat Pick Up	1230 - Helo Crash on Deck Drill 1430- Main Space Fire Drill 1700-Dinner 1815- Evening Planning Meeting an Navigation/Boat Brief.	1215- CoC Rehearsal 1400-Set Special Sea Detail 1600-Moor San Francisco TBD- Liberty	TBD-Liberty	

	Sunday, 01 May	Monday, 02 May	Tuesday, 03 May	Wednesday, 04 May	Thursday, 05 May	Friday, 06 May	Saturday, 07 May
location	Inport	U/W	U/W	U/W	U/W	U/W	U/W
a.m.	Inport San Francisco	0700- Breakfast 0800- Expiration of Liberty 0900- Navigation/ Boat Brief 1000- Quarters 1030- Lunch 1130-Set Special Sea Detail	0700 - Breakfast 0800-1100 SWE Testing 0800- Deep CTD Cast 0900- CMC meet with PXO 1100- Lunch 1100- Multibeam Roll Bias Test	0700 - Breakfast 0800 - BECCEs 1000- ITT Brief 1030- OBTT Briefs 1100- Lunch	0700 - Breakfast 0800-1100 SWE Testing 0800- OPS Meet/Tour with PXO 1000- Training Officer meet with CO/PXO 1100- Lunch	0700 - Breakfast 0800- SCBA Training 0900-1100 Field Day 0900-1000 Trash Van Open 1000- Berthing Inspection 1100- Lunch	0300 - Navigation and Anchor Detail 0600- Breakfast 0700- Special Sea Detail 0800- Moor Pier 36 BSU Seattle
p.m.		1200- Underway enroute Seattle 1300- BECCEs 1700 - Dinner 1815 - Evening Mtg	1200-1500 SWE Testing 1200- EO Meet/Tour with PXO 1400- SuppO Meet/ Tour with PXO 1600- Multibeam Patch/ Hdg Bias Tests 1700 - Dinner 1915 - Evening Mtg	1230- Quarters 1300- Flooding/Loss of Steering Drill 1500- Toxic Gas Drill 1700 - Dinner 1815 - Evening Mtg 2030- Multibeam Patch Test	1200-1500 SWE Testing 1330- Aft Wire Test 1530- Flight Brief, (FLOps until ~2130) 1700 - Dinner 1815 - Evening Mtg	1200-1400- SESEF Range TACAN Calibration 1230 - Quarters 1300 - DADT Training Make-up 1400 - Safety Board Meeting 1700 - Dinner 1815 - Evening Mtg & Navigation Brief	

Appendix 4: Bathymetric Survey of Seward, AK



Appendix 5: Waiver for Unfamiliar Aircraft Operations

R 111421Z AUG 11 ZUI ASN-AET223463622
FM COMDT COGARD WASHINGTON DC//CG-711//
TO ZEN/COMPACAREA COGARD ALAMEDA CA//PAC-35// USCGC HEALY INFO ZEN/COMDT COGARD WASHINGTON DC//CG-751// ZEN/CCGDSEVENTEEN JUNEAU AK//DR/DRM/DRE// ZEN/COGARD ATC MOBILE AL//SHIP-HELO// ZEN/NSF POLAR WASHINGTON DC BT UNCLAS //N03710//
SUBJ: WAIVER TO CONDUCT FLIGHT OPERATIONS WITH CONTRACT HELICOPTERS A. USCGC HEALY R 190322Z JUL 11 B. COMPACAREA COGARD ALAMEDA CA R 262208Z JUL 11 C. SHIPBOARD-HELICOPTER OPERATIONAL PROCEDURES MANUAL, COMDTINST M3710.2E 1. THE REQUEST TO CONDUCT FLIGHT OPERATIONS WITH A BELL 206 JET RANGER, BELL 206 L3 LONG RANGER, BELL 412 AND EUROCOPTER BO-105 IN REF A AND ENDORSED IN REF B IS APPROVED. THIS WAIVER EXPIRES AT THE COMPLETION OF HEALY DEPLOYMENT OOA 30 DEC 11.
2. SHIPBOARD OPERATIONS OF THE BELL 206, BELL 206 L3, BELL 412 AND EUROCOPTER BO-105 SHALL BE CONDUCTED WITHIN THE GUIDELINES OF REF C PAYING PARTICULAR ATTENTION TO THE NEW RADIUS OF ACTION AND RESTRICTED OPERATION GUIDELINES FOR OPERATING WITH CONTRACT HELICOPTERS.
3.THE FOLLOWING ADDITIONAL LIMITS SHALL BE OBSERVED WHEN OPERATING TO OR FROM HEALY OR DURING FLIGHTS WITH USCG PASSENGERS:
A. MINIMUM CEILING OF 500 FEET.
B. MINIMUM VISIBILITY OF 3 NAUTICAL MILES.
C. DAY ONLY.
4. THOROUGH AIRCRAFT FAMILIARIZATION TRAINING SHALL BE COMPLETED FOR ALL ASSIGNED FLICON PERSONNEL PRIOR TO COMMENCING FLIGHT OPERATIONS.
COAST GUARD PERSONNEL SHALL RECEIVE A THOROUGH SAFETY BRIEFING PRIOR TO PASSENGER FLIGHT ABOARD CONTRACT AIRCRAFT.
5. COMDT (CG-711) POC IS LCDR DONIS WATERS, SHIP-HELO PLATFORM MANAGER, AT 202-372-2210.
BT
NNNN

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UNCLAS //N03710//
SUBJ: WAIVER ENDORSEMENT FOR CGC HEALY TO OPERATE WITH NON-USCG HELICOPTERS (SUPPLEMENTAL) A. USCGC HEALY 290408Z NOV 11 B. SHIPBOARD-HELICOPTER OPERATIONAL PROCEDURES MANUAL, COMDTINST M3710.2E 1. PACAREA RECOMMENDS APPROVAL FOR A NEW WAIVER FOR CGC HEALY TO OPERATE WITH A BELL 206 L4 LONG RANGER AND EUROCOPTER BO-105 FROM EVERGREEN HELICOPTER, INC., BASED OUT OF NOME, AK.
2. PREVIOUS ARRANGEMENTS BY CGC HEALY, NOTED IN REF A, YIELDED AN AVAILABLE ROBINSON R44 HELO, BUT DUE TO FORECAST WEATHER AND AIRFRAME CAPABILITIES, PAC DESIRED AND LOCATED A DIFFERENT ASSET.
3. CGC HEALY WILL BE HOVE-TO IN THE ICE. GENERAL LAUNCH AND RECOVERY WIND LIMITS WILL BE IAW FIG B-1 FROM APPENDIX B OF REF B.
4. THE CUTTER WILL ENSURE THAT THE HELICOPTER OPERATORS ARE FAMILIAR WITH USCG FLIGHT DECK OPERATING PROCEDURES AS ESTABLISHED IN REF B.
5. IMPACT TO OPS: NONE. THE RECOMMENDED ASSETS WILL CONDUCT AN E-LEAVE RELATED PAX TRANSFER TO SHORE ON THURSDAY, 30NOV11.
RECOMMEND THIS NEW WAIVER EXPIRE ON 01DEC11 TO FACILITATE WEATHER DELAYS, IF NEEDED.
6. POC: LCDR RUSSELL HALL (PAC-355), 510-437-5358.

Appendix 6: Seward Letter of Proclamation

City of Seward
Certificate of Welcome
Awarded To:

USCG Cutter Healy

The Seward City Council and the citizens of Seward, are once again, thrilled and honored to host the U.S. Coast Guard Cutter Healy.

Now Therefore, I, Willard E. Dunham, Mayor, on behalf of the Seward City Council, wish to personally thank the Captain and Crew of the Cutter Healy for their community outreach, the dedicated service they perform daily for our country, and welcome them once again to Seward.

Dated this 4th day of August, 2011

Willard E. Dunham, Mayor

Appendix 7: Public Affairs Press Releases

A. 01 October 2011

U. S. DEPARTMENT OF HOMELAND SECURITY

U. S. Coast Guard

FOR IMMEDIATE RELEASE **October 1, 2011**

Contact: ENS Holly McNair
Holly.A.McNair@uscg.mil

Dutch Harbor, AK – The nation's largest ice breaker, Coast Guard Cutter HEALY, moored at the UMC U.S. Coast Guard Pier on September 28, 2011 having completed the second of four Arctic science mission planned for 2011.

This most recent mission was the fourth consecutive year of collaborative work with the Canadian Coast Guard Icebreaker LOUIS S. ST-LAURENT. Using seismic and bathymetric techniques, the two vessels surveyed over 4,000 nautical miles of Arctic seafloor to include the Nautilus Basin, Alpha-Mendeleev Ridge, and the Extended Continental Shelf. The HEALY's third operation will include deploying several types of hydrographic moorings, as well as recovering hydrographic moorings deployed on earlier missions. The final operation will be a biology-based mission, studying the behavior of copepods in the winter months.

This year, HEALY will spend a total of seven months underway in the Beaufort Sea and the Arctic Ocean for four separate science operations during its Arctic West Summer/Winter 2011 deployment.

HEALY, which was commissioned in 2000, is the nation's newest and largest U.S. polar icebreaker. The cutter is 420 feet long and has extensive scientific capabilities. Homeported in Seattle, WA, the cutter has a permanent crew of 80; her primary mission is scientific support. In addition, as a Coast Guard Cutter, HEALY is capable of other operations such as search and rescue, ship escort, environmental protection, and the enforcement of laws and treaties in the Polar Regions.

For more information about HEALY, please check:
http://www.uscg.mil/pacarea/cgchealy
http://www.uscg.mil/pacarea/cgchealy/aws11/
http://www.icefloe.net

B. 15 December 2011

U. S. DEPARTMENT OF HOMELAND SECURITY

U. S. Coast Guard

FOR IMMEDIATE RELEASE **December 15, 2011**

Contact: LTJG Holly McNair
Holly.A.McNair@uscg.mil

Dutch Harbor, AK – The nation's largest ice breaker, Coast Guard Cutter HEALY, will moor at the UMC U.S. Coast Guard Pier on December 17, 2011 having completed the final Arctic science mission of the 2011 field season.

The most recent mission was a biology-based mission, studying the behavior of copepods in the winter months, and organic carbon, the principal energy source for oceanic bacteria. The scientists were working to confirm the theory of copepod hibernation under ice by analyzing the fat content and storage of the microorganisms on the shallow continental shelves in the Chukchi and Bering Seas, and their significance in the carbon dioxide and biomass cycles. The data retrieved from this mission will be the first contributions of data collected in the Arctic during this time of year. In addition to the study of copepods for the first time in Arctic winter, this mission also marks the first study of Arctic organic carbon in the water column. To retrieve this sensitive data HEALY completed more than 120 science stations, consisting of 99 Conductivity-Temperature-Depth (CTD) rosette casts, 85 Video Plankton Recorder (VPR) casts, 55 Bongo net casts, 40 Ring net casts, and 8 Multi-net cast. The CTD rosette is lowered to sample water at different depths for analysis. The VPR is a high resolution camera paired with imaging software that allows scientists to view quantity and type of plankton in the water. The Multi-Net, Ring, and Bongo Nets are made of very fine mesh and are designed to capture very small particles or organisms at different depths throughout the water column, stores them safely and allows them to be studied while still alive. HEALY is currently en route Dutch Harbor for a logistics port call.

This year, HEALY spent seven months underway in the Bering Sea and Arctic Ocean and completed four separate science missions during the Arctic West Summer/Winter 2011 deployment.

USCGC HEALY (WAGB-20), commissioned in 2000, is the nation's newest and largest polar icebreaker. The cutter is 420 feet long and has extensive scientific capabilities. Homeported in Seattle, WA, HEALY has a permanent crew of 80; and her primary mission is scientific support.

For more information about HEALY, please check:
http://www.uscg.mil/pacarea/cgchealy
http://www.icefloe.net

C. 04 February 2012

U. S. DEPARTMENT OF HOMELAND SECURITY

U. S. Coast Guard

FOR IMMEDIATE RELEASE **February 4, 2012**

Contact: LTJG Holly McNair
Holly.A.McNair@uscg.mil

Seattle, WA – The nation's largest ice breaker, Coast Guard Cutter HEALY, will moor at the U.S. Coast Guard Base Support Unit, Pier 36 on February 04, 2012 having completed four Arctic science missions during the 2011 field season, as well as escort of the T/V RENDA to Nome, AK for a winter fuel delivery by sea.

During the Arctic West Summer/Winter 2011 deployment HEALY spent seven months underway in the Beaufort Sea and the Arctic Ocean for four separate science operations First, the crew of the HEALY worked with researchers from NASA to collect and study water and ice samples, looking largely to learn more about the refractive properties of sunlight in the Arctic environment. Following operations with the NASA researchers, HEALY participated in its fourth year of collaboration with the Canadian Coast Guard Icebreaker LOUIS S ST-LAURENT to map the floor of the Arctic Ocean, helping to create a more complete picture of the bathymetric features of the Arctic seafloor. Using seismic and bathymetric techniques, the two vessels surveyed over 4,000 nautical miles of Arctic seafloor to include the Nautilus Basin, Alpha-Mendeleev Ridge, and the Extended Continental Shelf. During the third mission HEALY traveled from the Beaufort Sea north of Barrow to M'Clure Strait at the entrance of the Canadian Archipelago to service hydrographic moorings and conduct current and sub-bottom profiling, for the yearly assessment of the western Arctic Boundary Current which flows from the Barrow Canyon to the continental slope of the Beaufort Sea. The final mission was a biology-based mission, studying the behavior of copepods in the winter months, and organic carbon, the principal energy source for oceanic bacteria. The scientists were working to confirm the theory of copepod hibernation under ice by analyzing the fat content and storage of the microorganisms on the shallow continental shelves in the Chukchi and Bering Seas, and their significance in the carbon dioxide and biomass cycles. The data retrieved from this mission will be the first contributions of data collected in the Arctic during this time of year. In addition to the study of copepods for the first time in Arctic winter, this mission also marks the first study of Arctic organic carbon in the water column. At the conclusion of the AWSW 2011 deployment, HEALY escorted the T/V RENDA through the Arctic ice to facilitate delivery of 1.3 million gallons of fuel to Nome, AK, the first-ever winter fuel delivery by sea to a northern Alaska community.

USCGC HEALY (WAGB-20), which was commissioned in 2000, is the nation's newest and largest polar icebreaker. The cutter is 420 feet long and has extensive scientific capabilities. Homeported in Seattle, WA, HEALY has a permanent crew of 80; and her primary mission is scientific support.