Updated: June 1, 2015

USCG Research & Development Center

Arctic Technology Evaluation 2015

2015 OVERVIEW

RDC Lead: Scot Tripp, Surface Branch

In July 2015, the Research & Development Center (RDC) will return to CGC Healy for new and follow-on technology evaluations to improve Coast Guard capabilities in the Arctic. Two RDC initiatives will continue from last year's exercise including Arctic Communications Testing and Arctic Navigation Improvements. The RDC will also execute a Search and Rescue (SAR) exercise and shore transfer improvements.

Communications. The RDC is continuing its assessment of communications improvements in the Arctic, including High Frequency (HF), Ultra High Frequency (UHF) Satellite Communications (SATCOM) via the Mobile User Objective System (MUOS), and Iridium.

Navigation. The RDC is operating under a Cooperative Research and Development Agreement (CRADA) with the Marine Exchange of Alaska (MXAK) to leverage MXAK's extensive Automatic Identification System (AIS) infrastructure to continue to develop electronic maritime safety information (eMSI) transmission from MXAK sites to local mariners to improve navigational safety in the region.

Search and Rescue. The RDC has established a CRADA with ConocoPhillips to demonstrate how unmanned aircraft systems (UAS) can improve Coast Guard operations in the Arctic. This year, the team will conduct a SAR exercise off of Oliktok Point to demonstrate civil/federal collaboration for response efforts.

Shore Transfer Improvements. The RDC is assessing an electric powered inflatable boat as a potential shore transfer craft. This would be an alternative for vessels conducting operations off the North Slope needing to make personnel or supply transfers to and from shore.

In addition to the RDC's own tests and evaluations, the project staff will provide support to partner organizations and agencies who are joining this year's patrol in assisting the RDC as well as accomplishing their own Arctic objectives.

INSIDE FEATURES:

The Arctic Strategy

In May 2013, the Coast Guard released its Arctic Strategy for how to overcome the region's unique challenges to perform its statutory missions. The document is centered around three strategic objectives:

- Improving Awareness
- Modernizing Governance
- Broadening Partnerships

Each of these objectives requires an element of research and development to ensure it's viability and success.

For inquiries regarding Arctic efforts, including interviews with our science team, contact the RDC Public Affairs Officer:

LT Keely Higbie
Keely.J.Higbie@uscg.mil
860-271-2815

Autonomous Underwater Vehicle (AUV) operations during Arctic Technology Evaluation 2013.
USCG photo by Petty Officer 2nd Class Grant Devuyst.

Meet The Science Team

The USCG RDC is leading a science team made up of multiple agencies and organizations including:

- **National Oceanic & Atmospheric Administration (NOAA)**, **Pacific Marine Environmental Lab (PMEL)** who is deploying multiple buoys, instruments, and unmanned surface vehicles (USVs) to assess environmental and atmospheric conditions in the Arctic
- **NOAA, Unmanned Aircraft System (UAS) Program** who is assessing autonomous net recoveries and deicing technology for UAS
- **NORTHCOM,** who is assisting with the MUOS coverage assessment for the Arctic Communications project
- **Office of Naval Research** and the **Naval Research Lab** who are providing weather forecasts for the Arctic region via the NIC
- **Space and Naval Warfare Systems Command (SPAWAR)**, who is providing the Wave Glider SV unmanned surface vessel (USV) for near ice operations
- **Federal Aviation Administration,** who is assisting the RDC with UAS airspace clearance, communications protocol, and frequency spectrum authorization for the SAR exercise
- **National Aeronautics & Space Administration (NASA), Ames Research Center** who has developed the deicing technology to be assessed on NOAA's Puma AE and Raven
- **Sandia Labs,** who is assisting with the SAR exercise by providing ground operations and access to their restricted airspace
- **National Ice Center (NIC)**, who is observing ice conditions and assisting with the weather forecasting for shipboard navigation
- **National Science Foundation (NSF)**, who is providing technical and logistical support for the evaluation
- **MXAK,** who is providing eMSI infrastructure for the Arctic Navigation project
- **AeroVironment (AV),** who is working with NOAA to fly Puma All-Environment (AE) UAS to demonstrate autonomous shipboard recoveries and assess deicing technology
- **ConocoPhillips,** who is cooperatively conducting a SAR exercise with the RDC
- **Insitu,** who is operating ScanEagle for ConocoPhillips for the SAR exercise
- **Era Helicopter**, who is providing civil aircraft to ConocoPhillips to support the SAR exercise
- **Stevens Institute** and **DHS HS-STEM Program,** who are providing interns to work with alongside the UAS lead for UAS operations and the SAR exercise, and who will also gain exposure to other government and partner agency work in the Arctic
- **University of Alaska, Anchorage (UAA)**, who is researching using airborne isotopes to identify oil spills
- **University of Alaska, Fairbanks, (UAF)** who is conducting multiple sea ice analyses
- UAA and UAF are affiliated with the new **DHS Center of Excellence - Arctic Domain Awareness Center (ADAC)**, for which UAA is the lead and the USCG is the primary stakeholder

The following Coast Guard units/ program offices are also part of the science team:

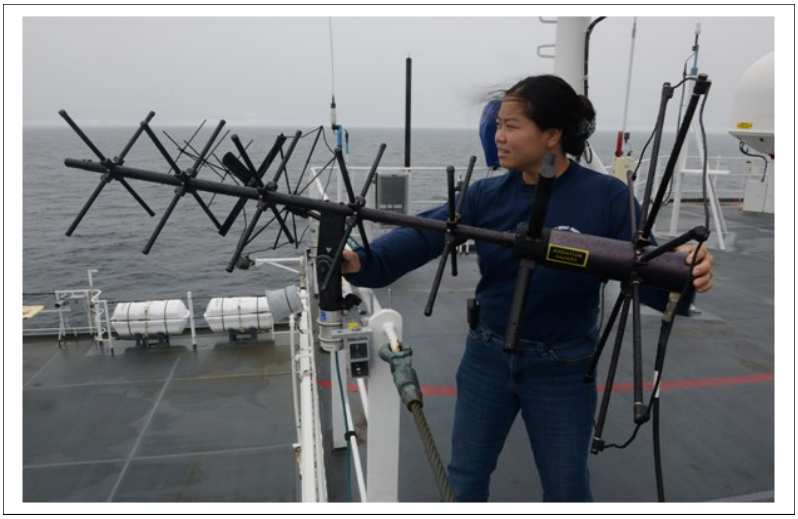
- **PACAREA** and **USCG District 17,** who are helping coordinate the RDC's efforts with Arctic Shield 2015 and who are providing MH-60s from the Forward Operating Base in Deadhorse for the SAR exercise
- **USCG Academy,** who is providing cadet interns to the RDC for the summer and is conducting additive manufacturing research
- **Dive Locker East & Dive Locker West**, who are providing a remote operated vehicle (ROV) to support CGC Healy and other underwater activities
- **Office of Research, Development, Test & Evaluation (CG-926);** who will be providing daily SITREPS and serving as the Public Affairs liaison

Working with these agencies and organizations embraces the Coast Guard's strategic objective of "Broadening Partnerships" in accordance with the Arctic Strategy. The Coast Guard and each of these agencies and organizations have collective goals and interests in the Arctic region, and by working together, we can collectively build our knowledge, capacity, and resilience.

ARCTIC DOMAIN AWARENESS CENTER
A DEPARTMENT OF HOMELAND SECURITY CENTER OF EXCELLENCE

Arctic Communications

RDC Lead: Don Decker, Aviation Branch



Team member adjusting a UHF antenna to test MUOS capabilities in the Arctic during the Arctic Technology Evaluation 2014.
USCG photo by Petty Officer 1st Class Shawn Eggert.

The RDC is continuing its evaluation of existing and future communications systems to support the Coast Guard's expanding need to communicate voice, data, and video from the Arctic. This year's objectives include HF communications model verification, Iridium handheld radio evaluation, and a Mobile User Objective System (MUOS) satellite coverage assessment at high latitudes.

HF Model Verification. The RDC will continue signal strength testing of HF-Automatic Link Establishment (HF-ALE) Geo-Diverse Over The Horizon ALE Matrix (GOTHAM) in Alaska to evaluate system coverage and improve signal modeling. Recent improvements to GOTHAM servers and equipment at COMSTA Kodiak, combined with the restoration of critical HF shore sites, will allow for an optimum test environment.

To collect this data, members of the RDC will collect signal strength information, space weather information, and environmental data at regular intervals during each day of deployment. Testing will cover all periods of the diurnal ionospheric cycle and a Global Positioning System (GPS) will provide ground truth for vessel position. Once the data is collected, analysts will compare signal strength predictions with known ship and transmitter positions to improve model parameters.

Iridium Assessment. The RDC will evaluate Iridium communications using the Distributed Tactical Communications System (DTCS) as a method of rapid voice reach back from the Arctic latitudes. DTCS provides Beyond Line-Of-Sight (BLOS), Over-The-Horizon (OTH), and On-The-Move (OTM) one-to-many tactical voice and data communications. DTCS is managed by the Defense Information Systems Agency (DISA) through its Enhanced Mobile Satellite Services (EMSS) program management office.

The testing is structured to first confirm basic operations of the radios and to ensure data transmitted will integrate into the CG Common Operational Picture (COP). Once basic confirmation is achieved, specific testing will be conducted in the operational environment and under normal operating conditions. Those tests are structured to replicate as close to actual conditions as possible and should demonstrate operational effectiveness and suitability.

MUOS Coverage. The RDC is also collaborating with NORTHCOM to continue its assessment of MUOS satellite coverage in high latitudes onboard CGC Healy.

Last summer, the team assessed coverage up to 74°N. With appropriate shipboard antennas, the team forecasts full bandwidth coverage up to 89°30'N with some temporal variability. They will travel onboard CGC Healy beginning in July and will have the opportunity to assess coverage all the way up to the North Pole.

In addition to June's assessment, the RDC will utilize MUOS to explore the extent of data reach back capability to NORTHCOM based on data transfer rates off the North Slope. The team will attempt to transfer voice and data.

Coast Guard Arctic Strategy, Communications Objectives and Excerpts

The Coast Guard will…

"Optimize communication networks…by expanding and strengthening partnerships… with Federal, state, tribal, local, and territorial governments, as well as with academia, industry, and other non-governmental organizations."

"Proceed with a risk-based, phased approach to resourcing to address high operational needs, including the establishment of infrastructure and communications systems to support operations."

…

"Improved communications… are critical for future success."

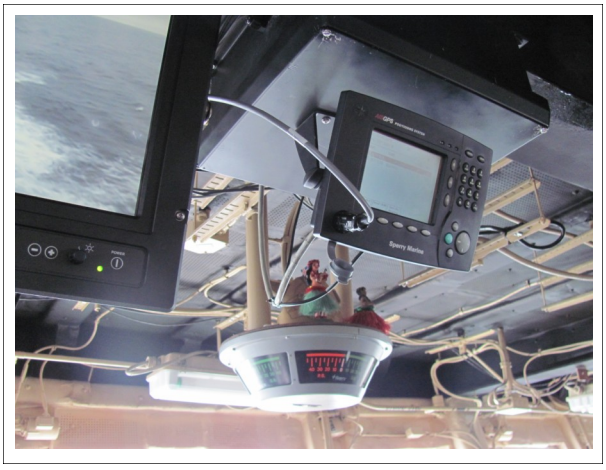
Next Generation Arctic Navigation

RDC Lead: LCDR Mike Turner, E&W Branch

The RDC's public/private partnership with the Marine Exchange of Alaska (MXAK) to enhance mariner navigational safety continues via a Cooperative Research and Development Agreement (CRADA) which has been extended from three to five years (out to 2018). The CRADA partners' collaboration during Arctic Shield 2014 was a great success, verifying the successful transmission of electronic Maritime Safety Information (eMSI) via specific MXAK shore based Automatic Identification System transmitting Aids to Navigation (AtoNs).

During Arctic Shield 2015, the RDC plans to continue monitoring transmission of real time weather observations, and transmission signal strength. However, building upon last season's technology demonstration success, this season the RDC plans to use CGC Healy as a "mobile base station" to transmit other types of eMSI – such as virtual and synthetic (virtual AtoNs superimposed on actual AtoNs), and polygon messages representing maritime safety zones. Future testing/ technology demonstrations will incorporate use of Next Generation Navigational Telex technology which has the potential to broadcast eMSI over farther and broader distances – approximately 200 nautical mile range.

Through the CRADA with MXAK and corresponding technology demonstrations – the RDC has successfully forged and broadened partnerships, improved mariner Maritime Domain Awareness, and maritime governance policy with respect to establishing procedure for future government and private requests to transmit Maritime Safety information via AIS or other means.



AIS configuration on CGC Healy's bridge.
USCG photo provided by Lt Cmdr. Mike Turner.

Coast Guard Arctic Strategy, Navigation Objectives and Excerpts

The Coast Guard will…

"Optimize… maritime tracking technologies and other MDA capabilities by expanding and strengthening partnerships…"

"Encourage information-sharing among partners by… leveraging international information-sharing arrangements… to improve…safe navigation."

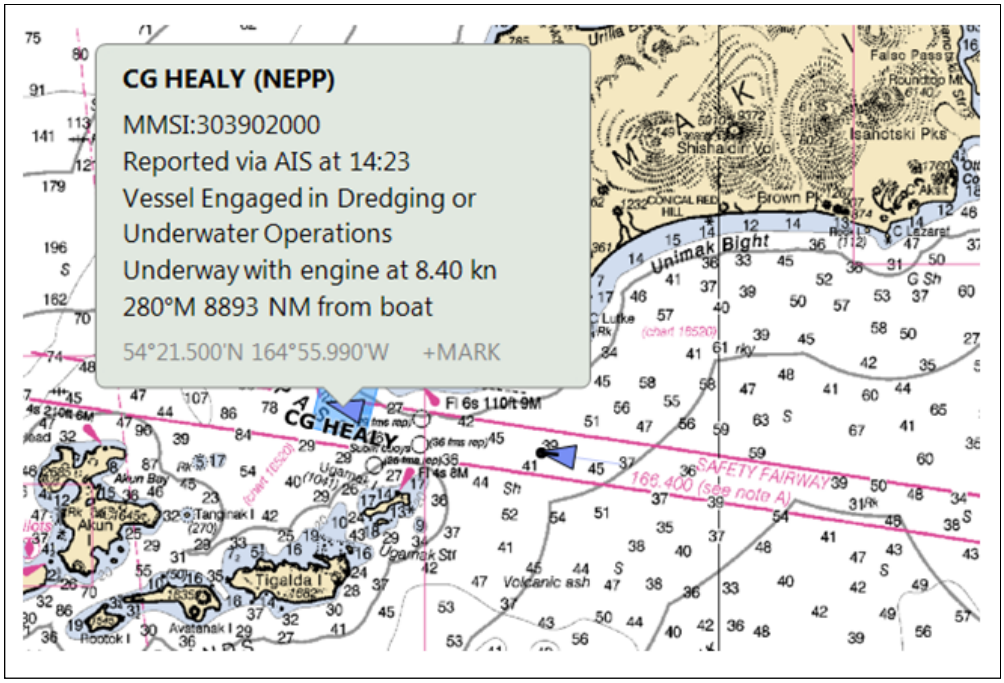
"Develop and ensure access to accurate and persistent, real-time, vessel tracking information to enhance MDA."

"Evaluate carriage requirements to determine efficacy of technology for vessel tracking in high latitudes and seek international requirements for such technology on vessels operating in the Arctic region."

"Monitor maritime activity by enhancing short-and long-range vessel detection and monitoring capabilities…."

Marine Exchange of Alaska
www.mxak.org

For more info on MXAK's activities, visit their website at www.mxak.org



A computer-generated display shows the status and location of the CGC Healy as it transits the Unimak Pass. AIS can potentially be used to report emergencies, dangerous conditions and other situations to nearby vessels and the Coast Guard. USCG graphic provided by Lt Cmdr. Mike Turner.

Search and Rescue (SAR)Exercise

RDC Leads: Mr. Steve Dunn, Aviation Branch & LT Keely Higbie, Surface Branch

Oliktok Point, located approximately 40 miles west of Prudhoe Bay/Deadhorse, is one of several old Distant Early Warning (DEW) Line radar stations that are still active. The team will launch and recover ScanEagle from this site and utilize the Restricted airspace to transit out to CGC Healy for the SAR exercise.
Images provided by Sandia National Laboratories.

The RDC is partnering with ConocoPhillips for a portion of the assessment of how UAS could potentially be implemented to improve the Coast Guard's mission performance in the Arctic. This summer marks the first of a three year CRADA and will focus on Search and Rescue operations off the North Slope. ConocoPhillips is providing support from Insitu and Era Helicopters for this exercise.

The Concept of Operations for the exercise involves a scenario where a small plane has gone down off the North Slope near Oliktok Point. The CGC Healy is the nearest Coast Guard response asset and begins searching. Using government and industry partnerships, Conoco Phillips asks Insitu to launch ScanEagle from Oliktok Point in the Department of Energy (DOE) Restricted Airspace and transit out to CGC Healy in international airspace via an altitude reservation (ALTREV) corridor designated by the Federal Aviation Administration (FAA). A ScanEagle pilot operated Ground Control Station (GCS) onboard CGC Healy will then take control of ScanEagle and fly a search pattern to locate the persons in the water (PIWs). The PIWs will be simulated with a life raft and an RDC developed technology, Thermal Oscar, a SAR training aid that generates a heat signature of a PIW using a nichrome wire and DC battery.

Once identified, CGC Healy will call for manned aviation forces out of the Coast Guard's Arctic Shield Exercise 2015's Forward Operating Location (FOL) in Deadhorse, AK to recover the PIWs. ConocoPhillips will also utilize Era Helicopter to provide civil aviation support to the recovery.

CGC Healy, in a related evaluation, will also utilize ScanEagle for ice ridge mapping which will help ship navigators plan better routes through the ice. This could ultimately help ships save countless hours and gallons of fuel by avoiding more complicated routes. Currently, ships utilize radar, which only gives them a clear picture of ice floes out to 3-5 miles. Having an eye in the sky would expand that range significantly.

The SAR exercise is scheduled to take place mid-July.

Coast Guard Arctic Strategy, Search and Rescue Excerpts

"Increasing vessel traffic requires a commensurate increase in search and rescue capabilities throughout the region."

"As the lead Federal agency for maritime search and rescue, the Coast Guard must ensure the marine public is prepared for Arctic operations. The Coast Guard must provide search and rescue capabilities when self-rescue options are not sufficient… The Coast Guard must also work closely with front-line partners to enhance operational efficacy. "

ConocoPhillips is working with Insitu for their ScanEagle operations. ScanEagle is launched via catapult (shown above) and recovered with a Skyhook.
USCG photo by Cmdr. Jeff Vajda.

Improving Shore Transfer Capability

RDC Lead: Jason Story, Surface Branch

The RDC is investigating how to improve shore transfers in remote areas like the Arctic when no shore-side infrastructure is present. When operating in these areas, boat crews may be forced to conduct shore transfers on unimproved beaches and in areas where there are uncharted shoals and breaking waves near the shore, which can be dangerous for the boat crew and other passengers. There have been multiple requests from operational units for this issue to be addressed including at the conclusion of last summer's Arctic Shield 2014 exercise.

Field test of shore transfer craft in the Thames River in Conn. USCG photo provided by Rich Hansen.

Currently, cutters operating in Arctic waters are required to do shore transfers for logistics or personnel transfers, such as participating in outreach events with native communities. Existing cutter boats are not designed for very shallow waters and/or landing on beaches.

In response to this request, the RDC will evaluate an inflatable boat it has outfited with electric outboard drive system it developed using commercial-off-the-shelf products. Electric outboard engines can be easily recharged onboard the cutter, do not require the cutter to transport additional gasoline or diesel fuel, and have no impact on the sensitive Arctic environment.

The team has field tested the craft multiple times in New England to verify the boat's performance in shallow water beaching prior to deployment on CGC Healy.

Coast Guard Arctic Strategy, Excerpts Supporting Landing Craft Necessity

"…scarcity of physical infrastructure present(s) logistical challenges."

"Due to undeveloped shore-based infrastructure, much of the increased tourism is expected to involve transportation via passenger vessel…"

"The Coast Guard will… set requirements and seek an adaptable mix of…boats… and shore infrastructure to enable effective seasonal operations."

Unimproved beaches with no shore side infrastructure in Barrow, AK. Photo provided by panoramio.com.

RDC/NOAA Collaboration

Leads: Mr. Steve Dunn, RDC & Mr. Todd Jacobs, NOAA

This year marks the RDC's third consecutive year collaborating with NOAA to accomplish Arctic initiatives for both agencies. Both agencies signed a Memorandum of Agreement to share assets and resources for future collaborations on research and development initiatives in the Arctic and Antarctic regions.

Puma All-Environment (AE) Unmanned Aircraft System (UAS)

In 2013, when the RDC first did UAS operations on CGC Healy, the only UAS recovery option was to land the aircraft in the water or on the ice. As a result, during last year's Arctic Technology Evaluation, the RDC worked with CG-711 and NOAA to get the necessary permissions in place and partnered with NOAA to demonstrate shipboard recovery of UAS in the Arctic. NOAA partnered with AV for the demonstration and demonstrated manual flight deck landings and net capture recoveries. Since then, AV has automated the net capture recovery method and will be traveling onboard CGC Healy to demonstrate the new capability.

Net capture recovery is an important alternative for the Coast Guard to evaluate because it would enable non-flight deck equipped assets to leverage UAS technologies, ultimately expanding surveillance capability and operational effectiveness.

In addition to automated net capture recoveries, NOAA is also planning to utilize the Puma AE to fly beyond line of site, conduct ice ridge detection and monitoring, produce maps of ice ridges and surrounding areas, conduct marine and marine mammal monitoring, and assist with the SAR exercise.

Puma AE recovery from the ice in 2013. USCG photo by Petty Officer 2nd Class Grant Devuyst.

Puma AE

UAS Deicing Technology

Ice covered Puma AE wing. USCG photo by Petty Officer 2nd Class Grant Devuyst.

The Arctic environment presents many challenges to UAS operations, one of the biggest being icing conditions that can down an aircraft. Over the past two Arctic Shield exercises, the RDC and NOAA have experienced issues with ice build-up on UAS airframes that have sometimes resulted in damaged aircraft.

To address the issue, this summer the RDC and NOAA are working with NASA Ames Research Center to evaluate deicing technology for small UAS. NOAA and NASA have outfitted the Puma AE being flown for this summer's operations with a carbon nanotube technology, which will function as a resistive heater to deice the aircraft's wings.

The team is also running a secondary experiment on a Raven wing that will be mounted high on CGC Healy's mast. Half of the Raven wing will be outfitted with the nanotube technology while the other half of the wing will be free of the technology, to serve as the control portion of the experiment. Its performance will be evaluated over the course of the patrol.

The nanotube technology has great potential to enhance UAS operations in the Arctic, enabling operators to fly in a wider range of atmospheric conditions.

NOAA Environmental Efforts

Lead: Mr. Noah Lawrence-Slavas, NOAA

NOAA Buoy Deployment. NOAA will also deploy multiple buoys, scientific instruments, and associated moorings to evaluate innovative new sensors and techniques to increase NOAA's observational capabilities in the Arctic. Primary areas of focus include solar radiative flux and physical and biological processes in the upper water column. The buoy deployments will include NOAA's novel PRAWLER technology, and NERC's National Oceanography Centre's Lab on a Chip nitrate analyzer. These technologies will be deployed from CGC Healy during the Arctic Technology Evaluation and left in the water for 3-4 months to collect data. They will be recovered by another vessel in the fall before ice re-occupies the mooring site.

NOAA Wave Glider Operations. NOAA will also deploy two autonomous, robotic surface craft called Carbon Wave Gliders instrumented with NOAA's MAp-CO_2 carbon dioxide (CO_2) analyzer, pH, and ecosystem monitoring instruments. NOAA has outfitted the Wave Gliders with new autonomous monitoring technology which it will trial over the same 3-4 month period that the buoys and associated technologies will be collecting data at the mooring site.

NOAA buoy.
NOAA image provided by Noah Lawrence-Slavas.

RDC/SPAWAR Collaboration

Lead: Mr. Aleksey Mafusalov, SPAWAR

SHARC USV.
USCG photo provided by Rich Hansen.

The RDC is partnering with SPAWAR again this summer to deploy Sensor Hosting Autonomous Research Craft (SHARC) USV from CGC Healy.

The USV is an ocean persistent platform that can hold a variety of different sensors depending on its mission. It uses perpetual wave motion to propel itself, solar panels to charge its batteries that power the electronics, and satellite based communications system for command and control. The vertical wave motion on the surface of the water rising and lowering the float alternative pulls up on the glider through the umbilical or lets it sink down due to the glider's weight. The motion make the glider's spring-loaded wings provide forward propulsion regardless of whether the glider is moving up or down.

The USV's software has been recently updated with obstacle avoidance, so SPAWAR would like to deploy the USV in an ice field to exercise vehicle avoidance maneuvers and test the new system in Arctic conditions. Detect and avoid is an important consideration for the application of all unmanned systems to keep both the technologies and other vehicle operators safe and secure.

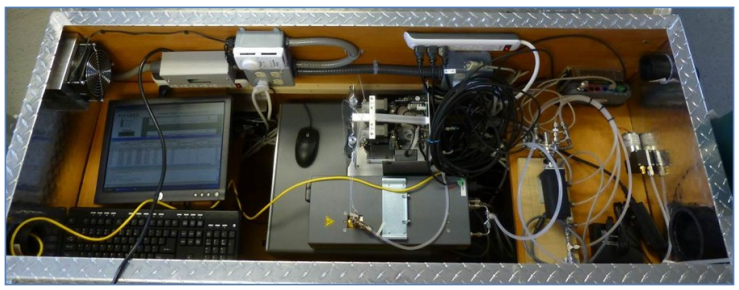
USV being recovered from the water onto CGC Healy. USCG photo provided by Rich Hansen.

Partnering with Academia

Leads: Mr. Jeff Welker & Mr. Eric Klein, UAA & Mr. Hajo Eiken, UAF, Affliates of the DHS Center of Excellence—Arctic Domain Awareness Center

Atmospheric Isotope Analysis

The University of Alaska, Anchorage (UAA) is trying to gain a better understanding of how water vapor isotopes in the atmosphere vary across different conditions (such as sea ice extent or weather) and how to effectively and efficiently collect this data from a research vessel. UAA would like to specifically understand and determine how carbon (C) isotopes in carbon dioxide (CO_2) and CH_4 vary spatially and temporally because they predict this might reflect changes in ocean productivity and contaminants, including fuel/oil leaks and discharges.



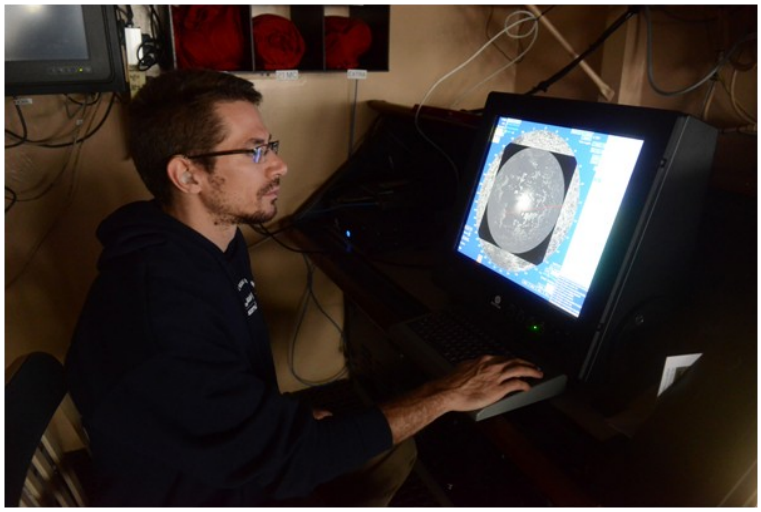
Example of an isotope analyzer set-up.
Photo by University of Alaska, Anchorage.

The Coast Guard could utilize this technology by employing it on unmanned systems and manned assets to "sniff out" changes in water vapor and carbon isotopes to locate fuel and oil spills for future recovery.

Ice Floe Research

The University of Alaska, Fairbanks (UAF) is traveling on CGC Healy to collect imagery from the ship's radar system while underway in sea ice in order to test and develop algorithms for deriving motion and deformation fields of ice around the vessel.

The team will also deploy a Seasonal Ice Mass-balance Buoy (SIMB), which is a satellite-tracked instrument used to measure the thickness of snow and ice as well as the temperature of the air, ice, and ocean in order to provide data relevant to understand the changes in the mass and volume of ice coverage, ie. growth and melt. UAF would like to deploy the SIMB on a multiyear ice floe in the Chukchi Sea in order to assess the potential for such floes that persist through the summer and pose a potential hazard to maritime activities.



RDC team member reads ice radar display while underway in the Arctic.
USCG photo by Petty Officer 1st Class Shawn Eggert.

The RDC In The Arctic

The Arctic has been a significant focal point of Coast Guard operations over the last several years. "The RDC plays a key role in charting the Service's future efforts in the Arctic by evaluating new and emerging technologies for the applicability to Coast Guard operations in the harsh and remote environment.," said RDC Commanding Officer, Capt. Dennis Evans.

The RDC first began research in the Arctic in the 1970's, assessing the burning of oil spilled on the ice. More recently, due to receding ice and increased vessel traffic and human activity, the RDC committed more of its project work to Arctic issues over the last eight years.

Since then, the RDC has commissioned studies to improve knowledge on Arctic issues, conducted oil in ice and Arctic craft testing in the Chukchi and Beaufort Seas, participated in multiple oil-in-ice response workshops and conferences, and have continuously conducted market research to identify the latest Arctic-capable technologies.

The Research, Development, Test & Evaluation Program (RDT&E)

At any given time, the Coast Guard's RDT&E program is working on more than 80 projects that support Coast Guard requirements across all mission areas. The RDT&E program is comprised of the Office of RDT&E at Coast Guard Headquarters in Washington, DC, and the Research & Development Center (RDC) at New London, CT. The RDC is the Coast Guard's sole facility performing applied RDT&E experimentation and demonstrations.

The RDT&E program enhances acquisition and mission execution by helping transition new technologies into the service's operational forces. The program also provides Coast Guard leadership with knowledge necessary for making strategic decisions. Test and evaluation activities support the entire Coast Guard in requirements verification planning, including mission-specific test preparation and deck-plate procedure execution.

The RDT&E program pursues technologies that provide incremental improvements as well as those with the greatest potential to strategically transform the way the Coast Guard does business. The program leverages partnerships with academia, other government agencies and private industry to anticipate and research solutions to future technological challenges.

The RDT&E program is dedicated to maintaining a balanced portfolio of projects that supports the Coast Guard's short, medium, and long range requirements across all mission areas. Projects fall under seven main program areas including Surface, Aviation, C4ISR, Acquisition Support & Analysis, Environment & Waterways, Modeling & Simulation Center of Excellence, and Test & Evaluation.

RDC Arctic Technology Evaluation Team Members

Rich Hansen, Arctic Coordinator

Scot Tripp, Chief Scientist

Jason Story, Test Director

Deborah Hastings, Asst. Test Director

Jay Carey, Logistics

Don Decker, Arctic Comms Lead

LCDR Mike Turner, Arctic Nav Lead

Steve Dunn, UAS & SAR Demo Lead

LT Keely Higbie, UAS & SAR Demo Team

Shannon Jenkins, CG-926 Prog Office Rep

CGC Healy Website

Follow CGC Healy's activities on their public facing website at:

http://icefloe.net/

RDC Websites

The RDC's public facing website is:

http://www.uscg.mil/acquisition/rdc/

The RDC has also set up a Coast Guard–internal site to help provide RDC staff, project sponsors and stakeholders, and other members of the organization with visibility on the field activities, projects, and products being produced at the RDC. We invite you to visit the site regularly to stay up to date on the Arctic Technology Evaluation and other RDC activities. The Internal CG blog is located at:

https://cgportal2.uscg.mil/units/cg9/2/6/rdc/rdcblog/default.aspx

DHS partners can access the RDC Blog through the DHS HSIN network.