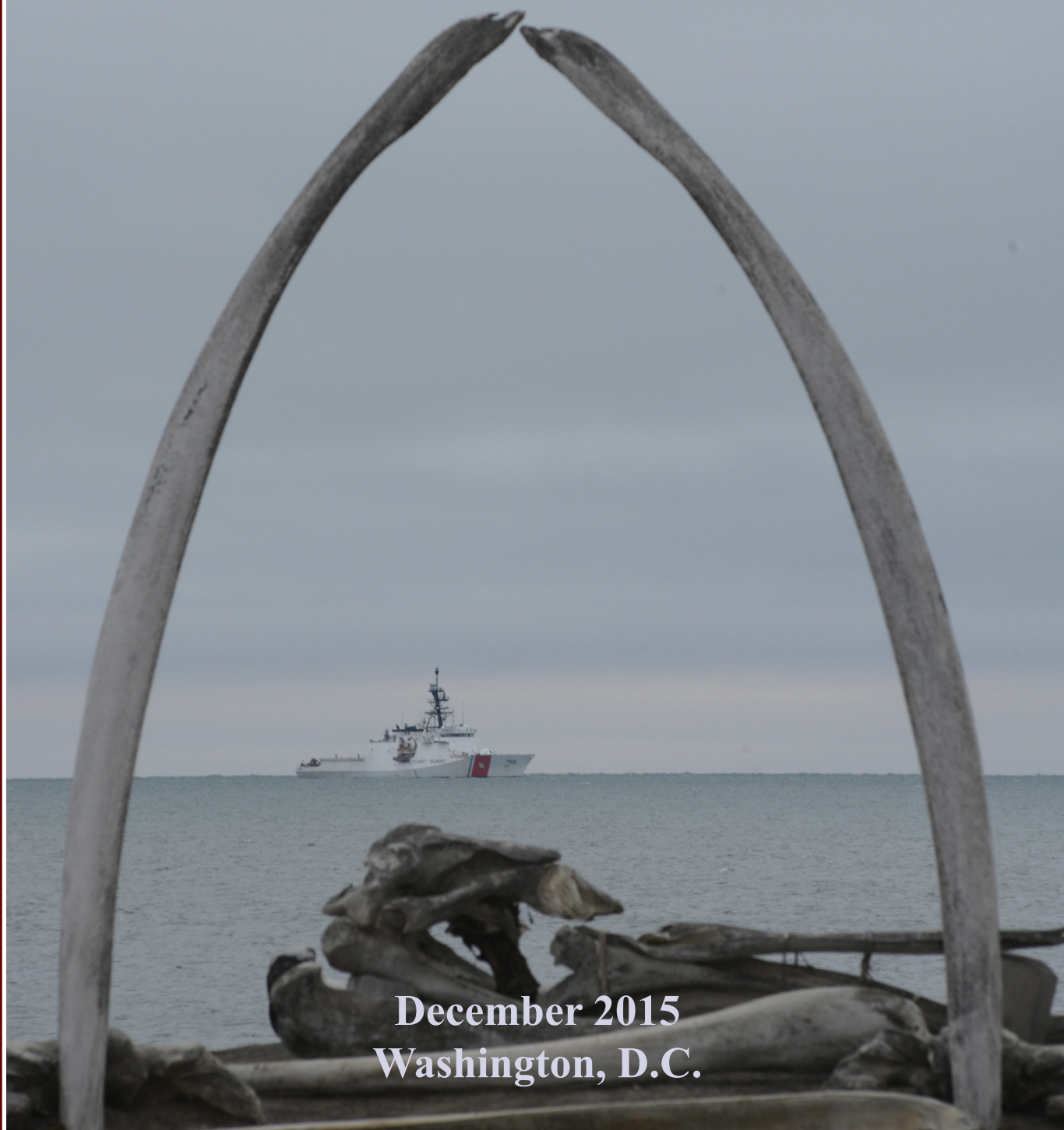



UNITED STATES COAST GUARD  
ARCTIC STRATEGY  
IMPLEMENTATION PLAN



December 2015  
Washington, D.C.

**Implementation Plan  
for the  
U.S. Coast Guard Arctic Strategy**

The enclosed implementation plan outlines the intended efforts to achieve the Coast Guard's strategic objectives in the Arctic over the next 10 years. This implementation plan will guide cross service actions to ensure safe, secure, and environmentally responsible maritime activity in the Arctic.

Submitted:   
Director, Marine Transportation Systems  
Chair, Arctic Initiatives Senior Steering Group

12/14/15  
Date

Approved:   
Deputy Commandant for Operations

18 Dec 15  
Date

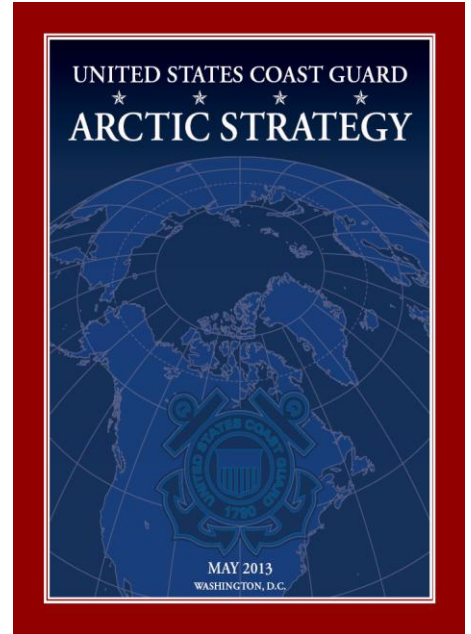
**Cover Photo:** Framed in the Whale Bone Arch, National Security Cutter STRATTON (WMSL 752) patrols near Barrow, Alaska during Operation Arctic Shield 2014. Made from the skull and rib bones of a bowhead whale, the Whale Bone Arch symbolizes the gateway to the Arctic, emphasizing the rich heritage of the indigenous peoples of the region. Photo by PA2 Grant DeVuyst.

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# Coast Guard Arctic Strategy

The United States is an Arctic Nation with significant interests in the future of the region. The U.S. Coast Guard, as the maritime component of the U.S. Department of Homeland Security (DHS), has specific statutory responsibilities in U.S. Arctic waters. This strategy outlines the ends, ways, and means for achieving strategic objectives in the Arctic over the next 10 years. The Coast Guard is responsible for ensuring safe, secure, and environmentally responsible maritime activity in U.S. Arctic waters. Our efforts must be accomplished in close coordination with DHS components and other partners, particularly Department of Defense (DoD), Department of Interior (DOI), and National Oceanic and Atmospheric Administration (NOAA), and involve facilitating commerce, securing borders, and improving resilience to disasters.



The Coast Guard's current suite of cutters, boats, aircraft, and shore infrastructure must meet a number of near-term mission demands. The Coast Guard employs mobile command and control platforms such as large cutters and ocean-going ice-strengthened buoy tenders, as well as seasonal aviation and communications capabilities through deployable assets and facilities. These mobile and seasonal assets and facilities have proven to be important enablers for front-line priorities in the region, including search and rescue operations, securing the maritime border, collecting critical intelligence, responding to potential disasters, and protecting the marine environment.

The Arctic environment is changing dramatically. Satellite observations over time show decreasing multi-year ice and increasing open water during the Arctic summer. The lowest sea ice extent on record occurred in September 2012. Consequently, coastal villagers have been experiencing environmental changes that have made their communities more prone to storm surges, diminishing permafrost, and coastal erosion. Although winter sea travel is still severely limited due to extensive ice coverage across the region, recent summer and early autumn sea ice extent record lows have made seasonal maritime navigation more feasible. Economic development, in the forms of resource extraction, adventure tourism, and trans-Arctic shipping drives much of the current maritime activity in the region.

The Arctic region contains an estimated 13 percent of the world's undiscovered oil and 30 percent of undiscovered gas. More than 35 percent of Alaska's jobs are tied to the energy sector, and the direction of onshore oil production in Alaska is uncertain. Decreasing sea ice and diminishing onshore oil production have created incentives for further exploration offshore. These activities bring risk, which can be mitigated through

appropriate maritime governance coupled with consistent stakeholder coordination. Additionally, tourism is increasing in the Arctic. Due to undeveloped shore-based infrastructure, much of the increased tourism is expected to involve transportation via passenger vessel, further increasing activities in Arctic waters.

The Coast Guard Arctic Strategy outlines three strategic objectives in the Arctic for the U.S. Coast Guard over the next 10 years:

- Improving Awareness
- Modernizing Governance
- Broadening Partnerships

*Improving Awareness:* Coast Guard operations require persistent awareness of activities in the maritime domain. Maritime awareness in the Arctic is currently restricted due to limited surveillance, monitoring, and information system capabilities. Persistent awareness enables identification of threats, information-sharing with front-line partners, and improved risk management. Improving awareness requires close collaboration within DHS, as well as with the Departments of State, Defense, Interior, the National Science Foundation, NOAA, and other stakeholders to enhance integration, innovation, and fielding of emerging technologies. The Intelligence Community and non-federal partners are also vital stakeholders.

*Modernizing Governance:* The concept of governance involves institutions, structures of authority, and capabilities necessary to oversee maritime activities while safeguarding national interests. Limited awareness and oversight challenge maritime sovereignty, including the protection of natural resources and control of maritime borders. The Coast Guard will work within its authorities to foster collective efforts, both domestically and internationally, to improve Arctic governance. In so doing, the Coast Guard will review its own institutions and regimes of governance to prepare for future missions throughout the Arctic.

*Broadening Partnerships:* Success in the Arctic requires a collective effort across both the public and private sectors. Such a collective effort must be inclusive of domestic regulatory regimes; international collaborative forums such as the Arctic Council, International Maritime Organization (IMO), International Civil Aviation Organization, and Inuit Circumpolar Council; domestic and international partnerships; and local, state, and tribal engagements in Arctic communities focusing on training and volunteer service. Success in the Arctic also depends upon close intergovernmental cooperation to support national interests in the next ten years. Government partnerships with coordination among DHS, the Departments of Commerce, Defense, Interior, Transportation, State, U.S. Special Representative for the Arctic, and other Federal partners that supports the 2015-2017 U.S. Chairmanship of the Arctic Council.

Beyond these three strategic objectives, there are a number of additional factors that will position the Coast Guard for long-term success. These factors include building national awareness of the Arctic and its opportunities, strengthening maritime regimes,



improving public-private relationships through a national concept of operations, seeking necessary authorities, and identifying future requirements and resources to shape trends favorably. The Coast Guard strategy outlines a number of priorities, ranging from capabilities and requirements to advances in science and technology that will facilitate our Nation's success in the region. Specifically, the strategy advocates to leverage the entire DHS enterprise and component capabilities to secure our borders, prevent terrorism, adapt to changing environmental conditions, enable community resilience, and inform future policy.

Operating in the Arctic is not a new venture for the Coast Guard. However, adapting to changing conditions will require foresight, focus, and clear priorities. The strategy will ensure safe, secure, and environmentally responsible maritime activity in the Arctic by improving awareness, modernizing governance, and broadening partnerships to ensure long-term success.



The Russian tanker Renda transits through the Bering Sea with the Coast Guard Cutter Healy's assistance in January 2012. The Renda is carrying 1.3 million gallons of petroleum products for delivery to Nome. U.S. Coast Guard photo.

# Implementation Plan

The Coast Guard is pleased to present its implementation plan for the Coast Guard Arctic Strategy. Framed in a 10-year planning horizon, this plan describes 13 initiatives designed to meet the challenges of operating in the Arctic. Comparable to the dynamic nature of the Arctic environment, this implementation plan is designed to be scalable to reflect both the availability of appropriate fiscal and human resources and to respond to changes in demand signals for Coast Guard services in the region.

## Overview

The United States is an Arctic Nation with significant experience in the past and equities in the future of the region. Operating in the Arctic is not a new venture for the Coast Guard. We have had a presence in the region since 1867, when Alaska was purchased from Russia. Then, as now, the mission of the Coast Guard is to enforce U.S. laws and regulations, conduct search and rescue, assist scientific exploration, and foster navigation safety and environmental stewardship.



**USRC BEAR (AG29) was used in the U.S. Revenue Marine's Alaskan Patrol. The BEAR took part in the "Overland Expedition" in 1897 to bring relief to Alaska whalers frozen in the ice off Point Barrow. U.S. Coast Guard photo.**

The difference from 1867, however, is that the level of human activity is increasing in the region. In recognition of changes in the region, the Commandant of the Coast Guard promulgated the Coast Guard's Arctic Strategy in May 2013. The strategy sets the Coast Guard's vision for the region to "ensure safe, secure, and environmentally responsible maritime activity in the Arctic" and includes three strategic objectives: (1) Improving Awareness; (2) Modernizing Governance; and (3) Broadening Partnerships. These objectives were included in the Coast Guard Strategy to support and implement National level objectives and policies.

The Coast Guard Arctic Strategy is based on and complementary to the National Strategy for the Arctic Region, and is informed by more than 150 years of our maritime experience in the Arctic, including work with indigenous populations in the region. The Coast Guard considered several assumptions and planning factors based on this experience in developing its Strategy and Implementation Plan:<sup>1</sup>

- A 10-year planning horizon.
- Current demand signal for Coast Guard services in the Arctic will remain at current levels, or slightly increase.
- Operation Arctic Shield will continue using a “mobile and seasonal” approach to activities and regional force deployment and lay down.
- The plan shall be scalable to demand for services and available resourcing.
- The Coast Guard will periodically re-evaluate this implementation plan.
- Climate change in the Arctic will continue, with loss of sea ice at a rate equal to or greater than Intergovernmental Panel on Climate Change predictions.
- With reduction in sea ice cover, technological advancements, and greater global demand for strategic resources, maritime and terrestrial resource extraction and associated activities will likely increase in intensity. However, the rate of development is based on global markets, and there is significant uncertainty.
- Interest in the Arctic will bring more adventurers and tourists to the Arctic Region.

## **National Strategy Implementation**

The National Strategy for the Arctic Region and its Implementation Plan are guided by National direction from the President of the United States, including the National Security Strategy, National Military and Maritime Strategies, National Strategy for the Arctic Region and its Implementation Plan, Arctic Region Policy NSPD-66/HSPD-25, National Strategies for Homeland Security and Maritime Domain Awareness, National Ocean Policy, Executive Order 13580,<sup>2</sup> as well as the Quadrennial Defense, Diplomatic, and Homeland Security reviews.

The National Strategy for the Arctic Region and its Implementation Plan are coordinated by the Arctic Executive Steering Committee (AESC). The AESC was established by an Executive Order on 21 January 2015 to help coordinate Arctic-related activities across the Federal Government and to enhance collaborations with state, local,

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<sup>1</sup> As we execute our obligations in the National and Coast Guard strategies, the Coast Guard will evaluate the effect of each activity on human health and the environment as prescribed by the National Environmental Policy Act, as well as planning aspects of the Coastal Zone Management Act, the National Historic Preservation Act, the Endangered Species Act, and others.

<sup>2</sup> Ex. Order 13580, Interagency Working Group on Coordination of Domestic Energy Development and Permitting in Alaska, which the President issued on July 12, 2011, established an interagency working group to coordinate domestic energy development in Alaska.



and Alaska Native tribal governments, as well as similar Alaska Native organizations, academic and research institutions, and the private and nonprofit sectors.<sup>3</sup>

The AESC is composed of representatives from the Office of Science and Technology Policy, Council on Environmental Quality, Domestic Policy Council, National Security Council, and senior officials from the Departments of State, Defense, Justice, the Interior, Agriculture, Commerce, Labor, Health and Human Services, Transportation, Energy, and Homeland Security; the Office of the Director of National Intelligence; the Environmental Protection Agency; the National Aeronautics and Space Administration; the National Science Foundation; the Arctic Research Commission; the Office of Management and Budget; the Assistant to the President for Public Engagement and Intergovernmental Affairs; and other agencies or offices as appropriate. The U.S. Special Representative for the Arctic also participates in AESC proceedings.

EO 13689 recognizes the Deputy Secretary of the Department of Homeland Security (DHS) represents the Department on the Arctic Executive Steering Committee (AESC). In general, the Deputy Secretary has asked the Coast Guard to represent the Department at AESC meetings.

As the preeminent maritime service in the region, the Coast Guard has lead agency responsibilities for executing seven objectives in the National Strategy for the Arctic Region and its Implementation Plan. Coast Guard assigned activities in the National Plan are:

- Enhance Arctic Domain Awareness
- Sustain Federal Capability to Conduct Maritime Operations in Ice-Covered Waters
- Improve Hazardous Material Spill Prevention, Containment, and Response
- Promote Arctic Oil Pollution Preparedness, Prevention, and Response Internationally
- Enhance Arctic Search and Rescue
- Expedite International Maritime Organization Polar Code Development and Adoption<sup>4</sup>
- Promote Arctic Waterways Management

## **Coast Guard Strategy Implementation**

To directly enable and address the activities assigned to the Coast Guard in the National Strategy, and to support the Coast Guard Strategy, 13 initiatives have been

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<sup>3</sup> Ex. Order 13687, Enhancing Coordination of National Efforts in the Arctic, 21 January 2015.

<sup>4</sup> The International Maritime Organization processes/timelines cannot be expedited. Task to Finalize and Adopt the Polar Code was completed May 2015.

identified that are either currently being executed or are planned to be undertaken.<sup>5</sup> The 13 initiatives with lead offices are:

- Enhance Arctic Operations and Exercises (Pacific Area Response Operations Planning Branch, PAC-53)
- Improve Maritime Domain Awareness (Office of Intelligence Plans & Policy, CG-25)
- Ensure Arctic Surface and Air Capabilities with Associated Support Infrastructure (Assistant Commandant for Capability, CG-7)
- Improve Arctic Communications Capabilities (Office of C4 & Sensor Capabilities, CG-761)
- Implement IMO Polar Code (Director of Inspections and Compliance, CG-5PC)
- Promote Arctic Waterways Management (Office of Navigation Systems, CG NAV)
- Support Arctic Council and U.S. Chairmanship (Director, Marine Transportation Systems, CG-5PW )
- Advance an Arctic Coast Guard Forum (International Affairs & Foreign Policy Directorate, CG-DCO-I)
- Support a Center for Arctic Study and Policy (Director, Marine Transportation Systems, CG-5PW)
- Establish an Arctic Policy Board (Director, Marine Transportation Systems, CG-5PW)
- Create an Arctic Fusion Center (Global MOTR Coordination Center, DCO-G)
- Create an Arctic Maritime Assistance Coordination Center (Director of Incident Management & Preparedness Policy, CG-5RI)
- Strengthen Marine Environmental Response in the Arctic (Office of Environmental Response Policy, CG-MER)

Continuous evaluation and improvement is standard operating procedure for the U.S. Coast Guard. An integral part of our Implementation Plan will be to apply appropriate metrics to ensure that each of the 13 initiatives, and their associated action items and activities, are on schedule and properly tailored for the operational and resource environments faced by the Coast Guard and the Nation. Sponsors for these tasks will specify desired outcomes that define success, and develop supporting plans with enough detail to identify: (1) specific tasks/subtasks; (2) the sequence of tasks; and (3) resource requirements to enable task completions. The end goal is to identify the scope, timeline, and resources across the 10-year implementation period and highlight significant challenges and enablers.

This Implementation Plan is a living document, which the Coast Guard will evaluate and update annually to reflect any changes in national priorities, fiscal realities, and changes in human activity in the region.

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<sup>5</sup> 12 of these 13 initiatives were first released in the *Report to Congress on Arctic Strategy Implementation* (May 2014).

The following pages provide a narrative description of each initiative, including major milestones to achieve the initiatives, and its link to the National Strategy for the Arctic Region Implementation Plan and the Coast Guard Arctic Strategy.<sup>6</sup> Each description includes an office or unit responsible for leading the task, recommended timeline, and performance measure. Task leaders will coordinate with appropriate offices in Coast Guard Headquarters for interagency engagement and alignment.

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<sup>6</sup> Comprehensive Plans of Action and Milestones for each initiative are internal Coast Guard documents.

# Implementation Initiatives



# Initiative 1: Enhance Arctic Operations and Exercises

## Pacific Area Response Operations Planning Branch (PAC-53)

Operation Arctic Shield began as an outreach initiative, a mobile and seasonal operation with the objective of meeting Coast Guard statutory responsibilities in the Arctic region. Over the years, Operation Arctic Shield has built upon the experiences and lessons learned from the previous years' activities. Upon the publication of the Coast Guard Arctic Strategy, Operation Arctic Shield has been directly aligned with the Strategy's objectives of improving awareness, modernizing governance, and broadening partnerships, with effort focused under three areas: operations, capability assessment, and improving preparedness and response capabilities.

Operation Arctic Shield tactical activity includes the deployment of aircraft, cutters, and personnel to the Arctic region and is scalable to match threats and risks, opportunities, and mission responsibilities, while overcoming lack of infrastructure, logistical, and communications challenges. Those concepts have centered on the use of offshore cutter-based command and control platforms, shore-based mobile command and control platforms, and seasonal air and communications capabilities through leased facilities and deployable assets.

The Coast Guard has a long history of working with Alaska State, local, and tribal partners in the Arctic. Outreach activities under Operation Arctic Shield are ongoing year-round and include regular engagements with tribal communities to ensure operations do not interfere with tribal rights, interests, or subsistence activities. Other outreach activities include marine safety education, as well as ice-rescue training in Arctic communities. Prevention activities and outreach spanned 29 villages, training over 2,800 children in *Kids Don't Float* programs, and three mass rescue exercises. Moreover, ongoing cooperation with State, local, and tribal partners in exercises and other events continue to strengthen partnerships.

While Operation Arctic Shield has been successful in past years, the challenges of mitigating increasing threats and risks with limited funding and infrastructure, as well as the logistical complexities due to vast distances remain. The following action items build on the foundation that has successfully been laid through the Coast Guard's presence in the Arctic. Operational effectiveness in the Arctic can also be greatly enhanced with corresponding success in the other 12 initiatives.

The Coast Guard has identified the following action items to enhance Arctic Operations and Exercises:

1. Study ways to develop the appropriate capabilities and competencies, with sufficient capacity, to execute missions at an acceptable level of risk, and in a manner that is adaptive to changes in environmental conditions.

2. Conduct testing of new technologies and capabilities during seasonal presence, including communications, domain awareness, and pollution response equipment and capabilities.
3. Study feasibility of international training programs for Coast Guard personnel to increase icebreaking and ice operations expertise and proficiency.
4. Evaluate annual demand signals to ensure appropriate allocation of surface and air platforms for theater operations.
5. Identify mechanisms for collaboration with Department Centers of Excellence and other academic institutions.
6. Deepen understanding of available search and rescue (SAR) resources in the Arctic by conducting and participating in SAR exercises.
7. In coordination with the Alaska Regional Response Team agencies/members, complete the interagency Spill of National Significance Logistics Requirements Assessment.
8. Further enhance coordination with Canada through the continued implementation of the Canada-U.S. Joint Contingency Plan for oils spills in the Beaufort Sea.
9. Identify opportunities to collaborate with DoD partners as they conduct operations in the Arctic.
10. Explore additional opportunities to build valuable relationships with tribal entities, in accordance with Executive Order 13175 and within available resources.

Coast Guard operations in the Arctic will continue to be mobile and seasonal based on demand signals. The actions identified will improve the Coast Guard's ability to execute our statutory missions in the Arctic.

**Linkage(s) to implementation for National Strategy for the Arctic Region, pp. 6, 13, 24-25**

**Linkage(s) to other strategies: Coast Guard Arctic Strategy, pp. 24-26, 28-29, 31**

## **Initiative 2: Improve Maritime Domain Awareness**

### **Coast Guard Office of Intelligence Plans & Policy (CG-25)**

Maritime Domain Awareness (MDA) encompasses anything associated with the global maritime domain that could impact the safety, security, economy, or environment of the United States. MDA is not a mission or a program, but the product of a diverse set of capabilities which support all levels of decision-making across all Coast Guard, interagency, industry, and private partner missions and operations.

MDA requires gathering and synthesizing large amounts of information from disparate sources in a timely and comprehensive manner, and disseminating that information to operational commanders and other partners, enabling collaborative planning and coordinated operations. Effective MDA requires collaboration among all levels of government as well as the private sector and international stakeholders.

The Coast Guard's Arctic MDA requirements are based in the principles of Coast Guard operations and are no different than what we require throughout the rest of our areas of responsibility:

- Information for safe vessel operations, including positions and intentions of all vessels
- Information on vessel crew and passengers, and cargo carried if applicable
- Pollution detection and tracking capability
- Weather and environmental observations, including ice reconnaissance
- Living Marine Resource awareness
- Awareness of human activity and infrastructure
- C4ISR and C4IT systems combined with highly-trained personnel capable of producing MDA products quickly

The National Strategy for the Arctic Region designates the Coast Guard as the lead agency for enhancing Arctic MDA. The challenges to awareness in the Arctic include the harsh operating environment, extreme distances between operating areas and support facilities, poor reliability of communications, limited sensing capabilities, lack of logistics infrastructure to support operations, and limited resources available to support these operational needs.

Overcoming these challenges will require strong partnerships with interagency, tribal, private, and international stakeholders. The Coast Guard has identified the following action items to improve MDA in the Arctic. Most of these items will be conducted through strong partnerships with others:

1. Periodically review and update Intelligence Preparation of the Maritime Domain (IPMD) for the Arctic. The most recent revision was March 2015.

2. Explore feasibility of using Unmanned Systems to improve observational ability in the Arctic.
3. Continue to integrate intelligence into all agency operational planning utilizing the classified Intelligence Annex to the Coast Guard Arctic Strategy.
4. Study data and collection information requirements in coordination with Office of the Federal Coordinator for Meteorology (OFCM), US Navy, National Oceanic and Atmospheric Administration (NOAA), and other stakeholders.
5. Continue polar communications and weather satellite project study with DoD and Canada. Evaluate study results and explore implementation of recommendations.
6. Look for opportunities through international discussions to study and evaluate advisability of special Arctic requirements for carriage of tracking systems.
7. Continue to partner with industry to purchase Automatic Information System (AIS) data, both terrestrial and satellite, with a view toward expanding AIS coverage in the Arctic.
8. Study feasibility of expanding Long Range Identification and Tracking (LRIT) system carriage requirements for non-commercial class ships and small vessels operating in the Arctic.
9. Maintain direct interactions and channels of communication with local communities, and establish processes to bring local and traditional knowledge and observations to bear to address data gaps and to augment information gathered through other means.
10. Develop a report to Congress, “Arctic Maritime Domain Awareness: Five-Year Strategic Plan”.

Improving MDA is closely tied and dependent on action items identified in other initiatives, particularly communications. The actions are interdependent and require close coordination, but will build on each other to achieve effective Coast Guard presence and awareness of the Arctic domain.

**Linkage(s) to implementation for National Strategy for the Arctic Region, pp. 7-8**  
**Linkage(s) to other strategies: Coast Guard Arctic Strategy, pp. 24, 26; National MDA Plan**



# **Initiative 3: Ensure Arctic Surface and Air Capabilities with Associated Support Infrastructure**

## **Coast Guard Assistant Commandant for Capability (CG-7)**

Coast Guard capabilities required in the Arctic to effectively execute Coast Guard missions include icebreakers, properly adapted and resourced aviation assets, on-water command and control assets, specialized equipment, and associated support infrastructure.

Heavy icebreaking capability is critical to providing assured year-round access to the Arctic Ocean and other ice-covered areas on behalf of United States and executing the Coast Guard's statutory responsibilities throughout the entire Arctic Region. The Coast Guard is responsible for operating and maintaining the national fleet of polar icebreakers. Heavy icebreakers provide a variety of unique capabilities including: icebreaking in multiyear, ridged polar ice; extensive endurance; command and control interoperability; ability to carry additional passengers and cargo; organic boats; and facilities to embark and support helicopters. Medium icebreakers provide similar capabilities, but can only operate in lesser ice conditions, precluding winter access to the Arctic Ocean. The flexibility and mobility of icebreakers assist the Coast Guard in performing Arctic missions. Currently, the USCGC POLAR STAR (heavy polar icebreaker) and the USCGC HEALY (medium polar icebreaker) are the Nation's only operational polar icebreakers. The USCGC POLAR STAR is the only national asset capable of performing unique missions in both polar regions. Due to maintenance requirements on this aging asset and lack of redundancy in the heavy icebreaker fleet, assured access to the polar regions is not guaranteed at all times when such access is necessary.

Ensuring the Coast Guard's effective presence in the Arctic requires more than just icebreaker capabilities. Other capabilities contributing to the impact on the Coast Guard's ability to carry out its missions in the Arctic include aviation, surface assets, communications, logistics, and environmental response capabilities. While the Coast Guard is the lead for maritime capabilities in the Arctic, various Federal agencies have been assigned responsibilities for establishing other Arctic capabilities, including the Federal Aviation Administration (FAA), Department of Defense (DoD), Department of Commerce (DOC), the National Oceanographic and Atmospheric Administration (NOAA), and Department of the Interior (DOI), for example.

In order to set requirements and seek an adaptable mix of cutters, boats, aircraft, and shore infrastructure to enable effective seasonal operations, the Coast Guard has identified the following action items to improve capabilities in the Arctic. These actions require a collaborative and interagency approach:

1. Consistent with September 1, 2015 Presidential announcement, accelerate Polar Icebreaker production activities from 2022 to 2020 and begin planning for additional icebreakers.
2. Develop requirements documents for a new polar icebreaker acquisition. Conduct alternatives analysis for long-term polar icebreaking needs.
3. Partner with the DoD to evaluate requirements and solutions for long term forward operating locations and permanent infrastructure.
4. Explore the appropriate competencies to execute missions at an acceptable level of risk, including polar icebreaking operations, ice diving, and specialized deployable teams for high latitude operations.
5. Investigate cold weather airframes that can operate below -40 C.



USCGC POLAR STAR (WAGB-10) and USCGC HEALY (WAGB-20) are Polar-class icebreakers operated by the U.S. Coast Guard. U.S. Coast Guard photos

**Linkage(s) to implementation for National Strategy for the Arctic Region, pp. 8-9**  
**Linkage(s) to other strategies: Coast Guard Arctic Strategy, pp. 24-28**

# **Initiative 4: Improve Arctic Communications Capabilities**

## **Coast Guard Office of C4 & Sensors Capabilities (CG-761)**

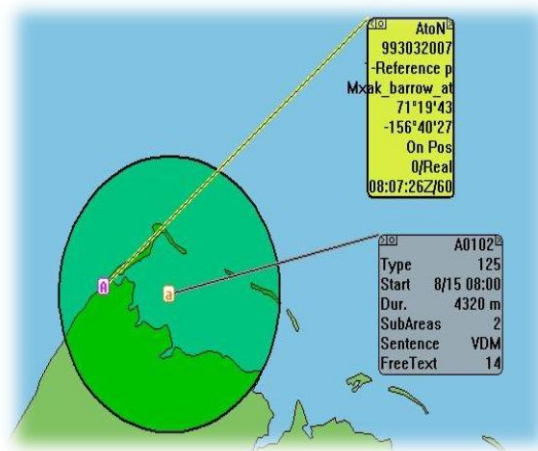
Communications capability in the Arctic is vital to the success of Coast Guard operations in the region. Currently, a robust communications infrastructure in the Arctic does not exist. The communications requirements for the Arctic are no different than any other region where the Coast Guard operates; however, there is limited availability of terrestrial communications infrastructure and satellite communications are not sufficiently matured in the Arctic region to meet all government and commercial needs.

The DoD and Coast Guard are addressing this issue with international partnerships that share the same need and observe similar communication shortfalls in the region. The Alaska Secure Vessel Tracking System (ASVTS) partnership with Marine Exchange Alaska is one example. The lead agency and responsible party for improving communications infrastructure, however, remains the Department of Commerce under the National Telecommunications and Information Administration (NTIA).

The Coast Guard has identified the following action items to improve communications capability in the Arctic:

1. Complete a study to identify communication gaps throughout the Arctic region.
2. Complete assessment of Coast Guard telecommunications capabilities in the Arctic region.
3. Coordinate with U.S. Northern Command (NORTHCOM)/North American Aerospace Defense Command (NORAD) NORTHCOM/NORAD on study of the use of Narrow Band in the Arctic.
4. Test Mobile User Objective Satellite (MUOS) capability.
5. Conduct studies, exercises and tests, to identify communications which are needed to support military operations in the region.
6. Complete report on the feasibility of transporting vessel identification and positioning reports via Iridium using AIS technology.
7. Continue to study possibility of transmitting AIS messages via Marine Exchange of Alaska.
8. Study the establishment of an AIS data-sharing agreement with the Canadian Coast Guard.
9. Evaluate the possibility of Coast Guard participation in Polar Communications and Weather (PCW) with Canada.
10. Monitor the progress and plan the testing of Iridium-Next generation satellite deployment.
11. Study possible permanent installation of HF/VHF/UHF capability in Barrow and Kotzebue, Alaska.
12. Complete socialization, proof of concept testing, and draft paper for NCSR2 and adoption by IMO for Enhanced LRIT and Arctic Special Polygon.

This initiative encompasses actions that the Coast Guard can undertake in conjunction with interagency and stakeholder partners to enhance and influence communications capability. It is important to note that development of communications infrastructure in the Arctic requires a whole-of-government approach, as well as significant private investment and development. The Coast Guard is just one stakeholder in the greater infrastructure needs.



**Linkage(s) to implementation for the National Strategy for the Arctic Region, pp.6-7**  
**Linkage(s) to other strategies: Coast Guard Arctic Strategy, p. 36, National MDA Plan**  
**Linkages: to the National Ocean Policy Implementation Plan, p. 11**



# **Initiative 5: Implement International Maritime Organization Polar Code**

**Coast Guard Director of Inspections and Compliance (CG-5PC)**

The International Maritime Organization (IMO) developed an International Code for Ships Operating in Polar Waters (“Polar Code”), to cover the full range of design, construction, equipment, operational, training, and environmental protection matters relevant to ships operating in the waters surrounding the two poles. The Polar Code is not a new treaty or convention. Rather the code consists of amendments to two existing conventions, the International Convention for Safety of Life at Sea (SOLAS), and the International Convention for the Prevention of Pollution from Ships (MARPOL). The amendments are in addition to current SOLAS and MARPOL regulations for ships operating in polar waters, which are generally defined as waters north of 60N and south of 60S.

Ships operating in the Arctic and Antarctic environments are exposed to a number of unique risks and challenges. Poor weather conditions and a relative lack of hydrographic data, communication systems, and other navigational aids pose challenges for mariners. Cold temperatures may reduce the effectiveness and functionality of numerous components of the ship, ranging from deck machinery to emergency equipment. When ice is present, it can impose additional loads on the hull, propulsion and steering systems, and other appendages. Moreover, the remoteness of the polar regions makes search and rescue, environmental response, and other operations difficult and costly.

Notwithstanding the above challenges, shipping in the polar regions has grown in volume and diversified in nature over recent years. In the northern hemisphere, this trend is linked to the recession of the Arctic ice cap and the resultant increase in seasonably navigable water. This trend, combined with the hazards of operating in the polar regions, is impetus for developing the amendments to the existing conventions.

The Polar Code builds on previous non-mandatory guidelines developed by IMO including “Guidelines for Ships Operating in Polar Waters” (2009) and “Guidelines for Ships Operating in Arctic Ice-covered Waters” (2002). The Polar Code consists of two parts: safety-related provisions with associated SOLAS amendments and environment-related provisions associated MARPOL amendments. Consistent with other IMO instruments, the Polar Code will contain both mandatory and non-mandatory provisions. Both the safety and environmental provisions will enter into force in January 2017.

The U.S. Coast Guard has the authority and inspection regimes in place to ensure compliance with the Polar Code by U.S. vessels operating globally and vessels operating in U.S. waters to which the provisions are applicable. The Coast Guard will now focus on the following action items to support implementation of the Polar Code through the use of a multi-office project management team to:

1. Evaluate what, if any, new or amended regulations are necessary to implement the Polar Code provisions.
2. Amend existing regulations to allow recognized classification societies to issue the new Polar Ship Certificate on behalf of the Coast Guard, as appropriate.
3. Develop policy and guidance documents, as necessary.
4. Continue to support work on relevant technical industry standards to supplement the Polar Code provisions.

**Linkage(s) to the Implementation Plan for the National Strategy for the Arctic Region, p. 31**

**Linkage(s) to other strategies: Coast Guard Arctic Strategy, pp. 25-26, 32**

# Initiative 6: Promote Arctic Waterways Management

## Coast Guard Office of Navigation Systems (CG-NAV)

This initiative includes actions the Coast Guard can explore, evaluate, and undertake to enhance waterways management in the Arctic region. The term “waterways management” is generally defined as: facilitation and management of vessel movement; optimization of waterway infrastructure; communication of waterway and environmental conditions; supporting understanding of ocean and waterway environments through marine science and observation; risk analysis for port access and routings; and aids to navigation system requirements.

In the Arctic, the Coast Guard is undertaking efforts to enhance waterways management and reduce risk to the maritime environment, commensurate with the level of activity in the region. This includes the Coast Guard facilitation of the recent formation of the Arctic Waterways Safety Committee (AWSC). Modeled after the successful Harbor Safety Committee concept, this non-governmental committee focuses on addressing safety, security, subsistence, and environmental issues facing the Arctic. The AWSC will work collaboratively to solve Arctic waterway related issues without the incorporation of new regulations.

The Coast Guard began a Bering Strait Port Access Route Study (PARS) in 2010. The Bering Strait PARS was designed to help reduce the risk of maritime casualties and increase the efficiency of commercial vessel traffic movement, in anticipation of increasing vessel traffic in the region. The Coast Guard developed a potential vessel routing system for the area with input from numerous stakeholders. The proposed routing measures consist of a series of four-nautical-mile-wide, two-way transit routes, coupled with precautionary areas at junction points.

Future actions to promote waterways management are partially dependent on rates of growth of the marine transportation system in the region. The Coast Guard has identified the following action items to promote waterways management in the Arctic:

1. Complete the Bering Strait Port Access Route Study.
2. Use PARS results to consider future rulemaking action or appropriate international agreements, as warranted.
3. Conduct a Waterways Analysis Management system assessment to support decisions on the management of maritime traffic and other navigational priorities, as MTS growth demands.
4. Continue to factor cultural and subsistence activities into studies and rulemaking and other marine planning activities pertaining to vessel traffic and waterways management.
5. Continue to study possibility of transmitting AIS messages via the Marine Exchange of Alaska.

# **Initiative 7: Support Arctic Council and U.S. Chairmanship**

## **Coast Guard Director, Marine Transportation Systems (CG-5PW)**

The Arctic Council is an important international organization for gaining international consensus as well as demonstrating leadership on Arctic issues. This initiative includes actions the Coast Guard can do to support the Arctic Council.

The Arctic Council is the leading intergovernmental forum promoting cooperation, coordination, and interaction among the Arctic States, Arctic indigenous communities and other Arctic inhabitants on common Arctic issues, in particular on issues of sustainable development and environmental protection in the Arctic. Eight Arctic nations (Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States) were listed as members of the Arctic Council when it was established in the Ottawa Declaration of 1996. Six Arctic indigenous groups have Permanent Participant status, and a number of other countries and organizations have been added as official observers.

The United States assumed the chairmanship of the Arctic Council in April 2015, which will then be transferred to Finland in 2017. The Coast Guard plays a significant role supporting our existing engagement in Council activities and the Coast Guard's visible role in Federal governance in the U.S. Arctic. The Coast Guard is committed to working with its international and multilateral partner organizations and supports U.S. involvement in Arctic Council efforts through its representation in two standing Arctic Council working groups; Emergency Prevention, Preparedness & Response (EPPR) and Protection of the Arctic Marine Environment (PAME). The U.S. Coast Guard also serves on the Council's Task Force on Arctic Marine Cooperation (TFMAC).

The Coast Guard has identified the following action items to support the Arctic Council, the U.S. Chairmanship, and the U.S. Special Representative to the Arctic:

1. Continue to provide policy and programmatic support to the Department of State to support the U.S. Chairmanship of the Arctic Council.
2. Continue active engagement in the EPPR and PAME workgroups. Support EPPR's inclusion of SAR to its portfolio.
3. Review Arctic Council committee products that are sent to CG for review and concurrence in preparation for upcoming Ministerial Meeting.
4. Prepare and publish Lessons Learned and After Action Reports in conjunction with Dept of State and NORTHCOM led whole-of-government Search and Rescue (SAR) Table Top Exercise to test elements of the 2011 Arctic SAR Agreement that was conducted in October 2015.
5. Explore potential of hosting a functional or full-scale SAR exercise in 2016.

6. The Coast Guard, through the Emergency Prevention, Preparedness and Response (EPPR) Work Group, will lead an exercise series to test the 2013 Agreement on Cooperation of Marine Oil Pollution Preparedness Response in the Arctic.

**Linkage(s) to implementation for the National Strategy for the Arctic Region, pp.24-25**

**Linkage(s) to other strategies: Coast Guard Arctic Strategy, pp.41-42**

## **Initiative 8: Advance the Arctic Coast Guard Forum**

### **Coast Guard International Affairs & Foreign Policy Directorate (CG-DCO-I)**

The Arctic Coast Guard Forum (ACGF) was formally established on October 30, 2015, with the signing of a Joint Statement and approval of Terms of Reference. Modeled after the successful North Pacific Coast Guard Forum, the ACGF will be a unique maritime governance forum where the U.S. Coast Guard and its peer agencies from the other seven Arctic nations strengthen relationships, identify lessons learned, share best practices, coordinate exercises, and conduct combined operations. The Arctic Coast Guard Forum Summit Meeting in October built on an expert-level planning meeting in March 2014 in Canada and March 2015 in the United States, with an informal principal-level discussion in between to sustain the momentum for the initiative. With the formal establishment of the ACGF, the U.S. Coast Guard will collaborate with its partners to develop governance processes and an operational framework to promote safe, secure, and environmentally responsible maritime activity in the Arctic. The ACGF is action-oriented and uniquely capable of translating policy into progress.

The host of the ACGF will coincide with the Arctic Council chairmanship. The U.S. Coast Guard will host the ACGF until Finland takes chairmanship of the Arctic Council in 2017. The U.S. Coast Guard will concurrently chair the Secretariat Work Group, while Norway chairs the Combined Operations Work Group. The ACGF is independent of, but complementary to the Arctic Council. At the 2015 Summit Meeting, the Heads of Delegation approved terms of reference, a work plan, and a variety of administrative functions to establish a strong foundation of governance and cooperation. The work plan begins the information-sharing process with the cataloguing of maritime resources, authorities, activities, and exercises in the Arctic that will enable future risk assessments, strategic communications, exercises, and combined operations.



**The Joint Statement officially establishing the Arctic Coast Guard Forum was signed by eight member nations at the U.S. Coast Guard Academy on October 30, 2015.**



In order to advance the ACGF, the Coast Guard will conduct the following actions:

1. Coordinate and Chair ACGF Summits and Experts Meetings every six months until Summer 2017.
2. Serve as Chair of the Secretariat Working Group and continue to develop governance documents.
3. Support Norway in its role as Chair of the Combined Operations Working Group and prepare the ACGF to participate in Arctic maritime exercises and operations.
4. Promote the Arctic Coast Guard Forum, as appropriate, internationally and within the U.S. interagency.
5. Assist Finland in its preparation for assuming Chair of the ACGF in 2017.

**Linkage(s) to other strategies: Coast Guard Arctic Strategy, pp. 27-28, 31**

## **Initiative 9: Support a Center for Arctic Study and Policy**

**Coast Guard Director, Marine Transportation Systems (CG-5PW)**

The Center for Arctic Study and Policy (CASP) is a source of recommendations for the challenges of operating in the Arctic. CASP generates concepts to address practical challenges and provides informed insights on core strategic and policy issues. The CASP connects operators, academics, indigenous experts, international partners, and industry experts. The concepts and research products developed by CASP can be leveraged to generate policy recommendations for enhancing national Arctic operations, playing a significant role in developing expertise and advising policy makers. CASP officially opened on September 19, 2014.

The CASP is expected to become a recognized leading academic research center and think tank that will bring together diverse maritime specialists to collaborate on effective solutions to address future Arctic maritime challenges to ensure a safe and secure Arctic environment. This center will collaborate with the Coast Guard Research and Development Center, the DHS Science & Technology Directorate's network of Centers of Excellence, and other academic centers.

The co-location of the center with the Coast Guard Academy will also have positive corollary effects on future leaders of the service. Cadets will benefit from the CASP presence at the Academy as visiting professors and researchers will increase the range of information the cadets are exposed to through guest lectures, mentoring and sponsorship of cadet research projects. Ultimately, CASP's work will help the Coast Guard realize its strategic objectives in the Arctic and advance the service's goals of ensuring safe, secure and environmentally responsible maritime activity.



**U.S. Coast Guard Vice Commandant Vice Adm. Peter Neffenger speaks on the changing Arctic at the opening of the Center for Arctic Study and Policy. U.S. Coast Guard photo by Petty Officer 2nd Class Cory J. Mendenhall.**

**Linkage(s) to implementation for the National Strategy for the Arctic Region, p. 16**

**Linkage(s) to other strategies: Coast Guard Arctic Strategy, pp. 29, 31**

## **Initiative 10: Establish an Arctic Policy Board**

**Coast Guard Director, Marine Transportation Systems (CG-5PW)**

The U.S. Coast Guard is working with the Department of Homeland Security to establish an Arctic Policy Board under the provisions of the Federal Advisory Committee Act to enhance awareness and coordination among various stakeholders in the U.S. Arctic region. The Arctic Policy Board will provide advice and recommendations to the Secretary, Department of Homeland Security (DHS) through the Commandant of the U. S. Coast Guard on matters relating to the Arctic region.

Constantly changing conditions and increased maritime use of the Arctic for resource extraction, shipping, tourism, recreation, subsistence hunting and fishing requires coordination with all stakeholders to ensure the U.S. Coast Guard has sufficient awareness of the maritime domain and other critical information to make well informed, risk-based decisions.

Establishing the Arctic Policy Board under DHS will enable talent aggregation by clustering expertise and external advocacy in a “one-stop-shop” that will enable DHS-Coast Guard to tap key resources and build intellectual capacity. The U.S. Coast Guard will seek Board members from industry, science, academia, tribal communities, environmental groups, the State of Alaska and other stakeholders.

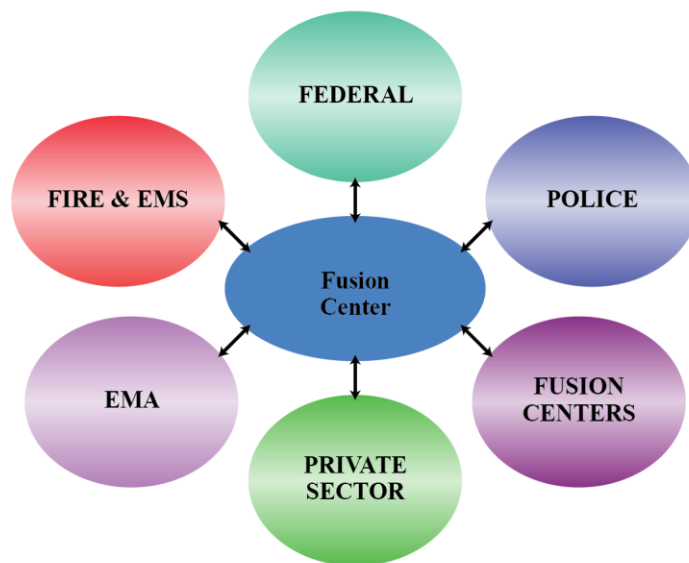
**Linkage(s) to implementation for the National Strategy for the Arctic Region, p. 8**  
**Linkage(s) to other strategies: Coast Guard Arctic Strategy pp. 25, 27, 29, 31**

# Initiative 11: Create an Arctic Fusion Center

## Coast Guard Global MOTR Coordination Center (CG-DCO-G)

The U.S. Coast Guard, along with partners and fellow agencies, plans to study and, if warranted, implement a Fusion Center to collect and disseminate critical information among federal, state, local, and tribal stakeholders. The U.S. Coast Guard will evaluate the need for such a center and confer with domestic partners to determine their operational and response requirements and interest. The evaluation will include alternative approaches, such as establishment of a seasonal center and/or a virtual fusion center.

If a need for an Arctic Fusion Center is agreed upon by domestic, state, local, and tribal stakeholders, it should be developed in parallel with an Arctic Maritime Assistance Coordination Center, as outlined in Initiative 12 of this plan. Working in close coordination with the Maritime Assistance Center, would expand the reach of the Fusion Center to incorporate international partner participation as well.



## **Initiative 12: Create an Arctic Maritime Assistance Coordination Center**

**Coast Guard Assistant Commandant for Response Policy (CG-5R)**

There is no multi-national venue where Coast Guard or maritime forces can coordinate exercises, manage traffic, organize the response to maritime disasters, share information, or coordinate the presence of personnel and assets in the Arctic, as there are in other areas of the world. The Coast Guard plans to study and, if appropriate, implement an international center for Arctic mission coordination for search and rescue (SAR) and other emergency response. The establishment of an international cooperative center that shares capabilities, expertise, and information may be the best way to increase both capacity and awareness to enable effective and timely responses.

This study will include evaluation of current regimes of governance and consider models employed for other regions and functions as benchmarks for the future. It should also address the symbiotic relationship the Coordination Center would have with an Arctic Fusion Center (as described in Initiative 11).



# **Initiative 13: Strengthen Marine Environmental Response in the Arctic**

## **Coast Guard Office of Marine Environmental Response Policy (CG-MER)**

The Arctic ecology is sensitive and vulnerable. Increasing human activity in Arctic waters will pose additional risk of pollution at sea. Moreover, marine environmental response operations in the remote polar regions remain both difficult and costly. The Coast Guard will establish best practices that protect and promote environmental resilience.

The Coast Guard, as a lead organization for oil and hazardous materials incident responses in our Nation's waters, will lead preparedness and response efforts to mitigate environmental threats under the National Oil and Hazardous Substances Pollution Contingency Plan. Spill response in the Arctic presents major operational challenges due to the distances involved in mounting a response, limited infrastructure, and inherent difficulty of recovering oil from ice-covered waters.

The United States assumed chairmanship of the Arctic Council from April 2015 until 2017. The Coast Guard expects to play a significant role due to our existing engagement in Council activities and the Coast Guard's visible role in U.S. Federal governance in the U.S. Arctic. The Coast Guard will implement international agreements consistent with domestic activities to reduce the risk of marine oil pollution while increasing global capabilities for preparedness and response to oil pollution incidents in the Arctic.

In addition, the Coast Guard identified the following action items to strengthen marine environmental preparedness and response in the Arctic:

1. Engage government partners and the private sector to address, and apply, statutory and regulatory responsibilities for environmental preparedness and response.
2. Partner with Arctic nations to develop and implement prevention, preparedness and response strategies to potential marine pollution incidents through research, training, exercise, and international agreements.
3. Coordinate with Department of Homeland Security (DHS) and Department of State (DoS) to work with international partners to further joint and bi-lateral contingency plans.
4. Lead interagency partners and initiate a programmatic review of Area Planning to enhance preparedness for oil spills in the Arctic.
5. Prepare to respond to pollution incidents, especially where responsible parties are known or fail to adequately respond.
6. Continue to serve as the co-chair of the National Response Team (NRT), engage with the Alaska Regional Response Team (ARRT), and serve as the Federal On-Scene Coordinator in the coastal zone. Engage with the Area Committee to identify threats, risks, and strategies necessary to mitigate the effect of oil pollution.



7. Coordinate with the various Arctic communities of interest to plan for pollution threats, identify areas and resources at risk, and build response strategies for oil spills and hazardous substance releases, including Spills of National Significance (SONS).
8. Improve preparedness and response capabilities for Hazardous Material discharges.
9. Continue work to protect Arctic communities and ecosystems from potential spills and other threats of pollution.
10. Review and implement lessons learned from previous tabletop and full-scale exercises; including simulated oil spill demonstrations in the Arctic.
11. Continue the commitment of working with the United States' international and multilateral partner organizations in support of U.S. involvement in Arctic Council efforts; including, continued MER policy and programmatic support to the Department of State.
12. Lead exercise planning, through the Emergency Prevention, Preparedness & Response (EPPR) Working Group, to test the 2013 Agreement on Cooperation of Marine Oil Pollution Preparedness Response in the Arctic (MOSPA).
13. Initiate exercise logistical and budgetary planning with Finland (assumes Arctic Council chairmanship in 2017) to coincide with the ongoing exercise cycle.
14. Enhance coordination with Russia under the Joint Contingency Plan (JCP) of the United States of America and the Russian Federation on Combating Pollution in the Bering and Chukchi Seas.
15. Continue participation in joint international training and related exercises pursuant to the MOSPA.
16. Continue to strengthen all bi-lateral and multi-lateral engagements to implement applicable Joint Contingency Plans (Canada, Russia) and Letters of Intent (Norway) to foster increased collaboration amongst the eight Arctic nations. Efforts should include enhancing preparedness for oil spills in the Arctic and participation in international oil spill response exercises.
17. Increase pollution response preparedness and response through improvements of current and future D17/Arctic Alternate Planning Criteria proposals.

**Linkage(s) to other strategies: Coast Guard Arctic Strategy, pp. 27-28**

